Strategic Regional Arterial

Illinois 22

from U.S. 14 to U.S. 41

Operation GreenLight

Illinois Department of Transportation

April 1993

Foreword

Illinois Route 22 is a Strategic Regional Arterial (SRA) from U.S. Route 14 to U.S. Route 41. CH2M HILL, Inc. has prepared this SRA report for Illinois Route 22 for the Illinois Department of Transportation and the Strategic Regional Arterial Subcommittee of the Work Program Committee of the Chicago Area Transportation Study.

As a SRA route, Illinois Route 22 is intended to function as part of a regional arterial system, carrying high volumes of long-distance traffic in conjunction with other SRA routes and the regional expressway and transit systems. This report is one element of a long-range plan for all routes in the SRA network. Together, the route studies constitute a comprehensive, coordinated plan for the entire SRA network.

This report includes a description of the SRA study objectives and process, a detailed exposition and analysis of the existing route conditions, recommendations for ultimate and basic improvements, and documentation of the public involvement process including citizen comments.

Illinois 22 SRA

Summary of Recommendations

Summary of Recommendations

For study purposes, the Illinois Route 22 Strategic Regional Arterial (SRA) was divided into five segments (see Exhibit S-1, attached following this section). The following is a summary of the major recommendations for each segment.

SRA Segment I: U.S. 14 to U.S. 12 (4.8 Miles)

- From U.S. 14 to U.S. 12, two through lanes in each direction with an 18-foot raised median, generally within 120 feet of right-of-way, requiring acquisition of up to 54 feet of right-of-way

- At major intersections such as U.S. 14, Kelsey Road, and Barrington Road, intersection channelization and signalization improvements

- Through the Illinois 59 intersection, a crossing SRA, intersection channelization and signalization improvements, and widening to provide three lanes in each direction with development of a 30-foot raised median to accommodate double left-turn lanes, requiring a total of 150 feet of right-of-way

- Full access to developing land along Illinois 22, only at specific intersection locations

- Extension of Rainbow Road north of Illinois 22 to Hewes Drive with signalization of this new intersection

SRA Segment II: U.S. 12 to Kemper Drive (4.1 Miles)

- From U.S. 12 to Ela Road, two through lanes in each direction with a 14-foot flush median, generally within 90 feet of right-of-way, requiring the acquisition of up to 20 feet of additional right-of-way

- From Ela Road to Buesching Road, a four-lane bypass of the Lake Zurich central business district (Alternative 4, see Appendix B, has been recommended as a preferred alignment by the Village of Lake Zurich in a separate but concurrent study)

- From Buesching Road to Kemper Drive, two through lanes in each direction with an 18-foot raised median, generally within 110 to 120 feet of right-of-way, requiring the acquisition of between 15 and 54 feet of right-of-way

- Between Buesching Road and Quentin Road, a two-lane access road about ¼ mile north of Illinois 22, to provide access and circulation to existing and planned development

- Through the U.S. 12 intersection, a crossing SRA, intersection channelization and signalization improvements, and widening to provide three lanes in each direction with development of a 30-foot raised median to accommodate double left-turn lanes, requiring a total of 150 feet of right-of-way

- Signalization of the Mall Access Drive intersection just west of U.S. 12, and the Buesching Road intersection, and channelization improvements to U.S. 12, Whitney Road/Ela Road, Oakwood Road/Old Mill Grove Road, Quentin Road, and Kemper Drive

- Realignment of South Krueger Road to intersect Illinois 22 opposite the Kemper Drive intersection

- Consolidation of driveways and establishment of desirable future full access locations between Buesching Road and Kemper Drive

SRA Segment III: Kemper Drive to Willow Parkway (4.0 Miles)

- From Kemper Drive to Old McHenry Road, two through lanes in each direction with an 18-foot raised median, within 120 feet of right-of-way, requiring the acquisition of about 54 feet of additional right-of-way

- From Old McHenry Road to Stone Haven Road (through Long Grove Woods), two through lanes in each direction with a 14-foot flush median, within 90 feet of right-of-way, requiring the acquisition of about 10 feet of right-of-way in addition to that presented in the Long Grove Comprehensive Plan

- From Stone Haven Road to Willow Parkway, two through lanes in each direction of traffic with an 18-foot raised median, within 110 to 120 feet of right-of-way, requiring the acquisition of between 5 and 60 feet of right-of-way

- Accommodation of a planned interchange with FAP 342 (between Old McHenry Road and Kemper Drive)

- Intersection channelization improvements at Old McHenry Road, Illinois 83, and Buffalo Grove Road

- Establishment of desirable locations for access to future development near the Old McHenry Road intersection

SRA Segment IV: Willow Parkway to I-94 (4.0 Miles)

- From Willow Parkway to Barclay Boulevard/Old Half Day Road, two through lanes in each direction with an 18-foot raised median, within 100 to 120 feet of right-of-way, requiring the acquisition of about 34 feet of additional right-of-way

- Through the intersection with Illinois 21/U.S. 45 (Milwaukee Avenue), a crossing SRA, widening to provide three lanes in each direction with development of a 30-foot raised median to accommodate double left-turn lanes

- From east of the Illinois 21/U.S. 45 intersection to the Des Plaines River, two lanes in each direction with an 18-foot raised median, within 100 to 120 feet of right-of-way

- From the Des Plaines River to Hewitt Drive/Westminster Way, two through lanes in each direction with a 14-foot flush median, within 90 feet of right-of-way, requiring the acquisition of about 20 feet of additional right-of-way

- Intersection improvements at Main Street/Prairie Road and train station location recommendations reflect the proposed implementation of commuter rail service on the Wisconsin Central Railroad line

- Signalization and channelization improvements at the east driveway to Stevenson High School and Berkshire Lane

- Recommended establishment of full access intersections to serve existing and future development between Main Street/Prairie Road and Illinois 21/U.S. 45

SRA Segment V: I-94 to U.S. 41 (2.9 Miles)

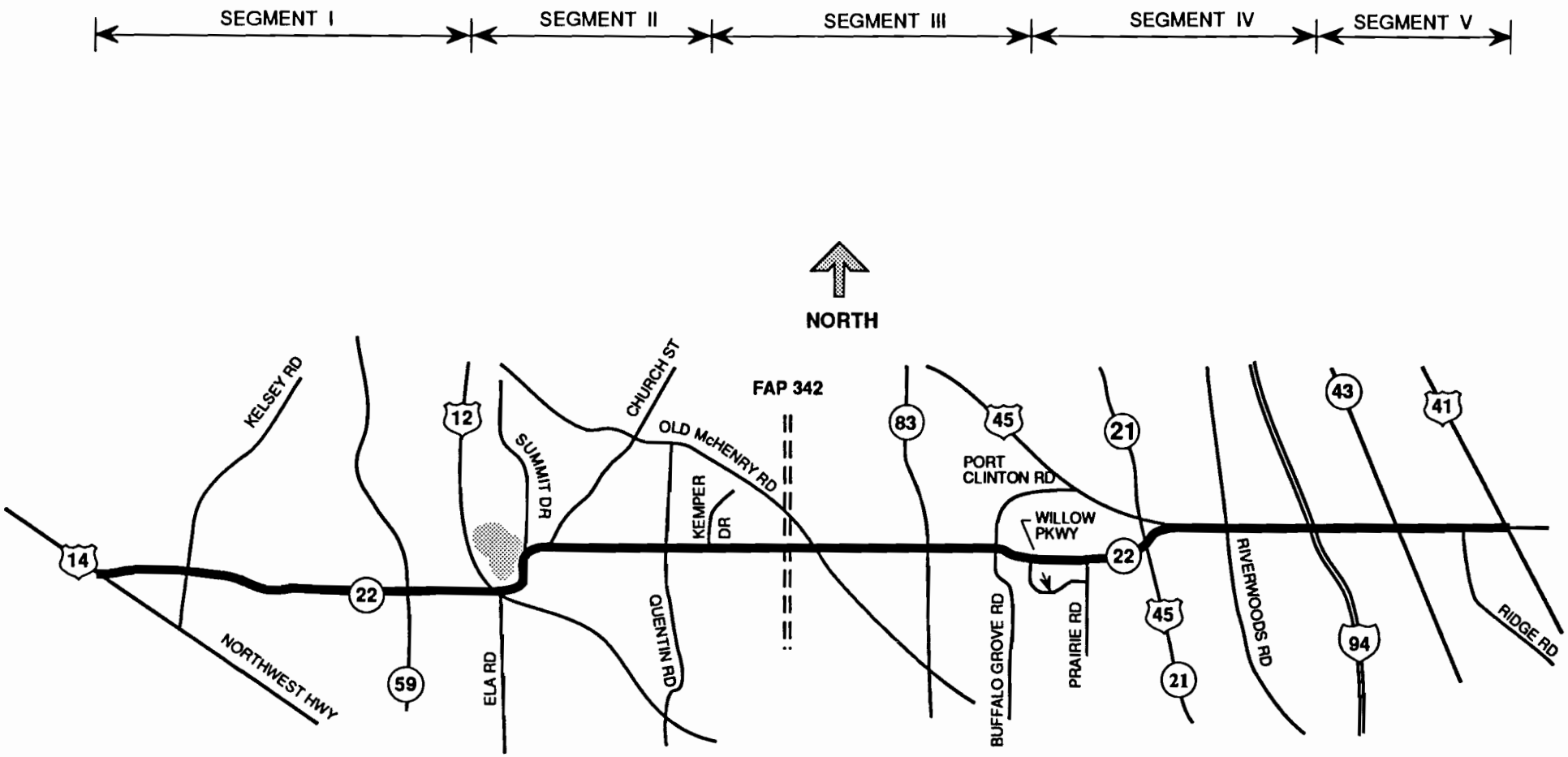
- Through the interchange area of I-94 and Illinois 22, widening to provide for two through lanes in each direction of travel, and double turn lanes off Illinois 22 to both northbound and southbound entrance ramps

- From I-94 to Illinois 43 (Waukegan Road), two through lanes in each direction of travel with an 18-foot raised median, within 120 feet of right-of-way, requiring the acquisition of about 60 feet of additional right-of-way

- From Illinois 43 to U.S. 41, two through lanes in each direction of travel with a 14-foot flush median, within 90 feet of existing right-of-way

- Intersection channelization improvements at Telegraph Road, Illinois 43, and Ridge Road/Tennyson Lane

- Consideration of a grade-separated interchange with U.S. 41



LOCATION MAP ILLINOIS 22

SRA Strategic Regional Arterial Planning Study

Exhibit S-1

Strategic Regional Arterial Study
Illinois 22

Contents

Chapter

Chapter

Appendix

Exhibit

Exhibit

Exhibit

Page

Table

Table

Page

Illinois 22 SRA

Chapter I
Introduction

Chapter I
Introduction

The 2010 Transportation System Development Plan adopted by the Chicago Area Transportation Study (CATS) and the Northeastern Illinois Planning Commission (NIPC) recognizes that not all long-distance highway travel can be handled by the expressway system. Realizing that the arterial system will have to carry some long-distance trips, the 2010 Plan designated a system of Strategic Regional Arterials (SRAs) to supplement the expressway system.

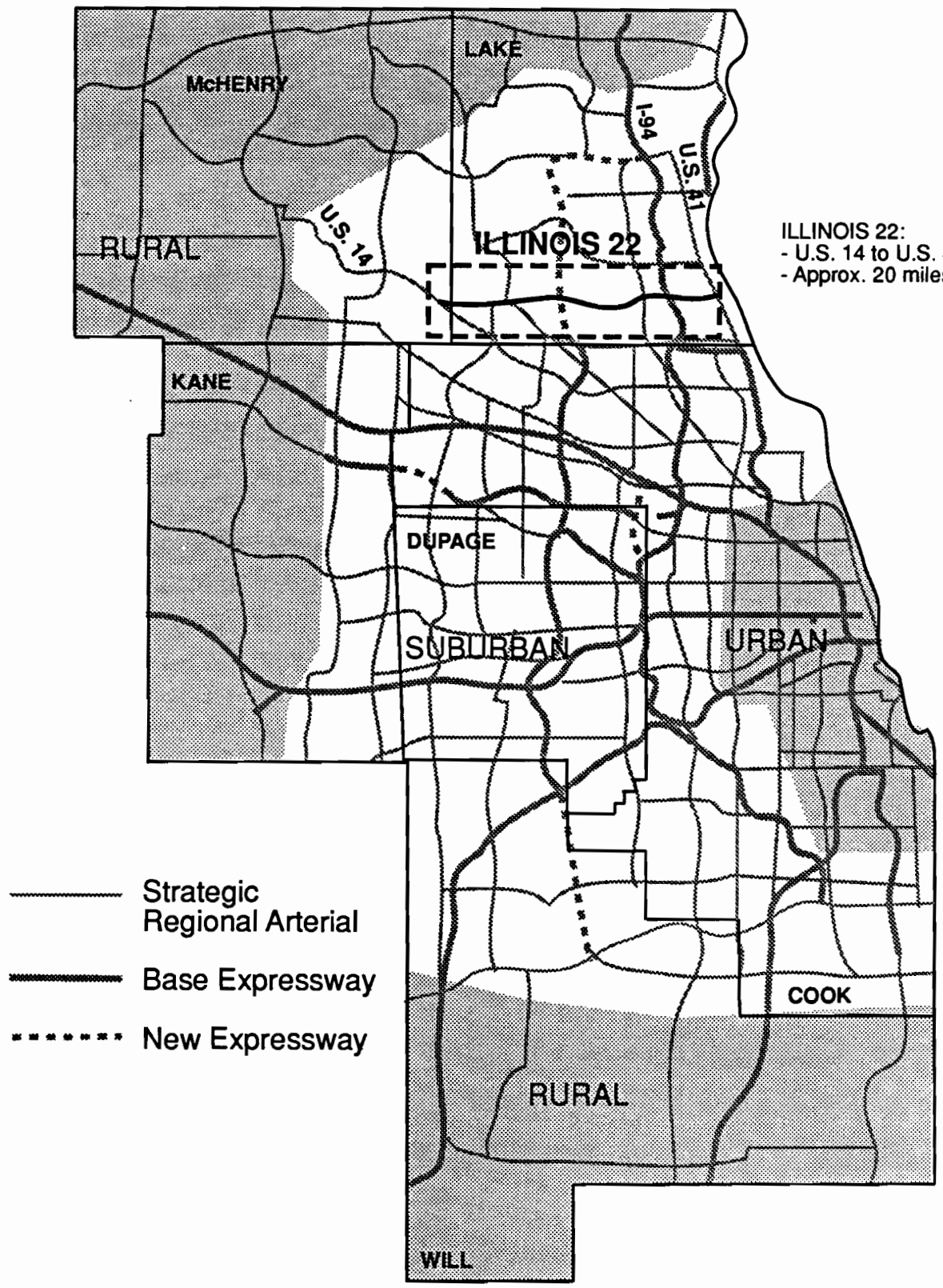
The SRA system is a 1,340-mile network of existing roads in the northeastern Illinois region. They create a network of 66 routes intended to serve as a second tier to the expressway system. The regional highway system, consisting of existing and planned expressways and SRAs, is shown in Exhibit 1.

Identification of routes that comprise the SRA system was determined based upon the projected levels of future travel demand within different parts of the region, with spacing ranging from about 3 miles apart in the more densely developed areas to about 8 miles apart in predominantly rural areas. Within this network, there are significant differences in the roadway environment that determine how various types of routes may function in the system. Three different types of SRA routes have been designated, corresponding to three different types of roadway environment:

- Urban routes
- Suburban routes
- Rural routes

The designation of route types within the overall SRA system reflects the expected density of long-range development within the different portions of the region.

This report is concerned with Illinois Route 22 (Illinois 22) which has been designated a SRA corridor from U.S. 14 (Northwest Highway) to U.S. 41 (Skokie Highway). The corridor is highlighted in Exhibit 1. The Illinois 22 SRA, which traverses Lake and McHenry Counties, has been classified as suburban along its entire length.



ROUTE TYPES ON THE STRATEGIC REGIONAL ARTERIAL SYSTEM

SRA Strategic Regional Arterial Planning Study

Exhibit 1

SRA Planning Objectives

The SRA system is intended to accomplish certain specific objectives within the overall regional transportation system:

- Supplement an expanded expressway system by:
  - Improving access to expressways
  - Providing alternatives for some portions of expressway travel
  - Providing a lower-cost substitute for expressways in some corridors
- Enhance public transportation and personal mobility by:
  - Improving access to rail transit stations
  - Improving operating conditions for buses and other transit vehicles
  - Identifying opportunities for future transit facilities
  - Maintaining pedestrian accessibility
- Accommodate commercial vehicle traffic by:
  - Improving structural clearances
  - Maximizing through traffic movement

SRA Design Concept

A report on design concepts for the SRA system, prepared by Harland Bartholomew & Associates, Inc., was endorsed by the CATS Policy Committee. These concepts have been used as a guide, but not as a policy, in developing the Illinois 22 improvement plan for Illinois 22 described in this report.

Organization of the Report

This report presents a summary of the SRA planning study for the Illinois 22 corridor. It is organized as follows:

- **Existing Conditions (Chapter II)**

  – This section describes the existing physical characteristics, traffic operation, safety, transit operations, environmental concerns, and land uses in the Illinois 22 corridor.

- **Planning Framework (Chapter III)**

  – This section describes the framework within which the recommended SRA plan will be situated. The chapter includes a description of route design characteristics, design criteria, travel forecasts, future land use zoning and development, future roadway and transit planning, future areas of concern, and a summary of the roadway recommendations.

- **Recommended SRA Plan (Chapter IV)**

  – This section describes the recommended SRA corridor plan including lane arrangements, right-of-way, an arterial operations and level of service summary, intersection capacity planning analysis, construction and right-of-way costs, and a prioritization of recommendations.

- **Public Involvement (Chapter V)**

  - This section documents the public involvement process undertaken for the SRA study of Illinois 22. It is divided into three major sections: Panel Advisory Meetings, Newsletters, and the Public Hearing. These three opportunities for participation allowed the general public or their elected officials to voice opinions concerning Illinois 22.

Timeframe

The SRA study of the Illinois 22 corridor began in May 1991 and has continued to the production of this Final Report in April 1993. Conclusions and recommendations are based on conditions existing during the study period as well as known developments and plans by others that were current at this time.

SRA planning for Illinois 22 involved the Illinois Department of Transportation (IDOT), CATS, and the numerous communities served and/or affected by the route. Input was received through a series of three meetings with a SRA Advisory Panel, and a Public Hearing held on October 21, 1992, to present the draft recommendations.

Illinois 22 SRA

Chapter II

Existing Conditions

Chapter II
Existing Conditions

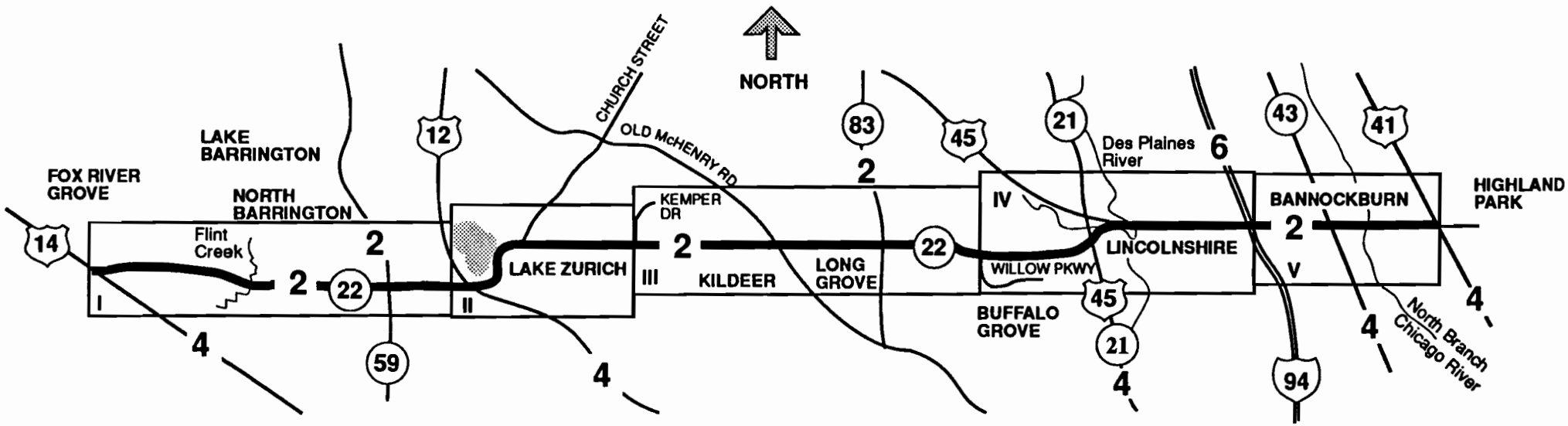
The Illinois 22 SRA corridor study area extends from U.S. 14 to U.S. 41 through Lake County and a small portion of McHenry County (a distance of approximately 20 miles). As shown in Exhibit 2, the corridor has been divided into five segments for purposes of analysis and planning:

- Segment I—"Fox River Grove" (U.S. 14 to U.S. 12)
- Segment II—"Lake Zurich" (U.S. 12 to Kemper Drive)
- Segment III—"Long Grove" (Kemper Drive to Willow Parkway)
- Segment IV—"Lincolnshire" (Willow Parkway to I-94)
- Segment V—"Highland Park" (I-94 to U.S. 41)

Illinois 22 serves as a direct regional east-west connection between U.S. 41 and U.S. 14, and the north and northwest suburbs. It is often used as one segment of a trip between the Chicago central area and the northwest suburbs. The regional importance of Illinois 22 is emphasized by the fact that it is crossed by five other SRA routes (U.S. 14, Illinois 59, U.S. 12, Illinois 21/U.S. 45, and U.S. 41) and several numbered state and interstate routes (Illinois 83, I-94, and Illinois 43). In addition, Illinois 22 serves as a major arterial roadway with numerous access points within the cities and villages through which it travels. Thus, Illinois 22 serves both regional and local trips.

Existing physical characteristics, and safety, traffic, and transit data for each of the analysis segments was collected from numerous sources (see Table 1). Information also was obtained from field reconnaissance, as well as discussions with state, county, village, and city officials at the Advisory Panel Meetings.

ILLINOIS 22
U.S. 14 TO U.S. 41 (Approx. 20 Miles)



4 Number of Existing Through Lanes (Both Directions of Travel)
II Segment Number

CORRIDOR MAP ILLINOIS 22

SRA Strategic Regional Arterial Planning Study

Exhibit 2

Table 1
Sources of Data Describing Traffic and Transportation Characteristics of Illinois 22 in 1991/1992

Item	Data Source
Traffic Volumes • Average Daily Traffic • Intersection Turning Movement Counts • Truck Classification	- 1988 Traffic Map, Lake County - 1989 Traffic Map, McHenry County - Illinois Department of Transportation, Office of Planning & Programming (OPP)
Accidents	- Illinois Department of Transportation, Division of Traffic Safety, Collision Diagram Information (1987, 1988, Jan-Oct 1989)
Transit • Routes • Ridership	- Regional Transportation Authority - Chicago Transit Authority - Metra - Pace
Traffic Control • Signalized Intersection Locations • Other Traffic Control	- Field Reconnaissance
Cross Section • Lane Widths and Arrangements • Shoulder Widths • Type of Section	- As-Built Plans - Illinois Department of Transportation, Scope Report OPP-Planning Services Section - Field Reconnaissance
Right-of-Way	- Illinois Department of Transportation, Scope Report OPP-Planning Services Section - As-Built Plans
Curb/Roadside Use • Parking • Bus and Loading Zones	- Field Reconnaissance
Structures	- Illinois Department of Transportation, Scope Report OPP-Planning Services Section
Other Features	- Illinois Department of Transportation, Scope Report OPP-Planning Services Section

Corridor Overview

Generally, the Illinois 22 corridor consists of two travel lanes (one in each direction) with aggregate or paved shoulders, no median, and open-ditch drainage. Several short four-lane cross section segments that have raised or flush medians also constitute a small percentage of the total Illinois 22 SRA length. Two-lane cross sections (one lane in each direction of travel) with flush medians also exist for very short lengths near U.S. 14 and U.S. 12. The existing right-of-way varies from approximately 66 to 200 feet, but is normally between 66 and 100 feet.

The corridor is a fully-accessible facility with numerous signalized intersections and one grade-separated interchange (I-94). It is paralleled by two other SRA routes, Illinois 60 and Lake Cook Road, which are approximately 3 miles north and south of Illinois 22, respectively. Numerous lower-class roads parallel Illinois 22 at much closer distances, but none has the necessary continuity or functional classification to act as an alternate route for the regional trips that the Illinois 22 SRA is intended to serve.

As shown in Table 2, existing traffic demand on Illinois 22 ranges from 8,200 to 26,800 vehicles per day (vpd). The lowest average daily traffic, between 8,200 and 9,800 vpd, occurs west of Illinois 59. The highest volumes, between 23,300 and 26,800 vpd, are to the east of Illinois 21/U.S. 45. This area is highly developed, and includes a complete interchange with I-94. Illinois 21/U.S. 45 is heavily traveled, and is also designated a SRA. Between Illinois 59 and Illinois 21/U.S. 45, traffic volumes range from 11,300 to 16,500 vpd. This area includes downtown Lake Zurich where the volumes range between 12,350 and 13,100 vpd.

Under current traffic conditions, peak period congestion is evident along most of Illinois 22. It is especially noticeable in the highly-developed areas east of Illinois 21/U.S. 45, and in the vicinity of Lake Zurich. In addition, there are several route segments where the spacing and number of access and driveway points along Illinois 22 detrimentally affect traffic operations. These segments generally coincide with areas of high development and congestion.

Table 3 lists the other transportation facilities that cross or are adjacent to Illinois 22. The list includes the Metra Chicago & North Western (C&NW) Northwest commuter rail line (operating parallel to U.S. 14 at the west terminus of Illinois 22), and the

Table 2 Average Daily Traffic Volumes Along Illinois 22 in 1988/1989	
Location	**ADT (vpd)**
U.S. 14 to Kelsey Road	8,200
Kelsey Road to Illinois 59	9,800
Illinois 59 to U.S. 12	14,600
U.S. 12 to Church Street	13,100
Church Street to Quentin Road	12,300
Quentin Road to Old McHenry Road	11,300
Old McHenry Road to Illinois 83	13,000
Illinois 83 to Wisconsin Central Railroad	13,800
Wisconsin Central Railroad to Illinois 21/U.S. 45	16,500
Illinois 21/U.S. 45 to Oxford Drive/Elm Road	23,300
Oxford Drive/Elm Road to Riverwoods Road	25,550
Riverwoods Road to I-94	26,800
I-94 to Illinois 43	18,750
Illinois 43 to U.S. 41	20,750

Table 3
Existing Transit Facilities and Rail Operation Along Illinois 22

Facility	Frequency	Location of Rail or Bus Route	Number of Weekday Boardings
Metra Lines and Nearest Station			
Metra/Chicago & North Western (Northwest Line) Fox River Grove Station (Access on U.S. 14)	Weekday: 20 inbound, 22 outbound Saturday: 13 inbound, 12 outbound Sunday: 7 inbound, 8 outbound	West of U.S. 14	350
Milwaukee District (North Line) Lake Forest Station (Access on Deerfield Road)	Weekday: 19 inbound, 22 outbound Saturday: 9 inbound, 9 outbound Sunday: 7 inbound, 7 outbound	Crosses at Illinois 43	522
Milwaukee District (North Line) Deerfield Station (Access on Everett Road)	Weekday: 24 inbound, 26 outbound Saturday: 9 inbound, 9 outbound Sunday: 7 inbound, 7 outbound	Crosses at Illinois 43	1,669
Pace Bus Routes			
Pace 726	3/Peak Hour	Crosses at Illinois 59	52
Pace 728	1/Peak Hour	Along Illinois 22 from Ela Road/Whitney Road to Kemper Drive	63
Pace 725	3/peak Hour	Crosses at U.S. 12, and along Illinois 22 from Lions Drive to Old Mill Grove Road/Oakwood Road	63
Other Rail Lines			
Elgin, Joliet & Eastern Railway	1 train/day	Crosses just east of the Lake Zurich commercial business district	Not Applicable
Wisconsin Central Railroad	12 trains/day	Crosses just east of the Prairie Road/Main Street intersection	Not Applicable
Chicago & North Western Railroad	10-15 trains/day	Crosses at U.S. 41	Not Applicable

Sources: Metra and Pace, *"Future Agenda for Suburban Transportation"* (April 1992), and Pace, *"Comprehensive Operating Plan"* (1992)

Metra Milwaukee District North commuter rail line (operating parallel to Illinois 43). Several freight lines also cross Illinois 22. The Elgin, Joliet & Eastern (EJ&E) Railway crosses Illinois 22 directly east of the Lake Zurich downtown area. The Wisconsin Central Railroad crosses Illinois 22 between Lincolnshire and Buffalo Grove, and a C&NW freight line goes over Illinois 22 directly west of U.S. 41. Also, Pace bus routes 728 and 725 use Illinois 22 in the Lake Zurich area, and Pace bus route 726 crosses Illinois 22 on Illinois 59.

There are several existing physical and environmental concerns along Illinois 22. Limited right-of-way is a concern in numerous areas because development is close to the existing right-of-way boundary. This concern is particularly relevant in the Lake Zurich downtown and other highly-developed areas. In less-developed segments, the limited right-of-way concern may only be on one side of the roadway. In addition, there are several environmental concerns related to parks; historic sites; floodplains; leaking underground storage tank (LUST) sites; Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) sites; and forest/nature preserves throughout the entire length of the corridor. Sources for these data are listed in Table 4.

Current Planning, Design, and Construction Activity

There are several current planning, design, and construction activities that have a direct bearing on Illinois 22. The following activities, because of their current status, were considered "existing conditions" for the Illinois 22 SRA study. The projects in progress or proposed along Illinois 22 for the next 5 years include a partial resurfacing between Illinois 83 and Illinois 21/U.S. 45; upgrading the approaches and Illinois 83 intersection as part of an Illinois 83 project; signalizing and/or channelizing the Old McHenry Road, Buesching Road, and Kelsey Road intersections; bridge widening and turn-lane additions at the I-94 interchange; and improving the roadway and intersections east of Illinois 43. Each of these projects was taken into account in the recommended plan presented in Chapter IV.

Table 4
Sources of Environmental and Land Use Data Along Illinois 22

Item	Data Source
Parkland and Other Open Space	Listing of Land and Water Conservation Fund (LAWCON) Projects; U.S. Department of the Interior, National Park Service 1985 Bikeways Plan; Northeastern Illinois Planning Commission Illinois Natural Areas Inventory; Illinois Department of Transportation, District 1, Project and Environmental Studies Illinois Nature Preserves System 1987-1988 Report and 1990 Update; Illinois Nature Preserves Commission Lake County Forest Preserve Maps McHenry County Conservation District Maps Visual Survey 7/91
Wetlands	National Wetlands Inventory Map; U.S. Department of the Interior, U.S. Fish and Wildlife Service
Floodplains	FIRM, Flood Insurance Rate Map; Federal Emergency Management Agency FLOODWAY, Flood Boundary and Floodway Map; U.S. Department of Housing and Urban Development
Hazardous Materials	Comprehensive Environmental Response, Compensation, and Liability Act Information System (CERCLIS) Listing, 5/91; U.S. EPA Superfund Program Leaking Underground Storage Tank (LUST) Listing, 12/88; Illinois Environmental Protection Agency
Historic Sites	The National Register of Historic Places, 1990; U.S. Department of the Interior Illinois State Historical Markers Text Book, 1973; Illinois Historic Structures Survey Inventory of Historic Structures and Historic Landmarks, 1973; Illinois Historic Structures Survey

Summary of Findings

The existing physical characteristics, traffic operation, safety, public transportation, environmental concerns, and land use in the five segments defined along Illinois 22 are presented below.

Segment I—"Fox River Grove" (U.S. 14 to U.S. 12)

Segment I of the Illinois 22 SRA is approximately 5 miles long, extending from U.S. 14 (Northwest Highway, a SRA) at the west end of the corridor to U.S. 12 (a SRA) where commercial land use becomes more prevalent. Segment I includes the villages of Fox River Grove, Lake Barrington, North Barrington, and Lake Zurich.

Physical Characteristics

Generally, this entire segment has two lanes (one in each travel direction), paved or aggregate shoulders, and open drainage (see Exhibits A-1 to A-3). In addition, there is a small segment immediately east of U.S. 14 that has a flush median and paved shoulders. The horizontal alignment is relatively straight with a slight curve near the Stonehenge Golf Course, and the vertical alignment is level to rolling.

The right-of-way within the segment varies from approximately 60 to 90 feet, but is generally between 66 and 80 feet. Right-of-way is limited near County Line Road due to wetlands, and on the south near Good Shepherd Hospital because of a line of mature trees. Right-of-way also is limited to the south of Illinois 22 and immediately west of Illinois 59, because of an adjacent roadway, and to the north in the Lafferty Park area (see Exhibit B-3). One other physical characteristic worth noting in this segment is a structure over Flint Creek (see Table 5).

Table 5
Existing Structures Along Segment I (U.S. 14 to U.S. 12) of Illinois 22

IDOT Structure Reference	Feature		
	Over	Under	Comments
049-0079	Flint Creek	—	Bridge allows 4-foot shoulders

Traffic Control, Operations, and Safety

Major intersections within the segment include U.S. 14 (a SRA), Kelsey Road, and Illinois 59 (a SRA). U.S. 14 and Illinois 59 are signal-controlled intersections, and Kelsey Road is four-way, stop-controlled intersection (with IDOT transportation programming for a signal in the next 5 years). Turn lanes exist at U.S. 14 (both left- and right-turn lanes) and Illinois 59 (left-turn lanes only).

During the morning and evening peak hours, vehicles crossing the SRA-to-SRA intersections often experience long queues and frequently have to wait through two or more cycles of the signal. Multiple access points also affect the traffic operation on Illinois 22 between U.S. 14 and County Line Road, and east and west of Illinois 59. In addition, the offset nature of Ski Hill Road and Doyle Road affects the traffic operation on Illinois 22. There is no parking allowed along Illinois 22 within this segment, and the posted speed limit ranges from 40 miles per hour (mph) near U.S. 14 to 55 mph between Kelsey Road and County Line Road (see Exhibits A-1 to A-3).

Existing traffic demand within this section (see Exhibits A-1 to A-3), based on a 1988 Lake County Traffic Map and a 1989 McHenry County Traffic Map, is approximately 8,200 vpd between U.S. 14 and Kelsey Road, and 9,800 vpd between Kelsey Road and Illinois 59. From Illinois 59 to west of U.S. 12, the existing volume is 14,600 vpd. The increase in traffic volumes between Illinois 59 and U.S. 12 is due to the position of this segment between two SRA routes (Illinois 59 and U.S. 12). In addition, the volume increase indicates that some vehicles use this segment of Illinois 22 to transfer from U.S. 12, a southeast-northwest arterial, to Illinois 59, a north-south alignment.

Accident data (see Exhibits A-1 to A-3) were obtained for 1987, 1988, and January to October of 1989. Calculated intersection accident rates of 1.35 accidents per million entering vehicles (MEV) at U.S. 14, 0.62 accidents per MEV at Kelsey Road, and 1.13 accidents per MEV at Illinois 59 were not considered significantly high. Segment accident rates were calculated at 5.38 accidents per million vehicle miles (MVM) from U.S. 14 to Kelsey Road, 2.64 accidents per MVM between Kelsey Road and Illinois 59, and 5.18 accidents per MVM from Illinois 59 to west of U.S. 12 (this rate incorporates the entire Illinois 59 and U.S. 12 section). These rates are considered

somewhat high for a roadway of this type. The higher segment accident rates most likely are related to the presence of high-volume crossing SRA routes.

Public Transportation

The other public transportation facility (see Table 3 and Exhibit A-1) that operates in this segment is the Metra C&NW Northwest commuter rail line immediately west of, and parallel to, U.S. 14. The closest train stations to Illinois 22 are in Cary, Fox River Grove, and Barrington. There are no Chicago Transit Authority (CTA) or Pace bus routes within this segment, although Pace Route 726 does cross Illinois 22 at Illinois 59 (see Exhibit A-3).

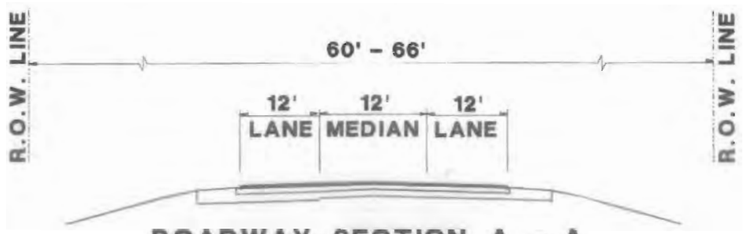
Environmental Constraints and Land Use

The environmental concerns within this segment from west to east (see Exhibits B-1 to B-3) consist of wetlands just west of Doyle Road, between County Line Road and Kelsey Road on both sides of the roadway, near Flint Creek and the Stonehenge Golf Course, and immediately east of the Old Barrington Road intersection on both sides of the roadway. There is also a line of mature trees immediately south of Illinois 22 near the Good Shepherd Hospital (see Exhibit B-2), and Lafferty Park is located between Illinois 59 and U.S. 12 (see Exhibit B-3). Land within this segment is generally zoned for residential use. Existing land uses within this corridor segment include residential, agricultural, and open space. In addition, there are several commercial land uses near U.S. 14, and the Good Shepherd Hospital and Stonehenge Golf Course are between Kelsey Road and Illinois 59. Commercial development related to U.S. 12 and Lake Zurich begins immediately east of this segment.

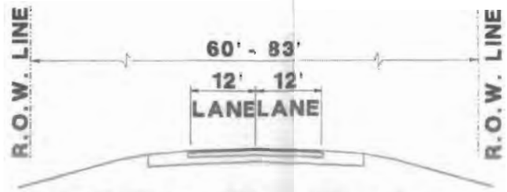
Several significant developments, because of their current status, were considered to be "existing" for purposes of the Illinois 22 SRA study. These developments include the "Gardner Terrace" subdivision in Fox River Grove, and the "Haverton on the Pond" and "Grassmere Farm" PUDs, and "Brook Forest" and "Christopher Pines" subdivisions in North Barrington. The new North Barrington Village Hall also is expected to be constructed in the northeast corner of the Old Barrington Road and Illinois 22 intersection (see Exhibit B-3).

LEGEND

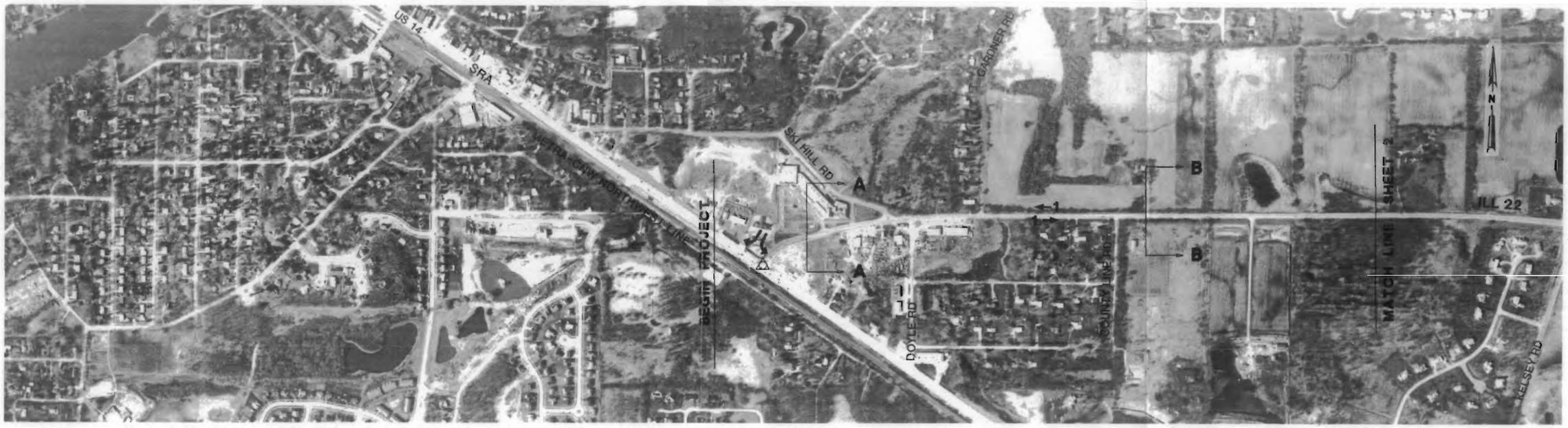
- △ SIGNALIZED INTERSECTION
- LANE ARRANGEMENTS AT KEY INTERSECTIONS
- (P) PARKING ALLOWED
- (P) PARKING PROHIBITED
- (NR) NO POSTED RESTRICTIONS
- B DESIGNATED BUS STOP
- CTA RAPID TRANSIT STATION
- METRA METRA STATION



ROADWAY SECTION A - A
US 14 TO SKI HILL RD



ROADWAY SECTION B - B
SKI HILL RD TO KELSEY RD



1988 - 1990 AVERAGE DAILY TRAFFIC	8,200
ACCIDENT RATE	5.38 / MVM
	1.35/MEV
TRANSIT ROUTES	METRA RAIL NONE
	PACE BUS NONE
EDGE OF ROAD USE	NORTH (P) (P)
	SOUTH (P) (P)

ILL 22 – EXISTING CONDITIONS

SRA Strategic Regional Arterial Planning Study **EXHIBIT A-1**

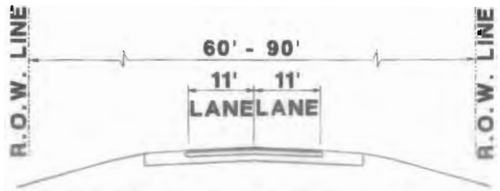
Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale: 0 200 400 feet

LEGEND

- △ SIGNALIZED INTERSECTION
- LANE ARRANGEMENTS AT KEY INTERSECTIONS
- (P) PARKING ALLOWED
- (P) PARKING PROHIBITED
- (NR) NO POSTED RESTRICTIONS
- B DESIGNATED BUS STOP
- CTA RAPID TRANSIT STATION
- METRA METRA STATION



ROADWAY SECTION A - A
KELSEY RD TO CHERRY HILL RD

1988 - 1990 AVERAGE DAILY TRAFFIC	8,200		9,800
ACCIDENT RATE	5.38 / MVM	0.62/MEV	2.64 / MVM
TRANSIT ROUTES	METRA RAIL NONE		
	PACE BUS NONE		
EDGE OF ROAD USE NORTH	(P)	(P)	(P)
EDGE OF ROAD USE SOUTH	(P)	(P)	(P)

ILL 22 – EXISTING CONDITIONS

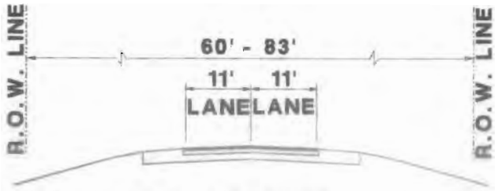
SRA Strategic Regional Arterial Planning Study EXHIBIT A-2

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering
ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale 0 200 400 feet

LEGEND

- △ SIGNALIZED INTERSECTION
- LANE ARRANGEMENTS AT KEY INTERSECTIONS
- (P) PARKING ALLOWED
- (P) PARKING PROHIBITED
- (NR) NO POSTED RESTRICTIONS
- B DESIGNATED BUS STOP
- CTA RAPID TRANSIT STATION
- METRA METRA STATION



ROADWAY SECTION A - A

CHERRY HILL RD TO EAST OF RAINBOW RD

1988 - 1990 AVERAGE DAILY TRAFFIC	9,800				14,600	
ACCIDENT RATE	2.64 / MVM			1.13/MEV	5.18 / MVM	
TRANSIT ROUTES	PACE BUS NONE			METRA RAIL NONE PACE ROUTE 726	PACE BUS NONE	
EDGE OF ROAD USE NORTH	(P)	(P)	(P)		(P)	(P)
EDGE OF ROAD USE SOUTH	(P)	(P)	(P)		(P)	(P)

ILL 22 – EXISTING CONDITIONS

SRA Strategic Regional Arterial Planning Study EXHIBIT A-3

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale: 0 200 400 feet

PLANNING FOCUS AREAS

A) US 14 INTERSECTION

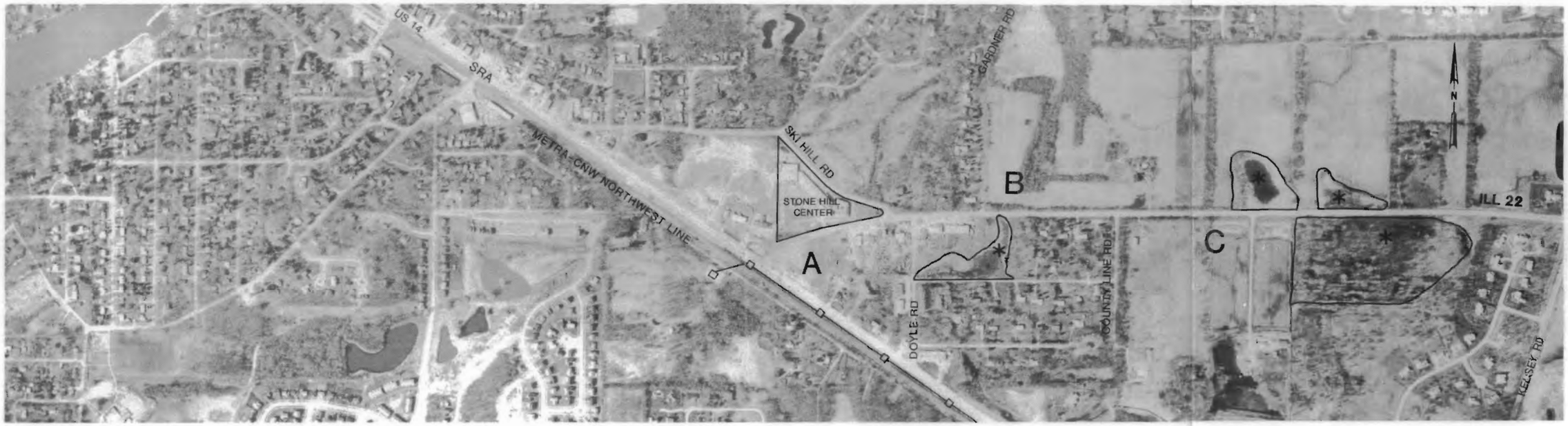
- Intersecting SRA
- Capacity improvements for intersection are constrained by adjacent land use

B) US 14 TO COUNTY LINE ROAD

- Multiple driveway access points and offset intersections may affect SRA operation

C) COUNTY LINE ROAD TO KELSEY ROAD

- Limited available right-of-way



SUBURBAN SRA -- 120' TO 150' RIGHT OF WAY
(Desirable)

LEGEND

- A — Planning Focus Area I.D.
- G1 — Hazardous Waste Site
- L1 — Leaking Underground Storage Tank
- H1 — Historic Building/District
- Wetland
- Church/Synagogue/Religious Institution
- Agricultural Land
- Special Use Areas
- Major Utility Lines

ILL 22

SRA Strategic Regional Arterial Planning Study

EXHIBIT B-1

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale:
0 200 400 600 800 feet

PLANNING FOCUS AREAS

A) KELSEY ROAD INTERSECTION

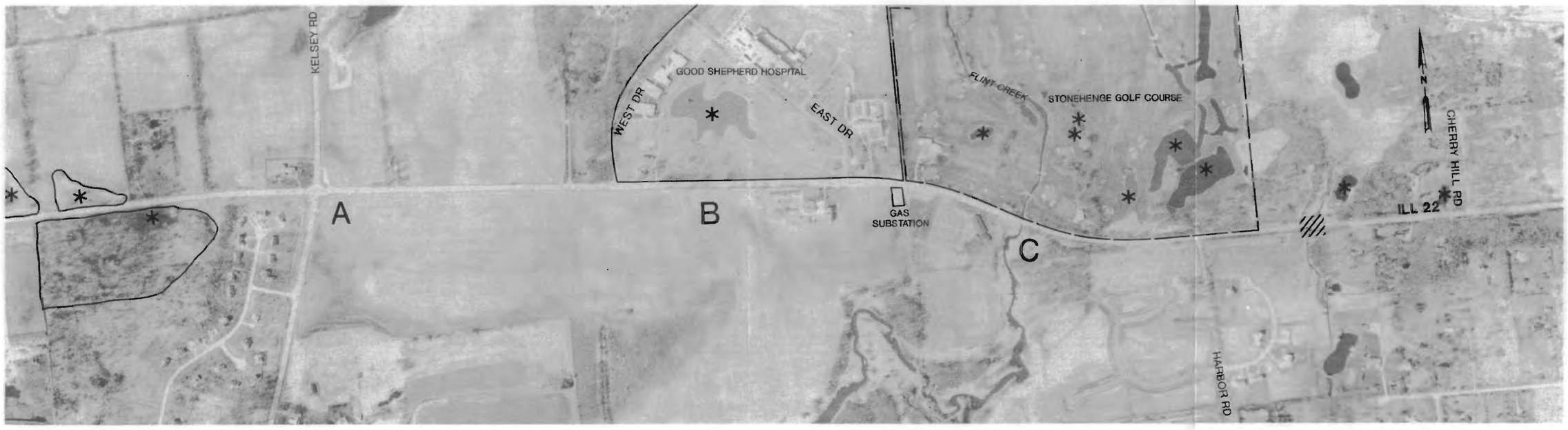
- All-stop controlled

B) GOOD SHEPHERD HOSPITAL

- Limited available right-of-way to the south

C) FLINT CREEK BRIDGE

- Limited horizontal clearance



SUBURBAN SRA -- 120' TO 150' RIGHT OF WAY
(Desirable)

LEGEND

- A — Planning Focus Area I.D.
- C1 — Hazardous Waste Site
- L1 — Leaking Underground Storage Tank
- H1 — Historic Building/District
- Wetland
- Floodplain/Floodway
- Church/Synagogue/Religious Institution
- Agricultural Land
- Special Use Areas
- Major Utility Lines

ILL 22

SRA Strategic Regional Arterial Planning Study

EXHIBIT B-2

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale:
0 200 400 800 800 feet

PLANNING FOCUS AREAS

A) WEST APPROACH TO ILLINOIS 59

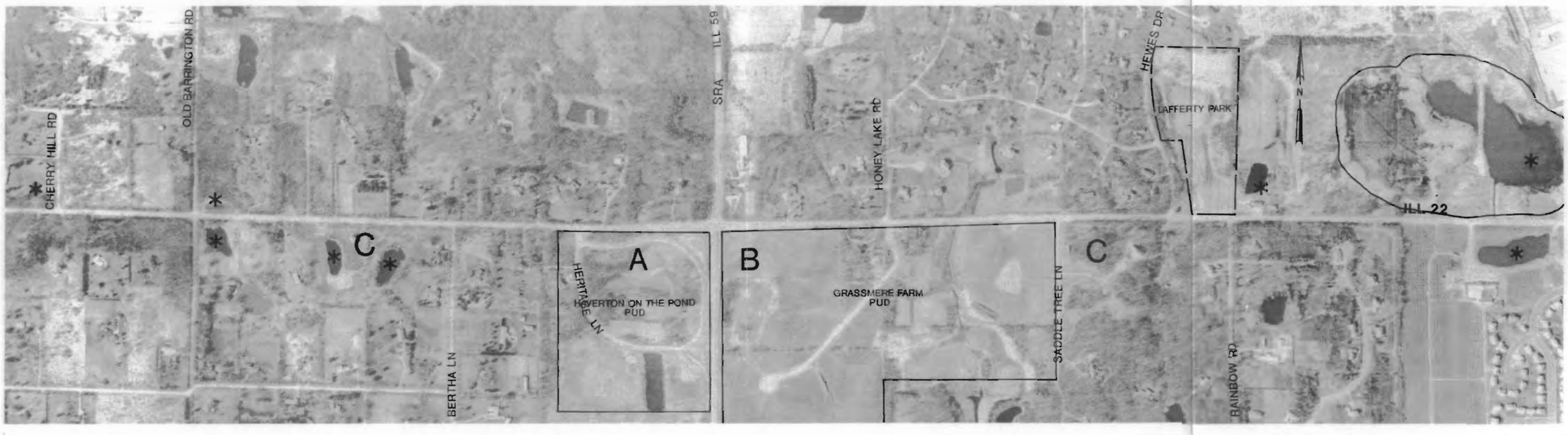
- Limited available right-of-way to the south

B) ILLINOIS 59 INTERSECTION

- Intersecting SRA
- Capacity improvements for intersection are constrained by adjacent land use

C) EAST AND WEST OF ILLINOIS 59

- Multiple driveway access points may affect SRA operation
- Limited available right-of-way



SUBURBAN SRA -- 120' TO 150' RIGHT OF WAY
(Desirable)

LEGEND

- A — Planning Focus Area I.D.
- Hazardous Waste Site
- Leaking Underground Storage Tank
- Historic Building/District
- Wetland
- Church/Synagogue/Religious Institution
- Agricultural Land
- Special Use Areas
- Major Utility Lines

ILL 22

SRA Strategic Regional Arterial Planning Study

EXHIBIT B-3

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale: 0 200 400 600 800 feet

Segment II—"Lake Zurich" (U.S. 12 to Kemper Drive)

Segment II of the Illinois 22 SRA is approximately 4 miles long, extending from U.S. 12 (a SRA) to Kemper Drive, and positioned to contain the entire Lake Zurich central business district (CBD). This segment includes the villages of Lake Zurich and Kildeer.

Physical Characteristics

Generally, this entire segment has two lanes (one in each direction), and a paved or aggregate shoulder. The drainage is closed from Robertson Avenue to Lions Drive in the Lake Zurich CBD, and from U.S. 12 to Whitney Road/Ela Road, but is open elsewhere (see Exhibit A-4). In addition, several cross sections beyond one lane in each direction exist for short lengths within the segment. The cross section between U.S. 12 and Whitney Road/Ela Road has a flush median, and a paved shoulder on the north side of the facility. The cross section between Lakeview Place and Lions Drive has a 10-foot parking lane on the north side of the roadway. Also, the roadway between Fern Road and Fox Tail Drive (the Quentin Road area) has a flush median (see Exhibit A-5).

The horizontal alignment curves north just east of Whitney Road/Ela Road (this curve is below SRA standards), and then curves east approximately ½ mile later. East of that point, Illinois 22 is relatively straight. The vertical alignment is level to rolling.

The right-of-way within the segment varies from approximately 60 to 100 feet, but is generally between 66 and 83 feet. Right-of-way is limited west of Cortland Drive due to the wetland on the north, and in the Lake Zurich CBD due to existing development. Right-of-way also is limited on the south from Buesching Road to Telser Road because of existing homes (see Exhibits B-4 and B-5).

There are two other physical characteristics worth noting in this segment. The EJ&E Railway crosses Illinois 22 at grade immediately to the east of the Lake Zurich CBD. The crossing is controlled by flashing lights, bells, and gates. There are no major structures within this segment.

Traffic Control, Operations, and Safety

Major intersections within the segment include U.S. 12 (a SRA), Whitney Road/Ela Road, Old Rand Road, Church Drive, Oakwood Road/Old Mill Grove Road, and Quentin Road. All these intersections are signal-controlled intersections. With the exception of U.S. 12, which has both left- and right-turn lanes, the other signalized intersections have left-turn lanes only.

The Lake Zurich CBD is highly congested during the morning and evening peak hours. Vehicles traveling on Illinois 22 through the CBD and/or crossing U.S. 12 often experience long queues and, during peak hours, frequently have to wait through two or more signal cycles. Multiple access points affect the traffic operation of Illinois 22 between U.S. 12 and Whitney Road/Ela Road, in the Lake Zurich CBD, and from Buesching Road to Telser Road. In addition, the offset nature of South Krueger Road and Kemper Drive also affects the traffic operation on Illinois 22. The posted speed limit within this segment ranges from 25 mph in downtown Lake Zurich to 50 mph near Kemper Drive. Parking with a 1-hour time limit is allowed between Lakeview Place and Lions Drive on the north side of Illinois 22.

Existing traffic demand within this section (see Exhibits A-4 and A-5), based on a 1988 Lake County Traffic Map, is approximately 14,600 vpd from just west of U.S. 12 to U.S. 12, 13,100 vpd from U.S. 12 to Church Street, 12,300 vpd between Church Street and Quentin Road, and 11,300 vpd from Quentin Road to Kemper Drive. Traffic volumes are highest near U.S. 12 (a SRA) because of Illinois 59 (a SRA) to the west, and the Lake Zurich CBD to the east. Volumes remain high through the Lake Zurich CBD and then decrease slightly to the east of the commercial area. These volume patterns are expected because of the highly commercialized nature of Illinois 22 from west of U.S. 12 to the EJ&E Railway, and the more residential and industrial uses to the east.

Accident data (see Exhibits A-4 and A-5) were obtained for 1987, 1988, and January to October of 1989. Calculated intersection accident rates of 1.73 accidents per MEV at U.S. 12 and 1.79 accidents per MEV at Quentin Road were not considered significantly high. Segment accident rates were calculated at 5.18 accidents per MVM from west of U.S. 12 to U.S. 12 (this rate incorporates the entire Illinois 59 to U.S. 12 section), 14.53 accidents per MVM between U.S. 12 and Church Street, 4.78 accidents per MVM between Church Street and Quentin Road, and 3.11 accidents per MVM

from Quentin Road to Kemper Drive (this rate incorporates the entire Quentin Road to Old McHenry Road section). These rates are considered high to very high for a roadway of this type. The higher segment accident rate in the Lake Zurich CBD is most likely related to the number of crossing streets and their high volumes, the parallel parking presence, and the high-activity nature of this area.

Public Transportation

There are no public rail facilities (see Table 3 and Exhibits A-4 and A-5) that operate in this segment of Illinois 22, however, Pace bus routes 725 and 728 serve the Lake Zurich area during peak travel hours. Route 725 crosses Illinois 22 at U.S. 12 and extends to the Barrington Metra C&NW Northwest commuter train station. As part of the 725 bus route, three buses per peak hour also travel Illinois 22 between Lions Drive and Old Mill Grove Road. Route 728 extends from the Barrington Metra C&NW Northwest commuter train station to Kemper Drive (Kemper Insurance). As part of this route, one bus per peak hour travels Illinois 22 between Ela Road/Whitney Road and Kemper Drive (see Exhibits A-4 and A-5). Both routes (725 and 728) operate during the peak hours only. One bus stop sign exists at the southwest corner of the intersection of Old Mill Grove Road/Oakwood Road and Illinois 22, however, the bus will stop at any intersection that is safe, and when a passenger signals.

Environmental Constraints and Land Use

The environmental concerns within this segment from west to east (see Table 6 and Exhibits B-4 and B-5) consist of potential wetland areas just west of Cortland Drive, between Illinois 22 and the EJ&E Railway at the curve north, and on the south immediately east of Quentin Road. Other significant concerns along the route include Lions Park and a potential historic structure (Ela Town Hall) at the intersection of Illinois 22 and Church Street, and a LUST site in the northeast quadrant of the Illinois 22/Buesching Road intersection (see Exhibit B-5). In addition, the Village of Lake Zurich has recommended three buildings along Illinois 22 as potentially historic (see Exhibit B-4).

Table 6
Summary of Environmentally Sensitive Land Uses and Sites Along Segment II (U.S. 12 to Kemper Drive) of Illinois 22

Item	Exhibit No.	Reference	Description
Potential Historic Significance	B-4	H-1	Ela Town Hall, Illinois 22 and Church Street; Lake Zurich
	B-4	H-4	Residence, 272 West Main Street; Lake Zurich
	B-4	H-5	Farmen's Hotel, 66 West Main Street; Lake Zurich
	B-4	H-6	Mionski Apartments (the Old Creamery), 83 West Main Street; Lake Zurich
CERCLIS Sites[a]	—	—	None Noted
LUST Sites[b]	B-4	L-1	Illinois Bronze Tank Co., 300 E. Main Street; Lake Zurich

[a]CERCLIS = Comprehensive Environmental Response, Compensation, and Liability Information System.
[b]LUST = Leaking Underground Storage Tank.

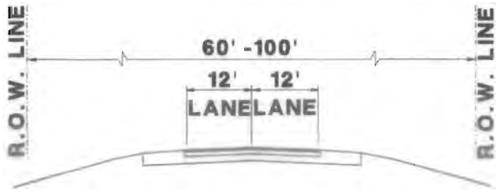
Land within this segment is zoned residential, commercial, and industrial. Commercial land uses dominant the area from the west end of the segment to the EJ&E Railway area. The industrial uses are along Illinois 22 immediately adjacent to the railroad, and on the north side of Illinois 22 between Buesching Road and Old Mill Grove Road/Oakwood Road. Generally, the remainder of the land is used for residential purposes. Other significant land uses within this segment include Bell's Apple Orchard, Northlake Commons, Village Square, the Lake Zurich Shopping Center, the Lake Zurich police station and village hall, and the Saint Francis DeSales church and school (see Exhibits B-4 and B-5). The Kemper Insurance Corporate Park and golf course are immediately to the east of the segment (see Exhibit B-5).

Several significant developments, because of their current status, were considered to be "existing" for purposes of the Illinois 22 SRA study. These developments include the "Beacon Hill" residential PUD, which will be located in the northwest quadrant of the Illinois 22 and Fox Tail Drive intersection, and the "Harrington Farms Kimball Hill" residential PUD, which is planned for the southwest corner of the Illinois 22 and

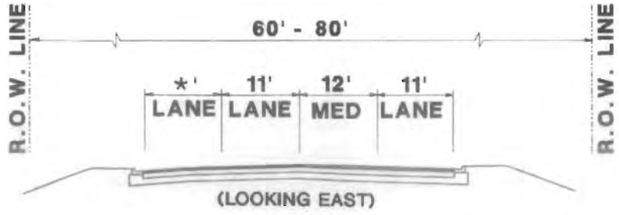
South Krueger Road intersection. Both of these developments are in the village of Kildeer (see Exhibit B-5).

LEGEND

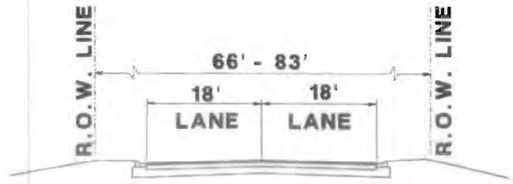
- △ SIGNALIZED INTERSECTION
- LANE ARRANGEMENTS AT KEY INTERSECTIONS
- (P) PARKING ALLOWED
- (P) PARKING PROHIBITED
- (NR) NO POSTED RESTRICTIONS
- B DESIGNATED BUS STOP
- CTA RAPID TRANSIT STATION
- METRA METRA STATION



WEST OF CORTLAND DR TO MALL ACCESS DR
ELA RD TO ROBERTSON AVE
LIONS DR TO BUESCHING RD



MALL ACCESS DR TO ELA RD
(*8' SHOULDER)
LAKEVIEW PL TO LIONS DR
(*10' PARKING LANE)



ROBERTSON AVE TO LAKEVIEW PL

1988 - 1990 AVERAGE DAILY TRAFFIC	14,600	13,100	12,300
ACCIDENT RATE	5.18/ MVM; 1.73/MEV	14.53 / MVM	4.78 / MVM
TRANSIT ROUTES	PACE BUS NONE; PACE ROUTE 725; PACE ROUTE 728; METRA RAIL NONE; PACE BUS ROUTE 728 (1 BUS/PEAK HR)		PACE BUS ROUTE 725,728 (3,1 BUS(ES)/PEAK HR)
EDGE OF ROAD USE NORTH	(P)	(P); 1 HR (P)	(P); (P)
EDGE OF ROAD USE SOUTH	(P)	(P); (P)	(P); (P)

ILL 22 – EXISTING CONDITIONS

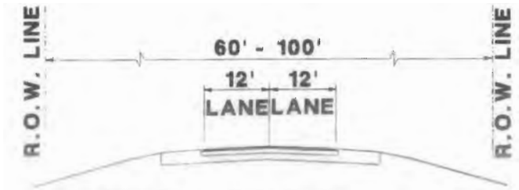
SRA Strategic Regional Arterial Planning Study **EXHIBIT A-4**

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering
ILLINOIS DEPARTMENT OF TRANSPORTATION

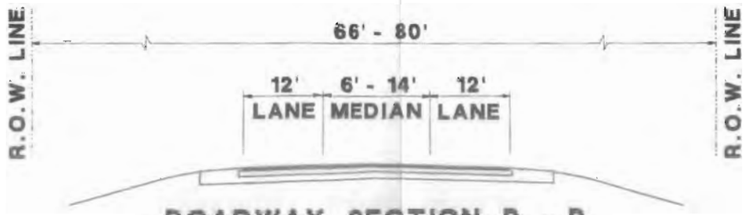
Scale: 0 200 400 feet

LEGEND

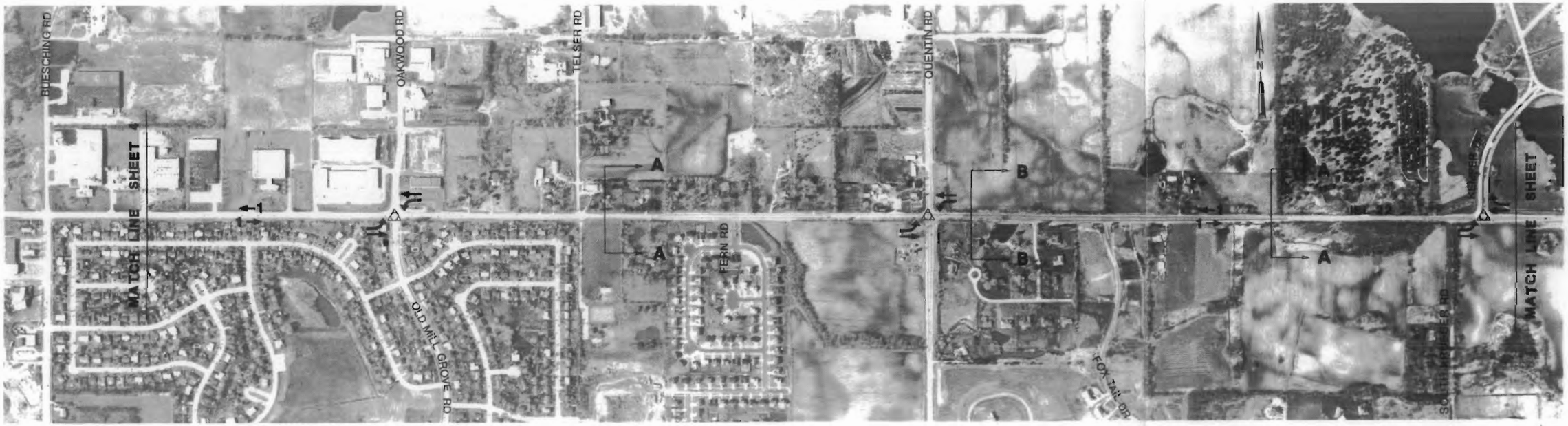
- △ SIGNALIZED INTERSECTION
- LANE ARRANGEMENTS AT KEY INTERSECTIONS
- (P) PARKING ALLOWED
- (P) PARKING PROHIBITED
- (NR) NO POSTED RESTRICTIONS
- B DESIGNATED BUS STOP
- CTA RAPID TRANSIT STATION
- METRA METRA STATION



ROADWAY SECTION A - A
BUESCHING RD TO FERN RD
FOX TAIL DR TO KEMPER DR



ROADWAY SECTION B - B
FERN RD TO FOX TAIL DR



1988 - 1990 AVERAGE DAILY TRAFFIC	12,300	11,300
ACCIDENT RATE	4.78 / MVM	1.79/MEV; 3.11 / MVM
TRANSIT ROUTES	METRA RAIL NONE; PACE BUS ROUTE 725, 728 (3,1 BUS(ES)/PEAK HR)	PACE BUS ROUTE 728 (1 BUS/PEAK HR)
EDGE OF ROAD USE NORTH	(P)	(P)
EDGE OF ROAD USE SOUTH	(P)	(P)

ILL 22 – EXISTING CONDITIONS

SRA Strategic Regional Arterial Planning Study

EXHIBIT A-5

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale: 0 200 400 feet

PLANNING FOCUS AREAS

A) WEST APPROACH TO CORTLAND DRIVE

- Limited available right-of-way

B) US 12 INTERSECTION

- Intersecting SRA
- Capacity improvements for intersection are constrained by adjacent land use
- Multiple driveway access points on both approaches to intersection may affect SRA operation

C) ELA ROAD TO ROBERTSON AVENUE

- Curve geometry insufficient relative to recommended SRA design requirements

D) ROBERTSON AVENUE TO ELGIN JOLIET & EASTERN RAILWAY

- Limited available right-of-way
- Adjacent historic resources
- On-street parking on the north side of Illinois 22 between Park Avenue and Church Street affects through traffic operation
- Multiple driveway/cross street access points may affect SRA operation
- Through traffic may be affected by at-grade railway crossing (possible commuter rail use beyond 2010)

SUBURBAN SRA -- 120' TO 150' RIGHT OF WAY (Desirable)

LEGEND

- A — Planning Focus Area I.D.
- C1 — Hazardous Waste Site
- L1 — Leaking Underground Storage Tank
- H1 — Historic Building/District
- Wetland / Floodplain/Floodway
- Church/Synagogue/Religious Institution
- Agricultural Land
- Special Use Areas
- Major Utility Lines

ILL 22

SRA Strategic Regional Arterial Planning Study

EXHIBIT B-4

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale: 0 200 400 600 800 feet

PLANNING FOCUS AREAS

A) BUESCHING ROAD TO TELSER ROAD

- Limited available right-of-way
- Multiple driveway access points may affect SRA operation

B) QUENTIN ROAD INTERSECTION

C) SOUTH KRUEGER ROAD AND KEMPER DRIVE INTERSECTIONS

- Offset intersections may affect SRA operations

SUBURBAN SRA -- 120' TO 150' RIGHT OF WAY
(Desirable)

LEGEND

- A — Planning Focus Area I.D.
- C1 — Hazardous Waste Site
- L1 — Leaking Underground Storage Tank
- H1 — Historic Building/District
- Wetland
- Floodplain/Floodway
- Church/Synagogue/Religious Institution
- Agricultural Land
- Special Use Areas
- Major Utility Lines

ILL 22

SRA Strategic Regional Arterial Planning Study

EXHIBIT B-5

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale:
0 200 400 600 800 Feet

Segment III— "Long Grove" (Kemper Drive to Willow Parkway)

Segment III of the Illinois 22 SRA is approximately 4 miles long, extending from Kemper Drive to Willow Parkway, which is just east of Buffalo Grove Road. The segment is at the center of the Illinois 22 SRA corridor. Segment III includes the villages of Kildeer, Long Grove, and Buffalo Grove.

Physical Characteristics

Generally, this segment has two lanes (one in each direction), paved or aggregate shoulders, and open drainage west of Oak Grove Drive/Acacia Terrace (see Exhibits A-6 and A-7). Between Oak Grove Drive/Acacia Terrace and Buffalo Grove Road, a flush median is introduced, and from Buffalo Grove Road to Willow Parkway (see Exhibit A-7) the flush median is continued with an additional lane in each direction (for a total of two lanes in each direction). In addition, as part of the Illinois 83 improvement, it is planned that Illinois 22 will be increased to two lanes in each direction in the area of the Illinois 83/Illinois 22 intersection. The horizontal alignment of this segment is relatively straight with a slight curve immediately east of Buffalo Grove Road. The vertical alignment is level to rolling.

The right-of-way within the segment varies from approximately 66 to 120 feet, but is generally between 66 and 80 feet. The 120-foot right-of-way is from just west of Oak Grove Drive/Acacia Terrace to Willow Parkway. Also, the amount of right-of-way in the vicinity of Illinois 83 will increase along Illinois 22 as part of the Illinois 83 project. Because of the highly sensitive nature of the adjacent Long Grove Woods Area (see Exhibits B-6 and B-7), right-of-way is limited from east of Old McHenry Road to west of Stone Haven Road.

One other physical characteristic worth noting in this segment is a golf cart underpass that crosses diagonally at the Illinois 22/Buffalo Grove Road intersection. There are no other structures in this segment.

Traffic Control, Operations, and Safety

Major intersections within the segment include Old McHenry Road, Illinois 83, and Buffalo Grove Road. All three are signal-controlled intersections. Turn lanes exist at Illinois 83 and Buffalo Grove Road (left-turn lanes only), and the newly-reconstructed Old McHenry Road intersection includes left- and right-turn lanes. The improvements planned for Illinois 83 include addition of a right-turn lane eastbound for Illinois 22.

During the morning and evening peak hours, vehicles crossing the major intersections often experience some congestion, but because there are very few signalized intersections along this segment of Illinois 22, traffic moves quite steadily through the area. The four-lane segment between Buffalo Grove Road and Willow Parkway helps traffic movement. However, exiting two-way stop-controlled intersections or driveways is difficult in this segment, as it is along most of Illinois 22, because of the high traffic volumes and lack of median protection. Multiple access points affect the traffic operation on Illinois 22 east of Old McHenry Road, and west of Stone Haven Road. There is no parking allowed along Illinois 22 within this segment, and the posted speed limit is 50 mph.

Existing traffic demand within this section, based on the 1988 Lake County Traffic Map (see Exhibits A-6 and A-7), is approximately 11,300 vpd between Kemper Drive and Old McHenry Road, 13,000 vpd between Old McHenry Road and Illinois 83, and 13,800 vpd between Illinois 83 and Willow Parkway. Traffic volumes within this segment are relatively equal. This is due to the fact that this segment is homogeneous in land use character, and Illinois 22 does not have many major intersections. Peak hour traffic volumes can be expected to change somewhat with the complete opening of the Woodland Commons Shopping Center in the northeast quadrant of the Illinois 22/Buffalo Grove Road intersection.

Accident data (see Exhibits A-6 and A-7) were obtained for 1987, 1988, and January to October of 1989. Calculated intersection accident rates of 1.31 accidents per MEV at Old McHenry Road and 2.15 accidents per MEV at Illinois 83 were not considered significantly high. Segment accident rates were calculated at 3.11 accidents per MVM from Kemper Drive to Old McHenry Road (this rate incorporates the entire Quentin Road to Old McHenry section), 5.84 accidents per MVM between Old McHenry Road and Illinois 83, 4.20 accidents per MVM from Illinois 83 to Buffalo Grove

Road, and 4.80 accidents per MVM from Buffalo Grove Road to Willow Parkway (this rate incorporates the entire section from Buffalo Grove Road to the Wisconsin Central Railroad). The last three rates are considered somewhat high for a roadway of this type. The higher segment accident rates most likely are related to the crossing at Illinois 83, which should become safer with the planned improvement of its intersection with Illinois 22, and the crossing at the Main Street/Prairie Road intersection that has recently been signalized (i.e., after the data for the accident rate calculations were collected). Therefore, it is likely that all these accident rates will improve.

Public Transportation

There are no public rail or bus facilities operating in this segment (see Table 3 and Exhibits A-6 and A-7).

Environmental Constraints and Land Use

The environmental concerns within this segment from west to east (see Table 7 and Exhibits B-6 and B-7) consist of a LUST site near Kemper Drive, and potential wetlands west and east of Old McHenry Road, and immediately west of Illinois 83. There is also a park in the southeast quadrant of the Illinois 22 and Illinois 83 intersection called Oak Hills at Long Grove (see Exhibit B-7). Land within this segment is generally zoned residential, but there are some commercially-zoned areas near Old McHenry Road and Buffalo Grove Road. Existing land uses are primarily residential and open space. Other significant land uses within the segment include the Kemper Insurance Corporate Park and its privately-owned golf course, the publicly-owned Arboretum Golf Course, and the Woodland Commons Shopping Center (see Exhibits B-6 and B-7).

Table 7
Summary of Environmentally Sensitive Land Uses and Sites Along Segment III (Kemper Drive to Willow Parkway) of Illinois 22

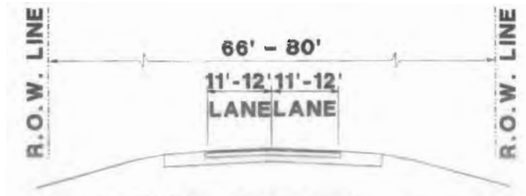
Item	Exhibit No.	Reference	Description
Potential Historic Significance	—	—	None Noted
CERCLIS Sites[a]	—	—	None Noted
LUST Sites[b]	B-6	L-2	Kemper Group, Illinois 22 and Kemper; Long Grove

[a]CERCLIS = Comprehensive Environmental Response, Compensation, and Liability Information System.
[b]LUST = Leaking Underground Storage Tank.

Several significant developments, because of their current status, were considered to be "existing" for purposes of the Illinois 22 SRA study. These developments include the "Kildeer Meadows" mixed-use PUD to be located in the northeast quadrant of the Old McHenry Road intersection, and the "Royal Melbourne" PUD being constructed in the northwest quadrant of the Illinois 83 intersection in the village of Long Grove. The Woodland Commons Shopping Center in Buffalo Grove, although not yet constructed at the time the Exhibit B-7 aerial photograph was taken, is now an existing development, and the Twin Groves Junior High School is currently being constructed in the southwest quadrant of the Buffalo Grove Road intersection (see Exhibit B-7).

LEGEND

- △ SIGNALIZED INTERSECTION
- LANE ARRANGEMENTS AT KEY INTERSECTIONS
- (P) PARKING ALLOWED
- (P) PARKING PROHIBITED
- (NR) NO POSTED RESTRICTIONS
- B DESIGNATED BUS STOP
- CTA RAPID TRANSIT STATION
- METRA METRA STATION



ROADWAY SECTION A - A

KEMPER DR TO WILLOWBROOK RD

1988 - 1990 AVERAGE DAILY TRAFFIC	11,300		13,000
ACCIDENT RATE	3.11 / MVM	1.31/MEV	5.84 / MVM
TRANSIT ROUTES	METRA RAIL NONE PACE BUS ROUTE 728	PACE BUS NONE	
EDGE OF ROAD USE NORTH	(P)		(P)
EDGE OF ROAD USE SOUTH	(P)		(P)

ILL 22 – EXISTING CONDITIONS

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

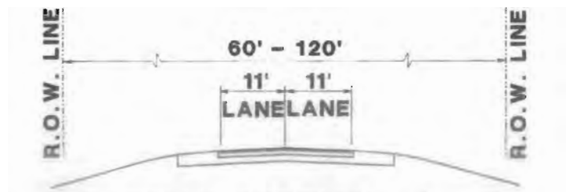
SRA Strategic Regional Arterial Planning Study

EXHIBIT A-6

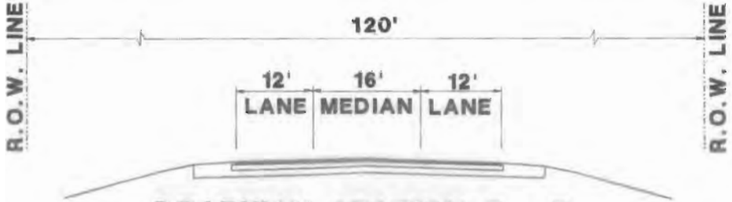
Scale: 0 200 400 feet

LEGEND

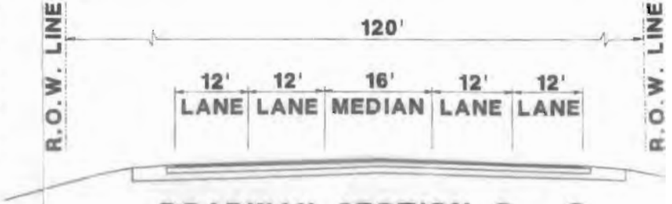
- △ SIGNALIZED INTERSECTION
- LANE ARRANGEMENTS AT KEY INTERSECTIONS
- (P) PARKING ALLOWED
- (P) PARKING PROHIBITED
- (NR) NO POSTED RESTRICTIONS
- B DESIGNATED BUS STOP
- CTA RAPID TRANSIT STATION
- METRA METRA STATION



ROADWAY SECTION A - A
WILLOWBROOK RD TO OAK GROVE DR



ROADWAY SECTION B - B
OAK GROVE DR TO BUFFALO GROVE RD



ROADWAY SECTION C - C
BUFFALO GROVE RD TO WILLOW PKWY

1988 - 1990 AVERAGE DAILY TRAFFIC	13,000		13,800
ACCIDENT RATE	5.84/ MVM	2.15/MEV 4.20 / MVM	4.80 / MVM
TRANSIT ROUTES	METRA RAIL NONE PACE BUS NONE		
EDGE OF ROAD USE NORTH	(P)	(P)	(P)
EDGE OF ROAD USE SOUTH	(P)	(P)	(P)

ILL 22 – EXISTING CONDITIONS

SRA Strategic Regional Arterial Planning Study

EXHIBIT A-7

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale 0 200 400 feet

PLANNING FOCUS AREAS

A) PROPOSED ILLINOIS 53 EXTENSION

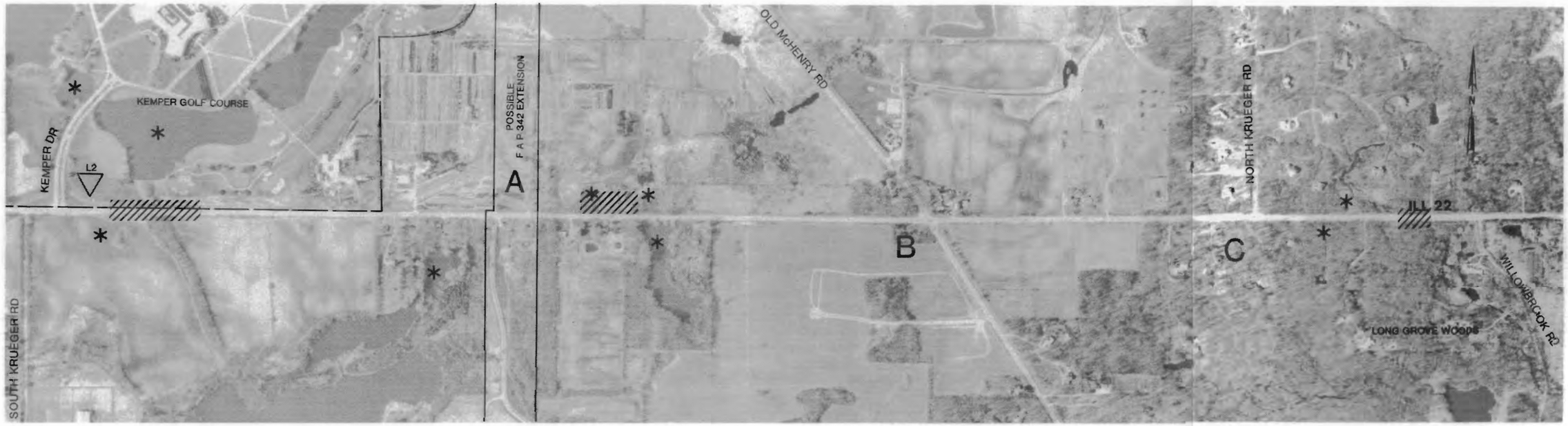
- The extension of Illinois 53 with its proposed interchange will affect the operation of Illinois 22

B) OLD McHENRY ROAD INTERSECTION

- Skewed geometry

C) EAST OF OLD McHENRY ROAD

- Multiple driveway access points may affect SRA operation



SUBURBAN SRA -- 120' TO 150' RIGHT OF WAY
(Desirable)

LEGEND

- A — Planning Focus Area I.D.
- CT — Hazardous Waste Site
- LT — Leaking Underground Storage Tank
- HT — Historic Building/District
- Wetland; /// Floodplain/Floodway
- Church/Synagogue/Religious Institution
- Agricultural Land
- Special Use Areas
- Major Utility Lines

ILL 22

SRA Strategic Regional Arterial Planning Study

EXHIBIT B-6

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale:
0 200 400 600 800 feet

PLANNING FOCUS AREAS

A) WEST OF STONE HAVEN ROAD

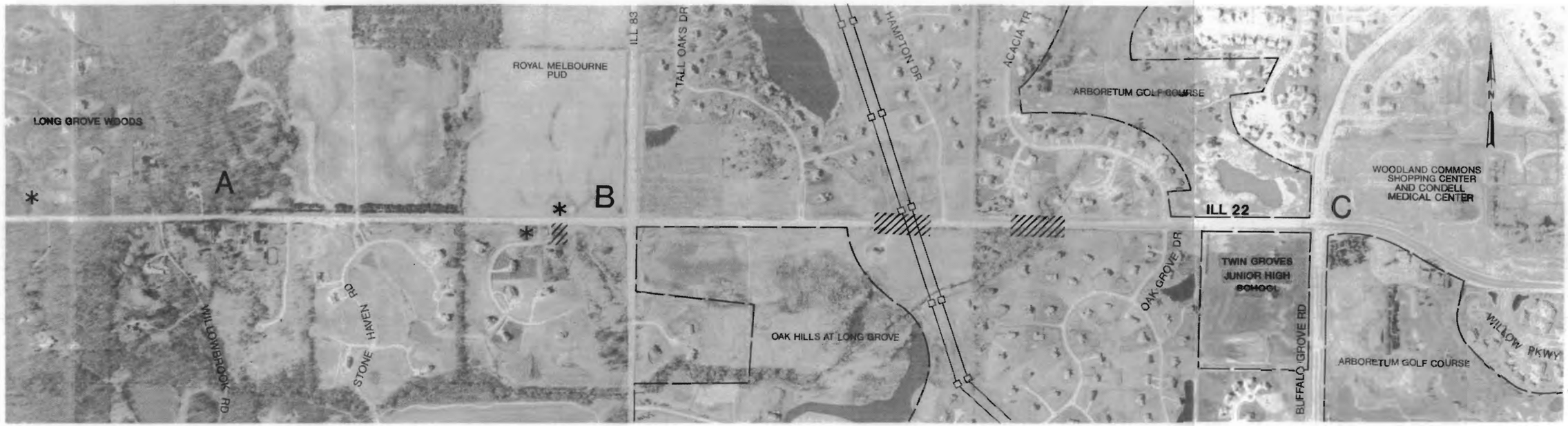
- Multiple driveway access points may affect SRA operation

B) ILLINOIS 83 INTERSECTION

- Capacity improvements for intersection are constrained by adjacent land use

C) BUFFALO GROVE ROAD INTERSECTION

- Capacity improvements for intersection are constrained by adjacent land use
- Golf cart/pedestrian pathway beneath intersection for golf course



SUBURBAN SRA -- 120' TO 150' RIGHT OF WAY
(Desirable)

LEGEND

- A — Planning Focus Area I.D.
- G1 — Hazardous Waste Site
- L1 — Leaking Underground Storage Tank
- H1 — Historic Building/District
- Wetland / Floodplain/Floodway
- Church/Synagogue/Religious Institution
- Agricultural Land
- Special Use Areas
- Major Utility Lines

ILL 22

SRA Strategic Regional Arterial Planning Study

EXHIBIT B-7

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale:
0 200 400 600 800 feet

Segment IV—"Lincolnshire" (Willow Parkway to I-94)

Segment IV of the Illinois 22 SRA is approximately 4 miles long, extending from Willow Parkway, just west of the Wisconsin Central Railroad, to I-94. The segment is located immediately west of I-94. The segment includes a small portion of the village of Buffalo Grove west of the Wisconsin Central Railroad, and the village of Lincolnshire.

Physical Characteristics

Generally, this segment has two lanes (one in each direction of travel), paved or aggregate shoulders, and open drainage. However, west of Prairie Road/Main Street, there is a flush median, and between Old Half Day Road (west)/Barclay Boulevard and Illinois 21/U.S. 45 (a SRA), there is a flush median, two lanes westbound, and one lane eastbound (see Exhibit A-8). From Riverwoods Road to I-94, Illinois 22 features closed drainage (see Exhibit A-9). In addition, there are four lanes (two in each travel direction) provided at the Illinois 21/U.S. 45 intersection and in the I-94 interchange area.

The horizontal alignment is relatively straight with a slight curve in the vicinity of the Illinois 21/U.S. 45 intersection and the Old Half Day Road (east) intersection. The vertical alignment is level.

The right-of-way within the segment varies widely from approximately 66 to 145 feet, but is generally between 66 and 100 feet. The right-of-way measurements of over 100 feet are located primarily in multilane areas west of the Wisconsin Central Railroad, between Shelter Road and the Des Plaines River, and in the I-94 interchange area. There is also 110 feet of right-of-way between Oakwood Lane and Riverwoods Road. Right-of-way is limited south of Illinois 22 on the west approach to Prairie Road/Main Street because of an existing development and its roadway. Also, right-of-way is somewhat limited north of Illinois 22 between the Wisconsin Central Railroad and Old Half Day Road/Barclay Boulevard because of existing development. Existing development along both sides of Illinois 22, and the Captain Daniel Wright Forest Preserve, also limit right-of-way from Old Half Day Road (east) to I-94 (see Exhibits B-8 and B-9).

There are several other physical characteristics worth noting in this segment: a bike route crosses Illinois 22 at Riverwoods Road, and the Wisconsin Central Railroad crosses Illinois 22 at grade between Prairie Road/Main Street and Prairie Road. The railroad crossing is controlled by flashing lights, bells, and gates. There are four structures within this segment (see Table 8), spanning the Indian Creek, the Des Plaines River, the North Branch of the Chicago River (West Fork), and I-94. The I-94 bridge currently is programmed for reconstruction from its present four-lane width to five lanes.

Table 8
Existing Structures Along Segment IV (Willow Parkway to I-94) of Illinois 22

IDOT Structure Reference	Feature		Comments
	Over	Under	
049-0153	Indian Creek	—	Bridge allows 8-foot shoulders
049-0009	Des Plaines River	—	Bridge allows 6-foot shoulders
049-0155	West Fork—North Branch Chicago River	—	Bridge allows 3-foot shoulders
049-9900	Tri-State Tollway (I-94)	—	IDOT to widen (Phase I—approved 11/89, Phase II—underway)

Traffic Control, Operations, and Safety

Major intersections within Segment IV include Prairie Road/Main Street, Prairie Road, Old Half Day Road (west)/Barclay Boulevard, Illinois 21/U.S. 45, Old Half Day Road (east), Elm Road/Oxford Drive, Riverwoods Road, Hewitt Drive/Westminster Way, and the I-94 eastbound ramp terminal. All of these intersections are signal controlled. Turn lanes exist at Prairie Road/Main Street, Old Half Day Road (west)/Barclay Boulevard, Illinois 21/U.S. 45, Old Half Day Road (east; westbound right-turn lane only), and Elm Road/Oxford Drive (left-turn lanes only). Left- and

right-turn lanes exist at Riverwoods Road and Hewitt Drive/Westminster Way. The I-94 eastbound ramp intersection has a right-turn lane, and will have a left turn-lane once the I-94 bridge widening is complete. A "closed-loop" signal coordination system from Hewitt Drive/Westminster Way to Lakeside Drive also is included in the I-94 bridge project.

During the morning and evening peak hours, motorists experience heavy congestion along this entire segment, which is evident particularly between Illinois 21/U.S. 45 and I-94. The numerous access points require frequent braking and acceleration, and the long intersection queues often force motorists to wait through two or more traffic signal cycles. Traffic does move somewhat smoother once it reaches the four-lane segment near Illinois 21/U.S. 45, but queues usually extend beyond the four-lane cross section in the peak hour. Exiting two-way, stop-controlled intersections or driveways also is difficult in this segment because of the high traffic volumes, queues, and lack of median protection. Multiple access points affect the traffic operation on Illinois 22 between Prairie Road/Main Street and Old Half Day Road (west)/Barclay Boulevard, and east of the Des Plaines River. There is no parking allowed along Illinois 22 within this segment, and the posted speed limit is 40 mph.

Existing traffic demand within this section, based on the 1988 Lake County Traffic Map (see Exhibits A-8 and A-9), is approximately 13,800 vpd between Willow Parkway and the Wisconsin Central Railroad, 16,500 vpd between the Wisconsin Central Railroad and Illinois 21/U.S. 45, 23,300 vpd between Illinois 21/U.S. 45 and Elm Road/Oxford Drive, 25,550 vpd between Elm Road/Oxford Drive to Riverwoods Road, and 26,800 vpd from Riverwoods Road to I-94. Traffic volumes within this segment increase from west to east, with an obvious jump to the east of Illinois 21/U.S. 45 because of a significant travel pattern between Illinois 21/U.S. 45 (a SRA) and the I-94 interchange. Illinois 21/U.S. 45 is a heavily-traveled roadway, and the I-94 interchange at Illinois 22 is the only fully-accessible interchange on the tollway between Illinois 60 (approximately 3 miles north), and the first exit on I-94 or I-294 (approximately 8½ miles and 6½ miles south, respectively). There is partial access onto I-94 to and from the south at Deerfield Road (approximately 2½ miles south) and at Lake Cook Road (approximately 3½ miles south). The tollway intends to provide full access at Lake Cook Road in the near future, which is expected to decrease the existing daily volumes along Illinois 22 between 8 and 13 percent in the vicinity of I-94.

Accident data (see Exhibits A-8 and A-9) were obtained for 1987, 1988, and January to October of 1989. Calculated intersection accident rates of approximately 1.35 accidents per MEV at Prairie Road and 2.01 accidents per MEV at Riverwoods Road were not considered significantly high. The recent addition of turn lanes at the Riverwoods Road intersection is expected to have a beneficial effect on its accident rate, although the rate stated above for Riverwoods Road does not fully take this improvement into account. Segment accident rates were calculated at 4.80 accidents per MVM from Willow Parkway to the Wisconsin Central Railroad (this rate incorporates the entire section from Buffalo Grove Road to the Wisconsin Central Railroad), 6.55 accidents per MVM from Elm Road/Oxford Drive to Riverwoods Road, and 7.20 accidents per MVM from Riverwoods Road to I-94.

These accident rates are considered somewhat high for a roadway of this type. The higher segment rates between Elm Road/Oxford Drive and I-94 are influenced strongly by the 70 accidents at Riverwoods Road, and the 59 accidents at the I-94 eastbound ramp intersection in the 2-year, 10-month period analyzed. The number of accidents at the I-94 eastbound ramp also should decrease with the addition of a left-turn lane as part of the I-94 bridge widening project. Higher traffic volumes, combined with the large number of crossing streets and driveway access points, also cause high accident rates. These factors, combined with no median or turn-lane protection, increase the likelihood of an accident. In addition, the accident rate calculated on the west end of the segment will most likely decrease with the addition of signals at both Prairie Road intersections.

Public Transportation

There are no public rail or bus facilities operating in this segment (see Table 3 and Exhibits A-8 and A-9), although Pace bus routes 626 and 691 do operate within the office park in the southwest quadrant of the Illinois 21/U.S. 45 and Illinois 22 intersection.

Environmental Constraints and Land Use

The environmental concerns within this segment (see Table 9 and Exhibits B-8 and B-9) include potential wetlands and/or detention/retention ponds near Adlai Stevenson High School, Schelter Road, Old Half Day Road (west)/Barclay Boulevard, the Marriott Resort Golf Course and Captain Daniel Wright Forest Preserve, Old

Mill Road, and the I-94 eastbound exit ramp. The route also crosses three waterways in this segment: Indian Creek, the Des Plaines River, and the West Fork of the North Branch Chicago River. In addition, there is a potential historic building north of Illinois 22 at Schelter Road, and another in the northeast quadrant of the Riverwoods Road intersection. The Captain Daniel Wright Forest Preserve is located within this segment immediately east of Old Half Day Road (east), across from the Marriott Resort Golf Course. There are also village parks immediately east of the Des Plaines River (Springlake Park) and just west of Old Mill Road (Old Mill Commons).

Table 9
Summary of Environmentally Sensitive Land Uses and Sites Along Segment IV (Willow Parkway to I-94) of Illinois 22

Item	Exhibit No.	Reference	Description
Potential Historic Significance	B-8	H-2	Residence, northwest corner of Half Day and Schelter Roads; Half Day
	B-9	H-3	Lippman House, northeast corner of Illinois 22 and River Woods Road; Half Day
CERCLIS Sites[a]	—	—	None Noted
LUST Sites[b]	—	—	None Noted

[a]CERCLIS = Comprehensive Environmental Response, Compensation, and Liability Information System.
[b]LUST = Leaking Underground Storage Tank.

Land within this segment is zoned residential, office, industrial, and commercial. Industrial uses are located near the railroad tracks, office development is located near Illinois 21/U.S. 45 and I-94, and commercial use is located near Illinois 21/U.S. 45 (and to a lesser extent near the railroad tracks). The rest of the existing land use is either residential or agricultural/open. There is a large parcel of land south of

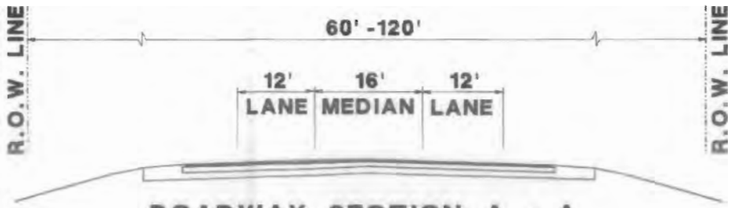
Illinois 22 between the Wisconsin Central Railroad and Illinois 21/U.S. 45 that is currently undeveloped, but zoned for office use.

Significant land uses within the segment include the Woodland Commons Shopping Center, the Buffalo Grove fire station, Powernail Company, Adlai Stevenson High School, Half Day School, the Lincolnshire Corporate Center in the southwest quadrant of the Illinois 22 and Illinois 21/U.S. 45 intersection, the Marriott Resort Golf Course, the Captain Daniel Wright Forest Preserve, and the Tri-State International Office Center (see Exhibits B-8 and B-9). The publicly-owned Arboretum Golf Course is immediately to the west of the segment (see Exhibit B-7).

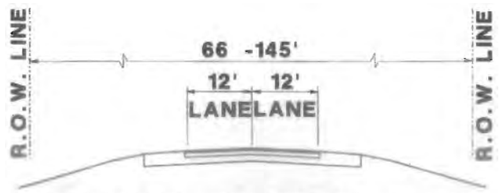
Several significant developments, because of their current status, were considered to be "existing" for purposes of the Illinois 22 SRA study. These developments include the newly-constructed "Westgate of Lincolnshire" residential development north of Illinois 22 and west of Hotz Road, a retail development in the southeast corner of the Illinois 22 and Illinois 21/U.S. 45 intersection, and the Lincolnshire Village Hall in the northwest quadrant of the Illinois 22 and Old Half Day Road (east) intersection. The Woodland Commons Shopping Center and the Condell Medical Center (both west of the Buffalo Grove fire station), and the Buffalo Grove fire station, although not yet constructed at the time the Exhibit B-8 aerial photograph was taken, are now complete.

LEGEND

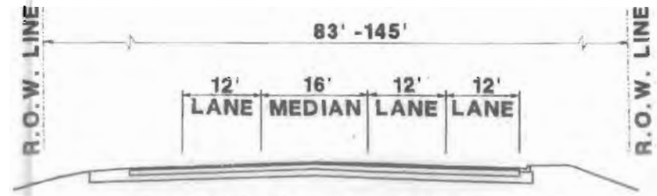
- △ SIGNALIZED INTERSECTION
- LANE ARRANGEMENTS AT KEY INTERSECTIONS
- (P) PARKING ALLOWED
- (P) PARKING PROHIBITED
- (NR) NO POSTED RESTRICTIONS
- B DESIGNATED BUS STOP
- CTA RAPID TRANSIT STATION
- METRA METRA STATION



ROADWAY SECTION A - A
WILLOW PKWY TO PRAIRIE RD



ROADWAY SECTION B - B
PRAIRIE RD TO OLD HALF DAY RD (WEST)
IL 21/US 45 TO OLD HALF DAY RD (EAST)



ROADWAY SECTION C - C
OLD HALF DAY RD (WEST) TO IL 21/ US 45

1988 - 1990 AVERAGE DAILY TRAFFIC	13,800	16,500	23,300
ACCIDENT RATE	4.80 / MVM; 1.35/MEV		
TRANSIT ROUTES	METRA RAIL NONE; PACE BUS NONE		
EDGE OF ROAD USE NORTH	(P)	(P)	(P)
EDGE OF ROAD USE SOUTH	(P)	(P)	(P)

ILL 22 – EXISTING CONDITIONS

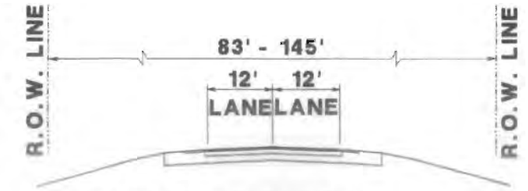
Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering
ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA Strategic Regional Arterial Planning Study **EXHIBIT A-8**

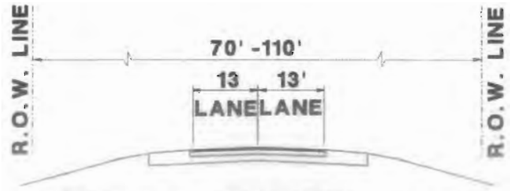
Scale: 0 200 400 feet

LEGEND

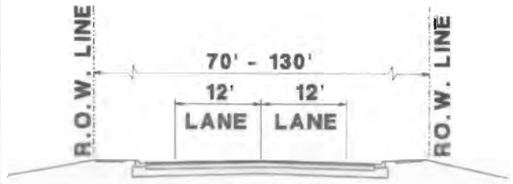
- SIGNALIZED INTERSECTION
- LANE ARRANGEMENTS AT KEY INTERSECTIONS
- (P) PARKING ALLOWED
- (P) PARKING PROHIBITED
- (NR) NO POSTED RESTRICTIONS
- B DESIGNATED BUS STOP
- CTA RAPID TRANSIT STATION
- METRA METRA STATION



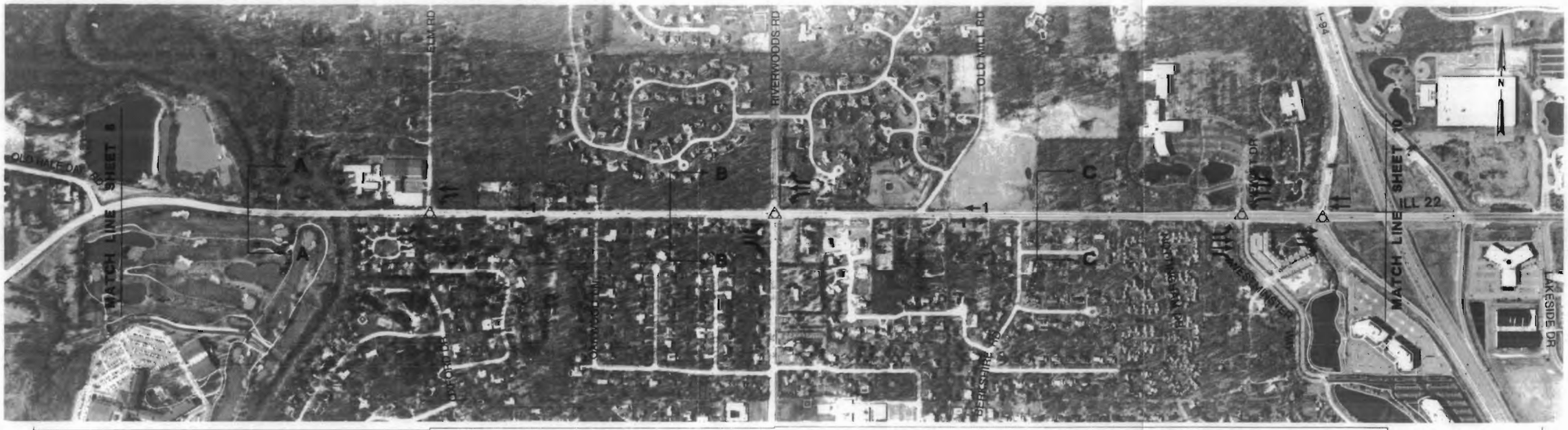
ROADWAY SECTION A - A
OLD HALF DAY RD (EAST) TO
OXFORD DR



ROADWAY SECTION B - B
OXFORD DR TO RIVERWOODS RD



ROADWAY SECTION C - C
RIVERWOODS RD TO I-94



1988 - 1990 AVERAGE DAILY TRAFFIC	23,300	25,550	26,800	18,750
ACCIDENT RATE		6.55 / MVM	7.20 / MVM	
TRANSIT ROUTES		2.01/MEV		
		METRA RAIL NONE		
		PACE BUS NONE		
EDGE OF ROAD USE NORTH	(P)	(P)	(P)	
EDGE OF ROAD USE SOUTH	(P)	(P)	(P)	

ILL 22 – EXISTING CONDITIONS

Strategic Regional Arterial Planning Study **EXHIBIT A-9**

Scale: 0 200 400 feet

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

PLANNING FOCUS AREAS

A) WEST APPROACH TO PRAIRIE ROAD

- Limited available right-of-way to the south

B) PRAIRIE ROAD TO OLD HALF DAY ROAD/BARCLAY BOULEVARD

- Multiple driveway/cross street access points may affect SRA operation
- Adjacent historical resource

C) WISCONSIN CENTRAL RAILROAD CROSSING

- Through traffic may be affected by at-grade railroad crossing
- Possible future commuter rail (priority project)

D) ILLINOIS 21/US 45 INTERSECTION

- Intersecting SRA
- Capacity improvements for intersection are constrained by adjacent land use

E) INDIAN CREEK BRIDGE

- Limited horizontal clearance

SUBURBAN SRA -- 120' TO 150' RIGHT OF WAY (Desirable)

LEGEND

- A — Planning Focus Area I.D.
- C1 — Hazardous Waste Site
- L1 — Leaking Underground Storage Tank
- H1 — Historic Building/District
- Wetland; Floodplain/Floodway
- Church/Synagogue/Religious Institution
- Agricultural Land
- Special Use Areas
- Major Utility Lines

ILL 22

SRA Strategic Regional Arterial Planning Study

EXHIBIT B-8

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale: 0 200 400 600 800 feet

PLANNING FOCUS AREAS

A) OLD HALF DAY ROAD TO THE DES PLAINES RIVER BRIDGE

- Limited available right-of-way

B) DES PLAINES RIVER BRIDGE

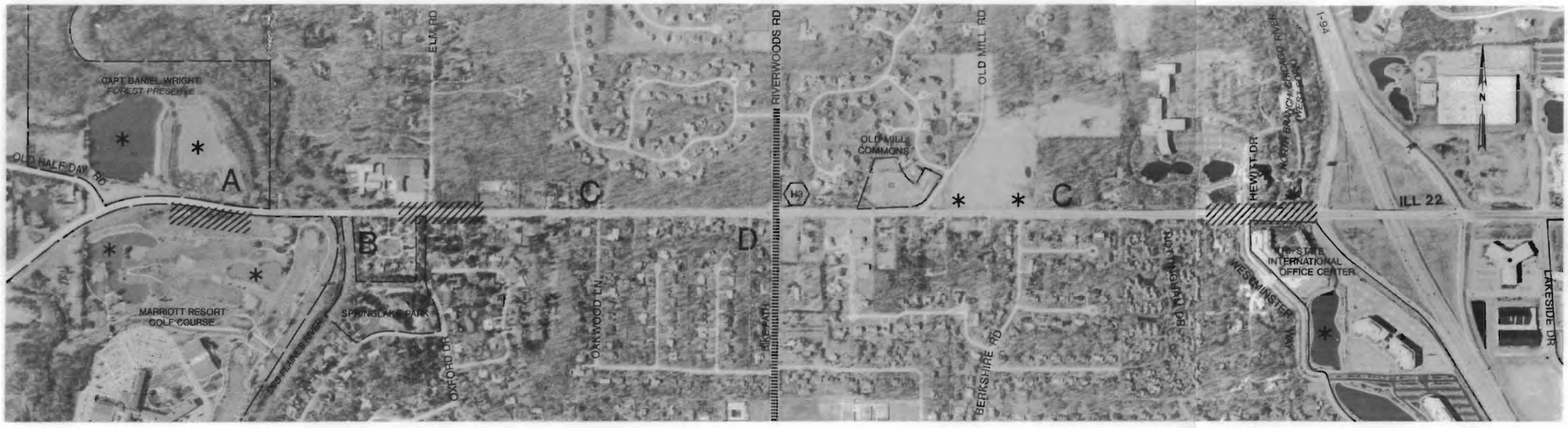
- Limited horizontal clearance

C) DES PLAINES RIVER BRIDGE TO HEWITT DRIVE/WESTMINSTER WAY

- Limited available right-of-way
- Multiple driveway/cross street access points may affect SRA operation

D) RIVERWOODS ROAD INTERSECTION

- Adjacent historic resource
- Capacity improvements for intersection are constrained by adjacent land use
- Designated bike path crosses SRA



SUBURBAN SRA -- 120' TO 150' RIGHT OF WAY
(Desirable)

LEGEND

- A — Planning Focus Area I.D.
- C1 — Hazardous Waste Site
- L1 — Leaking Underground Storage Tank
- H1 — Historic Building/District
- Wetland / Floodplain/Floodway
- Church/Synagogue/Religious Institution
- Agricultural Land
- Special Use Areas
- Major Utility Lines

ILL 22

SRA Strategic Regional Arterial Planning Study

EXHIBIT B-9

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale: 0 200 400 600 800 feet

Segment V—"Highland Park" (I-94 to U.S. 41)

Segment V of the Illinois 22 SRA is approximately 3 miles long, extending from I-94 to U.S. 41 at the east end of the corridor. The segment includes the village of Bannockburn and the city of Highland Park.

Physical Characteristics

Generally, this segment has two lanes (one in each travel direction), paved or aggregate shoulders, and open drainage. However, four lanes (two lanes in each direction of travel) are provided in the I-94 interchange area, at Illinois 43, and at U.S. 41. The horizontal alignment is relatively straight from I-94 to U.S. 14, and vertical alignment is level.

The right-of-way within the segment varies from approximately 60 to 160 feet, but is generally between 66 and 115 feet. Right-of-way of over 100 feet is located mostly within the multilane areas in the I-94 interchange area, and in the U.S. 41 intersection area. There is also 107 feet of right-of-way between Landon Lane and Illinois 43. Additional available right-of-way is limited between Illinois 43 and Landon Lane because of existing developments and the Lake County Forest Preserve, and on the south side of Illinois 22 east of Ridge Road because of the Hybernia Nature Preserve (see Exhibits B-10 and B-11).

There are several other physical characteristics worth noting in this segment: a bike route travels along Illinois 22 from the Ridge Road/Tennyson Lane intersection to Ridge Road, and the C&NW Railroad goes over Illinois 22 immediately east of U.S. 41. The C&NW Railroad structure is relatively new and the roadway dips down to provide adequate vertical clearance for vehicles traveling Illinois 22. The cross section underneath the structure is two lanes in each direction with a median. In addition to the C&NW structure, there are two others within this segment (see Table 10 on the following page). These structures span I-94 at the west end of this segment (which currently is programmed for widening to five lanes from its existing four-lane cross section), and the Middle Fork of the Chicago River.

Table 10 Existing Structures Along Segment V (I-94 to U.S. 41) of Illinois 22			
IDOT Structure Reference	Feature		Comments
	Over	Under	
049-9900	Tri-State Tollway (I-94)	—	IDOT to widen (Phase I—approved 11/89 Phase II—underway)
049-0010	Middle Fork—North Branch Chicago River	—	Bridge allows 10-foot shoulders
049-9953	—	C&NW Railroad	—

Traffic Control, Operations, and Safety

Major intersections within the segment include the I-94 westbound ramp terminal, Lakeside Drive, Telegraph Road, Illinois 43, Ridge Road/Tennyson Lane, Ridge Road, and U.S. 41. All of these intersections are signal controlled except Ridge Road, which is currently uncontrolled along Illinois 22. The U.S. 41 intersection operates as three at-grade intersections with turns off of U.S. 41 allowed at two ramp intersections controlled by stop signs, and turns onto U.S. 41 allowed at its signalized crossing with Illinois 22. Left-turn lanes exist at Telegraph Road, Illinois 43, Ridge Road/Tennyson Lane, and eastbound at U.S. 41. Left- and right-turn lanes exist at Lakeside Drive and westbound at U.S. 41. The I-94 westbound ramp intersection currently has no turn lanes, but will have both a right- and left-turn lane once the I-94 bridge widening project is complete. A "closed-loop" signal coordination system from Hewitt Drive/Westminster Way to Lakeside Drive also is included in the I-94 bridge project.

During the morning and evening peak hours, motorists experience some congestion along this entire segment, which is evident particularly near I-94, Illinois 43, and between Illinois 43 and U.S. 41 (a SRA). Numerous access points and intersections cause motorists to brake and accelerate frequently, particularly between Illinois 43 and U.S. 41. In addition, long intersection queues often require motorists to wait through two or more traffic signal cycles within this segment. Traffic does move somewhat smoother in the four-lane segments near I-94, Illinois 43, and U.S 41, but

the sections are so short that drivers often make erratic lane changes to enter the lane that continues past the segment. Exiting two-way, stop-controlled intersections or driveways also is difficult during the peak hours in this segment because of a combination of high traffic volumes, queues, and lack of median protection. Multiple access points affect the traffic operation on Illinois 22 between Lakeside Drive and Telegraph Road, and between Illinois 43 and U.S. 41. In addition, there are several offset intersections that affect the traffic operation on Illinois 22. There is no parking allowed along Illinois 22 within this segment, and the posted speed limit ranges from 45 mph between I-94 and Ridge Road, to 40 mph between Ridge Road and U.S. 41.

Existing traffic demand within this section, based on the 1988 Lake County Traffic Map (see Exhibits A-10 and A-11), is approximately 18,750 vpd between I-94 and Illinois 43 and 20,750 vpd between Illinois 43 and U.S. 41. Existing traffic volumes decrease from 26,800 vpd west of I-94 to 18,750 vpd east I-94, which is indicative of the origins and destinations of motorists using the I-94 interchange. However, traffic volumes do increase further to the east between Illinois 43 and U.S. 41, which likely results from the heavy traffic and greater development along these routes.

Accident data (see Exhibits A-10 and A-11) were obtained for 1987, 1988, and January to October of 1989. Calculated intersection accident rates of approximately 1.84 accidents per MEV at Illinois 43 and 1.19 accidents per MEV at U.S. 41 were not considered significantly high. Segment accident rates were calculated at 10.39 accidents per MVM from I-94 to Illinois 43, and 5.81 accidents per MVM between Illinois 43 and U.S. 41.

These rates are considered high and somewhat high, respectively, for a roadway of this type. The higher segment accident rates are affected greatly by the 77 accidents that have occurred at the I-94 westbound ramp intersection, the 65 accidents at Illinois 43, and the 89 accidents at U.S. 41 over the 2-year, 10-month period analyzed. The number of accidents at the I-94 westbound ramp should decrease with the addition of left- and right-turn lanes (part of the I-94 bridge widening project). Another cause of the high accident rates is a combination of high traffic volumes, and the large number of crossing streets and driveway access points. These factors, combined with no median or turn-lane protection, increase the likelihood of an accident.

Public Transportation

The Metra Milwaukee District North commuter rail line, which crosses Illinois 22 immediately west of Illinois 43, is the only public rail facility operating in this segment (see Table 3 and Exhibit A-10). The crossing is protected by flashing lights, bells, and gates. The crossing of the commuter trains has a direct influence on the operation of the signal at the intersection of Illinois 22 and Illinois 43. There are no CTA or Pace bus routes operating within this segment.

Environmental Constraints and Land Use

The environmental concerns within this segment include potential wetlands just east of Bridle Lane and west of Kelly Lane, and near the crossing of the Middle Fork of the Chicago River (see Table 11 and Exhibits B-10 and B-11). Lake County Forest Preserve lands and the Hybernia Nature Preserve also are located within this segment between Illinois 43 and U.S. 41 (see Exhibit B-11). In addition, a former Highland Park landfill is located in the southwest quadrant of the U.S. 41 intersection. This site is identified in the CERCLIS listing as having reportedly accepted hazardous substances or possessing a record of accidental or illegal spills or dumpings.

Table 11
Summary of Environmentally Sensitive Land Uses and Sites Along Segment IV (I-94 to U.S. 41) of Illinois 22

Item	Exhibit No.	Reference	Description
Potential Historic Sites	—	—	None Noted
CERCLIS Sites[a]	B-11	C-1	Highland Park Landfill, southeast corner of U.S. 41 and Illinois 22; Highland Park
LUST Sites[b]	—	—	None Noted

[a]CERCLIS = Comprehensive Environmental Response, Compensation, and Liability Information System.
[b]LUST = Leaking Underground Storage Tank.

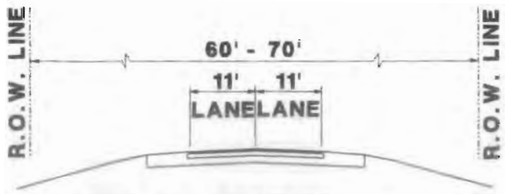
Land within this segment is zoned residential, office, institutional, and commercial. Office uses and the Trinity College and Evangelical Divinity School are located near the I-94 interchange. Commercial uses are located near Illinois 43 and along U.S. 41. The remainder of this segment is characterized either by residential development or open space.

Significant land uses within the segment include the Trinity College and Evangelical Divinity School, the North Shore Unitarian Church, the Bannockburn Green Shopping Center, the Lake County Forest Preserve, the Hybernia Nature Preserve, the Chinese Christian Union Church, and the former Highland Park landfill (see Exhibits B-10 and B-11).

Only one significant development within this segment, currently under construction, has been considered to be "existing" for purposes of the Illinois 22 SRA study. This development is the "Architecture Point" residential subdivision just west of the C&NW Railroad and U.S. 41 (see Exhibit B-11).

LEGEND

- SIGNALIZED INTERSECTION
- LANE ARRANGEMENTS AT KEY INTERSECTIONS
- (P) PARKING ALLOWED
- (P) PARKING PROHIBITED
- (NR) NO POSTED RESTRICTIONS
- S DESIGNATED BUS STOP
- CTA RAPID TRANSIT STATION
- METRA METRA STATION



ROADWAY SECTION A - A

I-94 TO WILDWOOD LN

1988 - 1990 AVERAGE DAILY TRAFFIC	26,800	18,750	20,750
ACCIDENT RATE	7.20 / MVM	10.39 / MVM	1.84/MEV
TRANSIT ROUTES	METRA RAIL NONE PACE BUS NONE		
EDGE OF ROAD USE NORTH	(P)	(P)	(P)
EDGE OF ROAD USE SOUTH	(P)	(P)	(P)

ILL 22 – EXISTING CONDITIONS

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

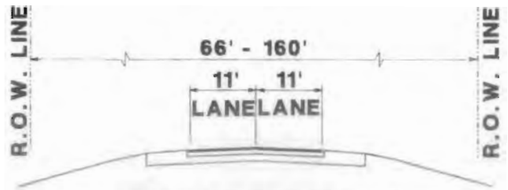
SRA Strategic Regional Arterial Planning Study

EXHIBIT A-10

Scale: 0 200 400 feet

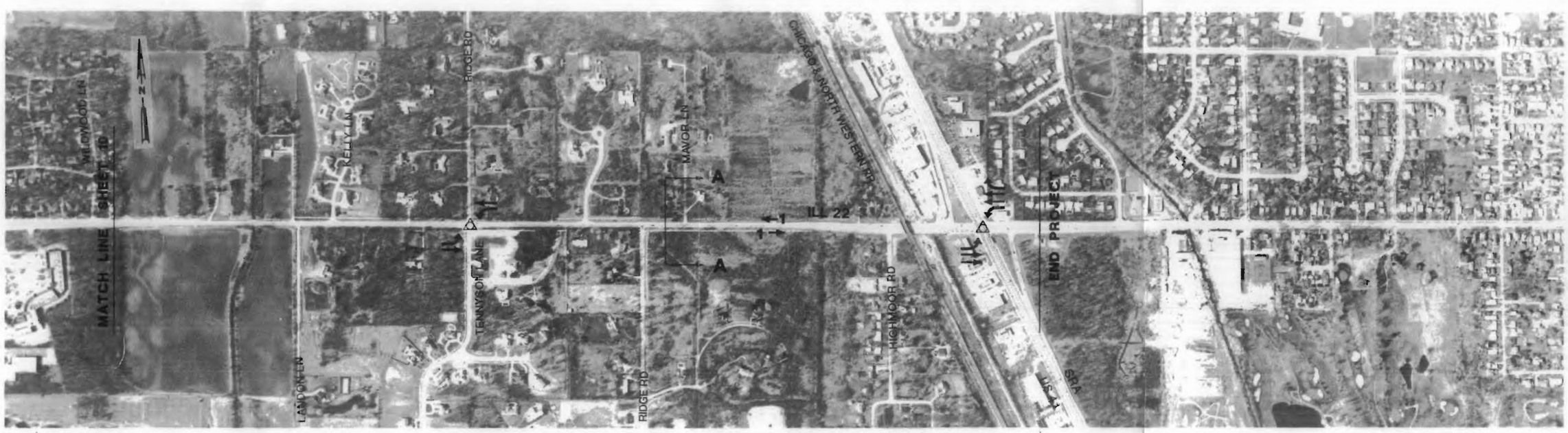
LEGEND

- SIGNALIZED INTERSECTION
- LANE ARRANGEMENTS AT KEY INTERSECTIONS
- (P) PARKING ALLOWED
- (P) PARKING PROHIBITED
- (NR) NO POSTED RESTRICTIONS
- B DESIGNATED BUS STOP
- CTA RAPID TRANSIT STATION
- METRA METRA STATION



ROADWAY SECTION A - A

WILDWOOD LN TO US 41



1988 - 1990 AVERAGE DAILY TRAFFIC		20,750
ACCIDENT RATE		5.81 / MVM — 1.19/MEV
TRANSIT ROUTES		METRA RAIL NONE PACE BUS NONE
EDGE OF ROAD USE	NORTH	(P) (P)
	SOUTH	(P) (P)

ILL 22 – EXISTING CONDITIONS

SRA Strategic Regional Arterial Planning Study

EXHIBIT A-11

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale: 0 200 400 feet

PLANNING FOCUS AREAS

A) I-94 INTERCHANGE

- Limited horizontal clearance on bridge over I-94
- Limited horizontal clearance on bridge over Chicago River (West Fork)

B) EAST APPROACH TO ILLINOIS 43, AND LAKESIDE DRIVE TO TELEGRAPH ROAD

- Multiple driveway/cross street access points may affect SRA operation

C) ILLINOIS 43 INTERSECTION

- Capacity improvements for intersection are constrained by adjacent land uses
- Through traffic may be affected by at-grade railroad crossing

SUBURBAN SRA -- 120' TO 150' RIGHT OF WAY
(Desirable)

LEGEND

- A — Planning Focus Area I.D.
- C.T. — Hazardous Waste Site
- L.I. — Leaking Underground Storage Tank
- H — Historic Building/District
- Wetland; /// Floodplain/Floodway
- Church/Synagogue/Religious Institution
- Agricultural Land
- Special Use Areas
- Major Utility Lines

ILL 22

SRA Strategic Regional Arterial Planning Study

EXHIBIT B-10

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale:
0 200 400 600 800 feet

PLANNING FOCUS AREAS

A) LAKE COUNTY FOREST PRESERVE/HYBERNIA NATURE PRESERVE

- Limited available right-of-way

B) CHICAGO RIVER BRIDGE

- Limited horizontal clearance

C) RIDGE ROAD INTERSECTIONS

- Designated bike path along Ridge Road and Illinois 22

D) LAKE COUNTY FOREST PRESERVE TO US 41

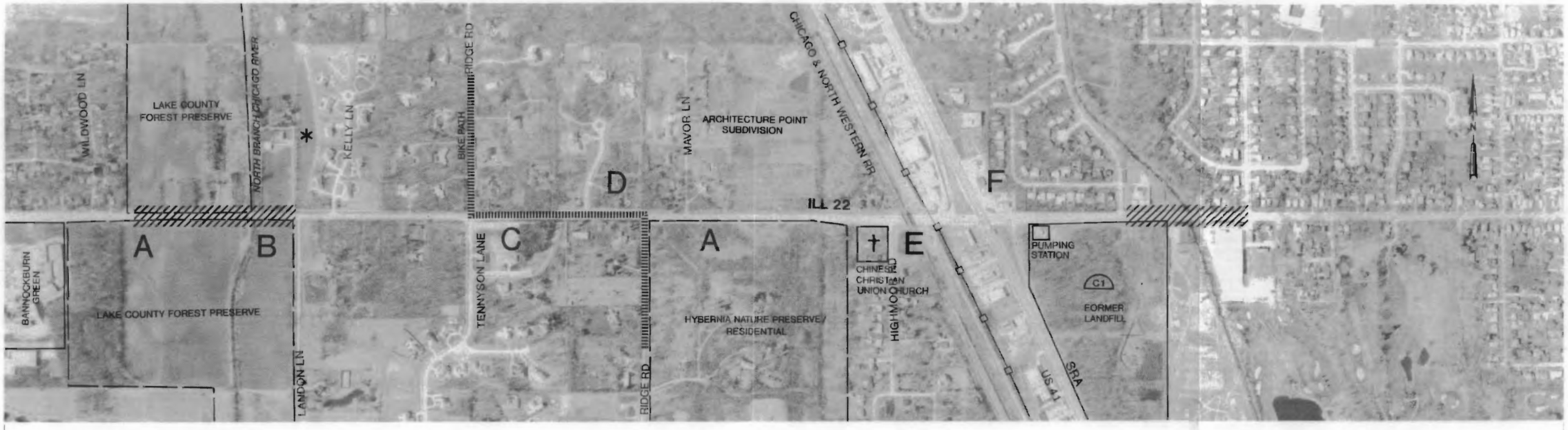
- Multiple driveway/cross street access points may affect SRA operation

E) CHICAGO & NORTHWESTERN RAILROAD BRIDGE

- Limited horizontal clearance

F) US 41 INTERSECTION

- Intersecting SRA
- Capacity improvements for intersection are constrained by adjacent land use



SUBURBAN SRA -- 120' TO 150' RIGHT OF WAY
(Desirable)

LEGEND

- A — Planning Focus Area I.D.
- C1 — Hazardous Waste Site
- L1 — Leaking Underground Storage Tank
- H1 — Historic Building/District
- Wetland; Floodplain/Floodway
- Church/Synagogue/Religious Institution
- Agricultural Land
- Special Use Areas
- Major Utility Lines

ILL 22

SRA Strategic Regional Arterial Planning Study

EXHIBIT B-11

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale: 0 200 400 600 800 feet

Summary

The Illinois 22 SRA corridor, which is approximately 20 miles long, is characterized by many different land uses and environmental concerns. The character of the roadway changes drastically from its western terminus at U.S. 14 to its eastern terminus at U.S. 41, although its cross section is generally the same throughout the corridor. The western end of the corridor is developing rapidly, with expansion of existing development as well as new construction occurring. This area, although undeveloped in many locations, is not expected to remain undeveloped for long.

As the corridor travels east, new development becomes less intense, although there are areas of open land that are expected to develop in the near term in the vicinity of Illinois 21/U.S. 45 in Lincolnshire. East of Illinois 21/U.S. 45, land is highly developed, and there are fewer opportunities for infill development. Traffic volumes also increase dramatically as Illinois 22 continues west to east, from a low of 8,200 vpd near U.S. 14 to a high of 26,800 vpd near the I-94 interchange. The upward traffic volume trend is expected to continue over the next 20 years, and the projected volumes on the east and west ends of the corridor are expected to converge.

The planning framework within which the recommended plan was developed is explained in Chapter III. Topics discussed in Chapter III include route design considerations, expected year 2010 transportation system changes and traffic volumes, year 2010 land use planning and development information, and any future areas of concern identified during improvement planning.

Chapter III

Illinois 22 SRA Planning Framework

Chapter III

Illinois 22 SRA Planning Framework

Long-range planning for the Illinois 22 corridor must be based on a range of transportation, land use, and community concerns. Regional transportation needs require balancing with local interests, plans, and constraints.

This chapter outlines the planning framework within which the Illinois 22 corridor should be viewed. Discussion in the chapter addresses both existing problems and conditions, as well as expected or forecast conditions for the long range. The following is a summary of the important elements of the Illinois 22 planning framework:

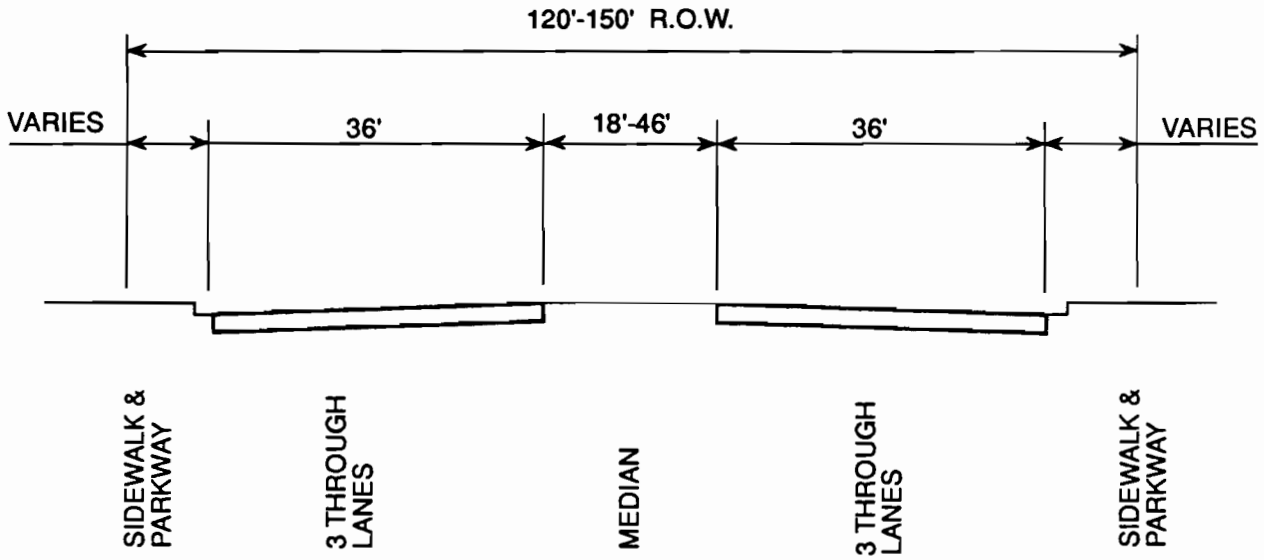
- Functional classification (the roles of SRAs in general, and Illinois 22 specifically, in serving regional transportation needs)
- SRA route design considerations and characteristics
- Long-range forecasts of highway traffic activity along Illinois 22
- Other planned transportation improvements within, crossing, or near the Illinois 22 corridor
- Long-range land use plans for the communities along Illinois 22 and for McHenry and Lake Counties
- Existing safety and traffic operational problems along Illinois 22
- Existing environmental conditions and constraints
- Community concerns, interests, and attitudes

These comprehensive and often conflicting inputs were used to establish a basic concept for Illinois 22, which specifies:

- The number of continuous through lanes in each direction along Illinois 22
- Locations of future major signalized intersections
- Locations of special intersection design needs (i.e., possible interchanges)
- A general approach to access management
- The need for and locations of special or unique highway solutions

Functional Classification

Previous planning efforts by IDOT and CATS have established Illinois 22 as a SRA. Furthermore, the Illinois 22 corridor is classified as suburban for its entire length, from U.S. 14 to U.S. 41. As a suburban SRA, the desirable characteristics of Illinois 22 include six basic continuous through lanes (three in each direction of travel) with a raised median for access control (see Exhibit 3). The desirable six-lane feature is an initial goal in planning, with recognition that it may not be achievable. However, it is essential that any SRA be planned for a minimum of four continuous basic through lanes (two in each direction).



Desirable Suburban SRA Cross-Section

SRA Strategic Regional Arterial Planning Study

Exhibit 3

Route Design Considerations

The SRA Design Concept Report, which serves as a guide in the planning of the SRA system, presents desirable cross sections for each SRA route designation in order to ensure adequate traffic service and geometric design within the right-of-way width indicated. The SRA desirable cross section for the suburban designation is shown in Exhibit 3.

The desirable suburban SRA concept cross section requires 120 to 150 feet of right-of-way. This width accommodates a six-lane roadway (three lanes in each direction) with an 18- to 46-foot raised median. The typical cross section implies a closed drainage system by including curb and gutter at the pavement edge. Other information about the desirable route characteristics of a suburban SRA are listed in Table 12.

Note that the existing two-lane, open-drainage cross section along Illinois 22 is considerably different than the desirable suburban SRA cross section. Right-of-way is significantly less than the maximum 150-foot desirable suburban SRA right-of-way.

In recent years, the land use adjacent to the corridor has transitioned from rural in character to suburban. Continuous development along Illinois 22 severely limits the possibility of acquiring significant, continuous right-of-way. In particular, there are areas of limited right-of-way on Illinois 22 immediately east of U.S. 14, in the Lake Zurich commercial district, in the Long Grove Woods area, and between Easton Avenue and Illinois 21/U.S. 45. East of Illinois 21/U.S. 45, dense land development also restricts right-of-way.

Table 12
Year 2010 Desirable Route Characteristics for Suburban SRAs

Right-of-Way Width	120 to 150 feet
Level of Service (Peak Hour)/Design Speed	C or D/45 mph
Number of Through Lanes	Three in each direction; 12-foot width
Median Width	18 to 46 feet, raised
Right Turns	Turn lanes at all major intersections
Left Turns	Dual left turn lanes at all major intersections
Shoulders	Where appropriate, 10-foot width and paved
Curbs	Yes, with 2-foot gutters
Sidewalks	Where appropriate, 5-foot width
Parking	Not recommended
Cross Street Intersections	Signals with collectors and arterials New local roads right-in/right-out only
Curb Cut Access	Consolidate access points at 500-foot spacing with cross easements
Transit	Bus turnouts, signs, and shelters, express bus service only, signal pre-emption and HOV potential
Number of Traffic Signals per Mile	Four maximum
Signalization	Synchronization with pedestrian actuation where needed
Freight: Radii Vertical Clearances	WB-55 typical/WB-60 Type II truck route New Structures: 16′ - 3″ Existing Structures: 14′ - 6″
Loading	Off-street loading

The 2010 Transportation Network

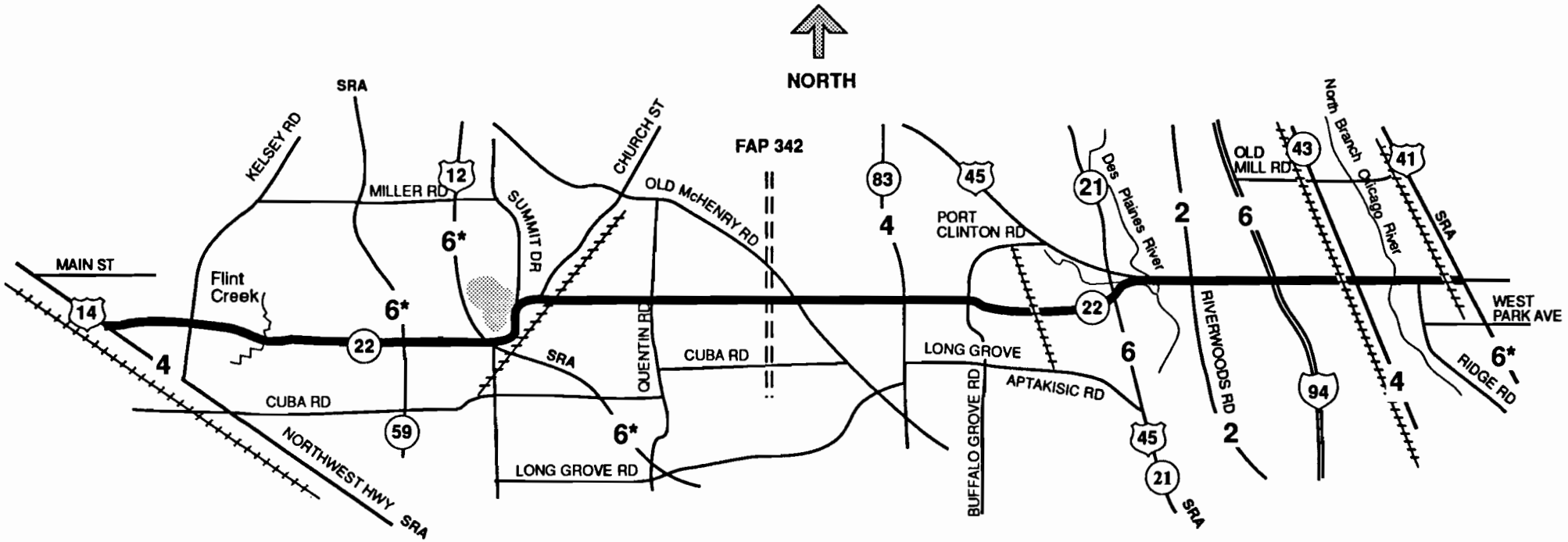
Exhibit 4 illustrates Illinois 22 in a regional context. The corridor is crossed by five other SRA routes (U.S. 14, Illinois 59, U.S. 12, Illinois 21/U.S. 45, and U.S. 41). These routes, in combination with Illinois 22, form a network of roadways intended to serve regional travel in the area. Other major arterials that cross Illinois 22 are Illinois 83, I-94, and Illinois 43; these non-SRA routes also will have a significant impact on the future operation of Illinois 22.

Illinois 22 is paralleled by two other SRA routes, Illinois 60 and Lake Cook Road, which are approximately 3 miles north and south, respectively. Numerous "lower-class" roads parallel Illinois 22 at much closer distances, but none has the necessary continuity or functional classification to act as an alternate route for the regional trips that Illinois 22 is intended to serve.

Exhibit 4 also shows a planned extension of Illinois 53 (FAP 342) through Lake County from Lake Cook Road to Illinois 120. As of late 1992, this freeway extension is in the route location and environmental impact statement phase. Because FAP 342 is part of the CATS year 2010 transportation plan, it is considered to be part of the long-range network assumed for this study. Its effect on Illinois 22 travel patterns could be substantial, given that its plan assumes an interchange of FAP 342 with Illinois 22.

Illinois 22 also is crossed or affected by five railroad facilities. The Metra C&NW Northwest line is west of and parallel to U.S. 14 on the west end of Illinois 22. This route does not cross Illinois 22, but does affect its operation. The EJ&E Railway east of the Lake Zurich commercial district, the Wisconsin Central Railroad west of Lincolnshire, the Metra Milwaukee North line adjacent to Illinois 43, and the C&NW Railroad adjacent to U.S. 41 all cross Illinois 22. The C&NW Railroad crosses Illinois 22 on structure; the other three rail lines cross at grade.

Note: Illinois 60 (SRA) 3 miles
North of Illinois 22
(To be Studied)



2 Number of Existing Through Lanes
(Both Directions of Travel)

6* SRA Route to be Studied -- 6 Lanes Desirable
as per the SRA Design Concept Report

Note: Lake Cook Road (SRA) 3 miles
South of Illinois 22 (Six Lane Cross
Section Recomended in Previous
SRA Study)

FUTURE TRANSPORTATION NETWORK IN THE VICINITY OF ILLINOIS 22

SRA Strategic Regional Arterial Planning Study

Exhibit 4

Year 2010 and Existing Traffic

Forecasts of traffic volumes were prepared by CATS to illustrate the level and pattern of traffic under expected future conditions. The forecasts were based on regional land use assumptions furnished by NIPC, and assume a network as specified in the year 2010 plan, with the full SRA system in place. Specific to Illinois 22, the forecasts also assume that FAP 342 is in place.

The traffic forecasts are used as a reference only—not as a primary tool in corridor sizing. They provide a means, particularly when compared to existing traffic, of judging the long-range need for corridor improvements. In short, traffic volumes can be expected to increase over the next 20 years. Employment and population growth will continue to be significant in Lake and McHenry Counties.

As Table 13 shows, the projected volume of traffic along Illinois 22 varies from approximately 20,000 vpd at the extremities of the corridor to approximately 40,000 vpd in the Lake Zurich commercial area. It is forecast that the traffic volumes along the entire Illinois 22 SRA will increase, although at different rates from west to east. In general, the western end of the corridor is expected to experience significant growth in land development and, hence, traffic volumes (with average daily traffic more than doubling). At the east end of the corridor, growth in land use activity is expected to slow as the area matures, resulting in an increase in traffic of 20 to 50 percent over existing levels.

For the corridor as a whole, the CATS forecasts show a relatively continuous demand on the order of 20,000 to 30,000 vpd for most of the Illinois 22 SRA.

Table 13
Year 2010 Average Daily Traffic (ADT)
Forecast for the Illinois 22 SRA*

Location	Existing ADT (vpd) (1988-1989)	2010 ADT (vpd) Forecast
U.S. 14 to Illinois 59	8,000 - 9,000	20,000 - 30,000
Illinois 59 to U.S. 12	10,000 - 15,000	30,000 - 40,000
U.S. 12 to Old Rand Road	10,000 - 15,000	20,000 - 30,000
Old Rand Road to Illinois 83	10,000 - 15,000	30,000 - 40,000
Illinois 83 to U.S. 41	14,000 - 27,000	20,000 - 30,000

*Source: Chicago Area Transportation Study.

Other Corridor Planning Activities

Roadway Improvements

Previous and current planning information was obtained for the Illinois 22 SRA corridor from IDOT, CATS, Lake County, McHenry County, and surrounding communities. Several of the projects that are covered in these documents were considered as existing conditions, and are discussed in Chapter II. These projects were expected to be complete within the next 5 years. The Illinois 53 extension (FAP 342) from Lake Cook Road to Illinois 120 was considered more long range in nature. The Phase I study for this project is currently underway. It is expected that Illinois 53 will have an interchange with Illinois 22. The Illinois State Toll Highway Authority also plans to provide full access at Lake Cook Road in the near future, which is expected to decrease the forecasted daily traffic along Illinois 22 by 8 to 13 percent in the vicinity of I-94.

Another current study of particular interest has been undertaken by the Village of Lake Zurich. This study identifies the need for a bypass for Illinois 22 around the Lake Zurich CBD. At the time of this report, this study had identified six Illinois 22 route alternatives. Of these six, the Village Board has chosen Alternative 4 (see Appendix B) as the preferred alignment in Lake Zurich. It should be noted that the possibility of an Illinois 22 bypass of the Lake Zurich CBD has been studied and evaluated in the past. An IDOT-sponsored study of an Illinois 22 Lake Zurich bypass (1980) recommended a route that is no longer feasible because the required right-of-way was not protected. A list of previous and current studies relevant to Illinois 22 is presented in Table 14.

City and Village Comprehensive Plans

Information regarding local transportation plans, land use plans, and community objectives was gathered from the comprehensive plans of the villages and cities along Illinois 22. Table 14 lists those plans that were made available and were reviewed in conjunction with the overall corridor planning.

Table 14
Summary of Previous and Current Planning Studies Relevant to Illinois 22

Study, Plan, or Report	Source	Status as of 1992
Transportation Planning Studies		
• CATS 2010 Transportation System Development Plan	CATS	Official
• Combined Location/Design Report and Environmental Assessment, Illinois 22 from U.S. 12 to Krueger Road (1980)	IDOT	Official
• Environmental Assessment, Illinois 83 (FAP 872) from Arlington Heights Road to U.S. 45	IDOT	Official
• Combined Location/Design Report and Negative Declaration, Illinois 22 from Schelter Road to the Des Plaines River (1978)	IDOT	Official
• State Improvement Report, Illinois 22 - U.S. 45 to I-94 (1984)	IDOT	Official
• Project Report—Categorical Exclusion Group I, Illinois 22 over I-94 (Tri-State Tollway) (1989)	IDOT	Approved
• Project Report—Illinois 22 from the Tri-State Tollway (I-94) to U.S. 41 (1974)	IDOT	Official
• Project Report—Categorical Exclusion Group I, Illinois 22 at Ridge Road (both junctions) (1986)	IDOT	Official
• Metra "Project Proposal" Booklet	Metra	
Land Use and Comprehensive Plans		
• Comprehensive Master Plan (1976)	Highland Park	Official
• Comprehensive Plan (1976)	Lincolnshire	Official
• Half Day Development Study (1978)	Lincolnshire	
• Transportation Plan Update (1991)	Buffalo Grove	Preliminary
• Comprehensive Plan (1992)	Buffalo Grove	Official
• Comprehensive Plan (1986)	Buffalo Grove	Official
• Comprehensive Plan, Chapter 2—Transportation, Chapter 5—Environment (1991 - 1992)	Long Grove	Preliminary
• Comprehensive Plan (1990)	Kildeer	Official
• Comprehensive Plan (1989)	Lake Zurich	Official
• Traffic Impact Study—Taco Bell and Brown's Chicken (1991)	Lake Zurich	Approved
• Comprehensive Plan (1989 Update)	North Barrington	Official
• Comprehensive Plan (1989 Revised)	Lake Barrington	Official
• Planning Notebook (1974)	Fox River Grove	Official
• Lake County Framework Plan (1989)	Lake County Dept. of Planning, Zoning, and Environmental Quality	Official
• McHenry County 2000 Transportation Plan (1981)	McHenry County	Official
• McHenry Township Zoning Map (1982 Update)	McHenry County Regional Planning Commission	Official
Other Plans and Studies		
• Lake Zurich Downtown Redevelopment Plan	Lake Zurich	Official
• FAP 342 Right-of-Way	IDOT	Current
• J.R.R Skokie Corridor Plan	Highland Park	Approved
• Comprehensive Operating Plan	Pace	Official
• Future Agenda for Suburban Transportation (1992)	Pace/Metra	Official
• Numerous Individual Development Plans	Numerous	

Transit Improvements

Several transit-related improvements in the vicinity of Illinois 22 have been proposed, studied, or planned (see Table 15). Currently, Metra is studying the potential of using the EJ&E Railway as a commuter rail service. This project is part of Metra's Year 2010 transportation plan, and is considered long range. Metra also has provided a "Project Proposal" booklet on the feasibility of providing commuter trains on the Wisconsin Central Railroad. The original study, completed in 1986, analyzed partial commuter service by 1990 (three rush hour trains in each direction), and full service by 2005 (20-minute headway during peak periods, and 1½- to 2-hour headway during off-peak times and weekends). This is considered a priority project, and will include a new rail station immediately north of Illinois 22. However, the implementation date of this project has been delayed. There are no new bus routes or upgrades of bus routes planned on Illinois 22, but a Pace route is planned to cross Illinois 22 at Main Street/Prairie Road. This proposed Pace bus route would precede Metra commuter service on the Wisconsin Central Railroad. Because of its status, the EJ&E Railway project was considered a possibility, while the Wisconsin Central project was considered a "given." There are currently no new park-n-ride lots planned, although the U.S. 12 intersection has been mentioned as a prime location.

Table 15
Future Transit Facilities and Operations Proposed and/or Planned By Others for Illinois 22

Transit Facility or Route	Location	Status/Comment
New Bus Routes	Pace route crossing, Illinois 22 at Main Street/Prairie Road	Will precede rail service on the Wisconsin Central Railroad (see below)
Upgraded Service on Existing Routes	None	—
New Metra Stations/Stops	Buffalo Grove/Lincolnshire	For possible commuter service on the Wisconsin Central Railroad
New Metra Service	EJ&E Railway	CATS 2010 Plan—Corridor of the Future
	Wisconsin Central Railroad	CATS 2010 Plan—Priority Project
New Park-n-Ride Facilities/Operation	Possibly at U.S. 12	Uncertain

Future Land Use and Development

Information regarding existing and future land use plans was obtained from field observations, input from the Illinois 22 Advisory Panel, and from the various communities, regional organizations, and counties that Illinois 22 serves (see Table 14).

Future Conditions

In general, future land use along the Illinois 22 corridor is expected to be primarily residential, with several areas of commercial and office development. Lake Zurich is the most notable commercial area. There is also a college and regional hospital located adjacent to Illinois 22. The following summary describes important areas where land use is changing, or where particularly intensive development is expected:

- The land adjacent to Illinois 22 west of U.S. 12 generally will be low-density residential with the exception of the Good Shepherd Hospital area.

- Adjacent land uses will remain commercial from U.S. 12 to the EJ&E Railway, and near U.S. 14, Illinois 21/U.S. 45, Illinois 43, and U.S. 41.

- The land use in the southwest quadrant of the Illinois 21/U.S. 45 intersection, and near the I-94 interchange, will continue to be developed predominantly as office space.

The following is a summary of key constraints and unique conditions described in Chapter II. Such constraints influenced the development of the overall concept for the corridor.

Existing Environmental Constraints, Unique Conditions, and Areas of Concern

U.S. 14 to U.S. 12

Numerous wetlands border the roadway within this segment, and there are multiple driveways near U.S. 14 and Illinois 59. Right-of-way is somewhat limited by wetlands and a park, as well as previous development near U.S. 14 and west of Illinois 59. The offset intersections of Doyle Road and Ski Hill Road also affect the operation of Illinois 22.

U.S. 12 to Kemper Drive

This segment includes the newer commercial development near U.S. 12, and the more established Lake Zurich CBD near Old Rand Road. The Lake Zurich CBD is a special concern because of its severely limited right-of-way, on-street parking, park, historic buildings, at-grade railroad crossing, and multiple access points. The commercial area near U.S. 12 also limits right-of-way and has multiple driveways. In addition, because U.S. 12 is a SRA, its effect on Illinois 22 requires special attention. The curve between Whitney Road/Ela Road and Robertson Avenue does not meet SRA design requirements. East of the Lake Zurich CBD, between Buesching Road and Quentin Road, there is limited right-of-way on the south and multiple access points on the north. The offset intersections of South Krueger Road and Kemper Drive also affect the operation of Illinois 22.

Kemper Drive to Willow Parkway

East of Old McHenry Road, the highly-sensitive Long Grove Woods area limits the available right-of-way and requires special consideration. Also, there are numerous wetlands within this segment. The skewed geometry of the Old McHenry Road intersection and multiple access points between Old McHenry Road and Stone Haven Road also are concerns.

Willow Parkway to I-94

Within this segment there is limited available right-of-way to the east of Willow Parkway, an at-grade railroad crossing, two historic buildings, and numerous wetland and retention/detention ponds. Right-of-way is somewhat limited on either side of Illinois 22 between the Wisconsin Central Railroad and Illinois 21/U.S. 45. Right-of-way is limited more severely on both sides of the roadway east of Old Half Day Road (east) because of the Captain Daniel Wright Forest Preserve, wetlands, and residential development. There are also numerous access points within this area, and Illinois 22 is crossed by a bicycle path along Riverwoods Road.

I-94 to U.S. 41

There are multiple access points between I-94 and Telegraph Road, on the east approach to Illinois 43, and east of the Lake County Forest Preserve which affect the operations of Illinois 22. Right-of-way is somewhat limited near the Lake County Forest Preserve and the Hybernia Nature Preserve. In addition, Illinois 22 is crossed by an at-grade railroad, Illinois 43, and U.S. 41 (a SRA). The C&NW Railroad also crosses Illinois 22 on an overpass immediately west of U.S. 41.

Community Concerns, Interests, and Attitudes

The interests of the communities through which Illinois 22 passes are important factors in the development of a reasonable consensus plan for the SRA. A Corridor Advisory Panel was established, comprised of elected officials and technical staff from the communities along Illinois 22, and three panel meetings were held to present SRA concepts and to discuss the corridor and its recommended draft plan and report, and to provide the IDOT consultant with background on community interests, concerns, etc.

Chapter V contains minutes from the three meetings, held on October 17, 1991, February 19, 1992, and September 17, 1992. The following is a summary of key concerns discussed during these meetings:

- Many representatives favor maintaining the rural appearance of Illinois 22. Open drainage and landscaped medians were viewed as positive design features.

- There was substantial discussion of, and interest in, traffic movements between Illinois 22 and U.S. 12 (north). Concern was voiced that this movement will continue as a heavy movement with McHenry Road already being used as a bypass route. There was interest in an interchange at U.S. 12 to accommodate this traffic.

- With a few exceptions, the panel generally agreed that a four-lane roadway should be developed for Illinois 22. There was disagreement, however, with proposals to implement six-lane segments along portions of Illinois 22.

- The majority of the panel agreed with the four-lane draft recommended plan and report presented at the third panel meeting. All the communities provided suggestions to update and improve the draft plan at a local level.

Following the second meeting of the Advisory Panel, correspondence was received from a number of communities regarding the basic corridor concept for Illinois 22. Chapter V contains copies of the correspondence, summarized here:

- North Barrington urged that an "urban" type design be provided west of U.S. 12 to minimize right-of-way. Also, recommendations were made regarding signalization of certain intersections.

- Lake Zurich periodically informed the SRA consultant of meetings and progress on the bypass study.

- Buffalo Grove noted that a four-lane facility was compatible with their comprehensive plan. Other comments included the desirability of a closed drainage system, landscaped medians, and an allowance for bikeway and pedestrian movements.

- The Village of Lincolnshire passed a resolution in opposition to expansion of Illinois 22 beyond the existing two lanes.

The draft recommended plan was presented at the third panel meeting, and the Public Hearing was held on October 21, 1992. The hearing was attended by over 200 persons. Responses to the comments received at the Public Hearing are included in Chapter V of this report. The following is a summary of correspondence and community action taken following the Public Hearing:

- Representatives of the following units of government have written letters in support of the Illinois 22 plan (with the addition of local considerations): Long Grove, Buffalo Grove, and Bannockburn.

- Fox River Grove and Lake Zurich have written letters with suggestions for local improvements to the Illinois 22 plan.

- The Lake Zurich Village Board formally approved Alternative 4 (see Appendix B) analyzed in their study as the preferred alternative of Illinois 22 around the Lake Zurich CBD.

- Lake County has passed a resolution in favor of the Illinois 22 plan.

- Lincolnshire restated their resolution in opposition to the Illinois 22 SRA plan.

The input received from all these sources was taken into account in the production of this final report and the recommended plan presented in Chapter IV.

Recommended SRA Corridor Concept for Illinois 22

Based on the above input, the recommended corridor concept illustrated in Exhibit 5 was established for Illinois 22. The concept elements include basic number of through lanes, intersection and interchange requirements, access control and median treatments, and special design features.

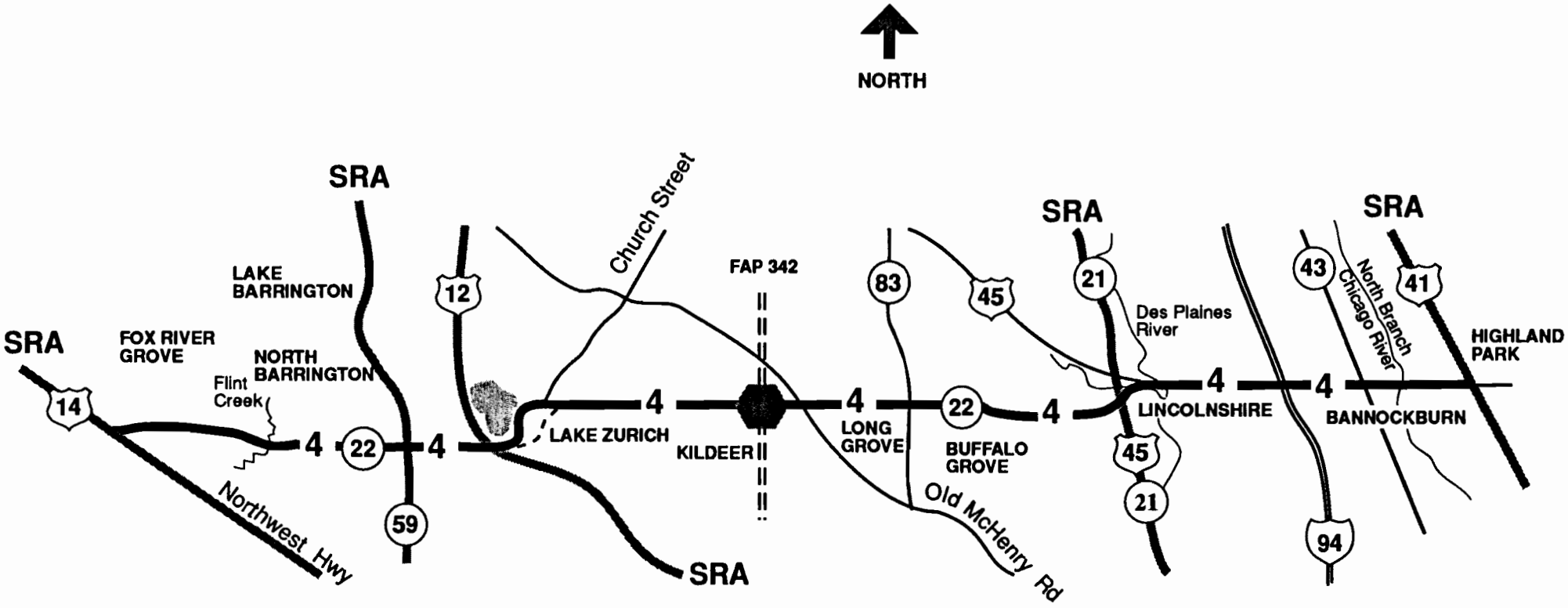
Basic Number of Lanes

The importance of Illinois 22, which is a vital east-west arterial serving developing areas of southern Lake County, is heightened by the lack of other continuous, higher-capacity facilities between Illinois 22 and Illinois 60 to the north, and Lake Cook Road to the south. Furthermore, recent and expected development of currently open land will result in substantial increases in traffic over the long term.

Strictly from a regional transportation perspective, the need for a continuous six-lane arterial is evident. Development of a feasible corridor concept, however, must be based on the effects of its implementation on adjacent land use, and on environmental considerations and other non-transportation factors.

Through most of the corridor, existing right-of-way is 66 to 80 feet—well short of the 150 feet necessary for a full six-lane arterial. Furthermore, development in recent years has intensified in many areas, creating the potential for costly and/or disruptive impacts to residences or businesses should additional right-of-way be sought. Although the 150-foot dimension is achievable in some locations, it is not possible over most of the corridor.

With consideration of the above points, it is the recommendation of this study that Illinois 22 be planned as a continuous, four-lane arterial over its entire 20-mile length. The location and extent of right-of-way constraints and a general consensus of the communities along Illinois 22 were considered in this recommendation.



RECOMMENDED SRA CORRIDOR CONCEPT
ILLINOIS 22

SRA Strategic Regional Arterial Planning Study

Exhibit 5

It is also recommended that a closed cross section (i.e., curb and gutter) be implemented over the entire length of Illinois 22. It is acknowledged that this cross section will result in special design problems and costs associated with closed drainage. Reconstructing Illinois 22 to an open cross section (rural-type) would require more right-of-way, and would produce operating speeds incompatible with the expected suburban character of Illinois 22 in the long term.

Intersection and Interchange Improvements

A more cost-effective and less disruptive strategy (in terms of overall effects) for SRA corridor improvements focuses on the major intersections. Maintaining reasonable average speeds and achieving peak period levels of service per SRA criteria will require capacity upgrading of the intersections along Illinois 22. Spot widening (requiring additional right-of-way) for double left-turn lanes and for right-turn lanes will be essential elements of the overall corridor concept, particularly at the intersections of Illinois 22 and north-south SRAs (see Exhibit 5).

At certain specific locations, interchanges will be implemented or upgraded. These locations include crossing freeways or tollways (FAP 342 and I-94). Also, two additional locations—U.S. 12 and U.S. 41—are noted in Chapter IV for special interchange or grade separation consideration.

Access Control

The frequency and spacing of full access points and the locations of signalized intersections are important considerations in operating the recommended four-lane arterial. The Illinois 22 corridor concept calls for implementing a raised 18- to 30-foot median wherever physically feasible. The raised median enables strict and safe control over left turn in/out movements, thereby optimizing the limited four-lane capacity. It also offers the opportunity to provide for landscaped median treatments, considered by many communities to be a desirable feature for Illinois 22.

Maintaining a median of sufficient width to shelter left-turn movements is essential throughout all of the route. Where a raised median would be difficult to implement, flush medians are recommended.

Special Design Features—Lake Zurich Bypass

Improving Illinois 22 to only a four-lane suburban SRA would create adverse impacts of a continuous and significant magnitude through the Lake Zurich CBD. The Illinois 22 corridor concept specifies that an alternative route for Illinois 22 be identified around the Lake Zurich CBD.

The need for a bypass to carry through traffic already has been recognized by the Village of Lake Zurich, which has conducted a separate study of six possible alignments (see Appendix B). The Village Board has formally chosen Alternative 4 as the preferred alignment of Illinois 22 around the Lake Zurich CBD. The Village's study established the bypass location and design, with the understanding that:

- A four-lane facility with a median for left turns, or its operational equivalent, would be designed;

- The alignment and cross section are designed to meet SRA standards and criteria; and

- More detailed engineering and environmental studies are undertaken to refine the plan and to confirm its feasibility.

Chapter IV discusses in detail the proposed plan for implementing the SRA concept for Illinois 22.

Illinois 22 SRA

Chapter IV

Recommended Illinois 22 SRA Plan

Chapter IV
Recommended Illinois 22 SRA Plan

This chapter describes in detail the recommended plan for the Illinois 22 SRA corridor. For clarity, the discussion has been divided into the previously-defined segments noted in Chapter II (see page II-1). Specific geometric and/or operational recommendations, and unique features or special roadway designs are presented.

The plan is supplemented by an evaluation of the operational characteristics of the plan (i.e., level of service and operating speed under future traffic conditions). In addition, a planning-level opinion of potential construction and right-of-way acquisition costs is presented for each segment of the corridor. All costs are based on unit, generalized costs as furnished by IDOT for SRA planning purposes.

Right-of-way costs are based on a general assessment of acreage required based on the proposed typical section, existing right-of-way, and current unit costs of right-of-way acquisition as furnished by IDOT. In general, specific building acquisitions and/or damages are not identified. Actual right-of-way acquisition, damages, or both would be determined during Phase I studies.

Construction costs reflect the general magnitude of the proposed SRA relative to the existing roadway. Quantities were estimated on a per-mile basis, with provisions for major items such as new bridges, interchanges, and major intersection improvements.

The exhibits that accompany each segment discussion present the layout of the proposed roadway in relation to the existing roadway. The traveled way (i.e., edge of pavement to edge of pavement) is highlighted in the plan. Additional right-of-way required, lane arrangements at intersections, locations of proposed and existing signals, and the proposed cross section also are shown.

Segment I—"Fox River Grove"
(U.S. 14 to U.S. 12)

Segment I of the Illinois 22 SRA is approximately 4.8 miles long, extending from U.S. 14 (a SRA) at the west end of the corridor to U.S. 12 (a SRA) where commercial land uses become more prevalent (see Exhibits C-1 to C-3). Segment I includes the villages of Fox River Grove, Lake Barrington, North Barrington, and Lake Zurich.

Cross Section and Geometric Characteristics

The recommended cross section within this segment includes four basic through lanes (two in each travel direction), an 18-foot raised median, and closed drainage (i.e., curb and gutter) to be constructed generally within 120 feet of right-of-way. This right-of-way dimension should provide a sufficient border area for grading, profile ties to crossroads, placement of closed drainage structures, and sidewalks. The roadway cross section includes 12-foot lanes and a full-width, raised median. The median itself offers the possibility of special landscaping treatments to offset the aesthetic effects of a wider roadway.

There are specific locations within Segment I where the above dimensions require modification. Existing commercial properties just west of Ski Hill Road limit readily-available right-of-way to 110 feet. Just to the east, recently-approved subdivision plans for the "Gardner-Terrace" property (north of Illinois 22 from Gardner Road to County Line Road) limit readily-available right-of-way to 100 feet (see Exhibit C-1). In addition, a line of mature trees along the south side of Illinois 22 opposite Good Shepherd Hospital constrains the right-of-way and design options, as shown in Exhibit C-2.

There are spot locations where greater right-of-way will be required, including the approaches to the at-grade intersections of U.S. 14 and Illinois 59 (both of which are SRAs). At these locations, development of a 30-foot median is recommended to allow for double left-turn lanes off of Illinois 22. At Illinois 59, even greater width is recommended to enable development of an additional lane in each direction through the intersection. See Exhibits C-1 to C-3, D-1, and D-4 for details of the proposed

intersection plans at these locations. Exhibits D-2 and D-3 are intersection details of the Kelsey Road and Old Barrington Road intersections with Illinois 22.

Developing the recommended cross section requires tailoring the alignment to existing conditions and constraints. In general, the recommended Illinois 22 roadway plan in Segment I follows the existing horizontal alignment, but attempts to avoid existing buildings and other sensitive areas. In most cases, recommended roadway widening occurs equally from the existing centerline, resulting in an even acquisition of right-of-way on both the north and south sides of the facility. For example, from west of Kelsey Road to Good Shepherd Hospital, the existing right-of-way is 66 feet. As demonstrated in Exhibits C-1 and C-2, widening about the centerline would require an additional 27 feet on each side of the roadway to develop the desired 120-foot right-of-way.

Exceptions to the above widening scheme occur at four locations within Segment I. From U.S. 14 to the relocated Doyle Road, all the right-of-way acquisition will be to the south to avoid the shopping development on the north. It was assumed that the existing commercial development south of Illinois 22 will be redeveloped before, or in conjunction with, the implementation of this recommended plan. Access for this new development would be from the relocated Doyle Road. At Good Shepherd Hospital (see Exhibit C-3), all the widening is assumed to occur to the north side of Illinois 22. The existing south edge of pavement is maintained to enable retention of the mature trees noted previously. Just east of the hospital, the alignment is transitioned to the south to avoid a conflict with the Stonehenge Golf Course (see Exhibit C-2). The alignment should also avoid the gas substation indicated on Exhibit C-2. Specific right-of-way requirements to avoid these impacts will be determined in Phase I studies. The recommended plan maintains the existing north edge of pavement and acquires right-of-way to the south. Finally, just east of Hewes Drive is Lafferty Park, which fronts along the north side of Illinois 22 (see Exhibits B-3 and C-3). The recommended alignment transitions in this area to avoid conflicts with the park. The SRA plan intent is to maintain the north right-of-way line and widen entirely to the south. Currently, Lafferty Park is undeveloped. When this area of Illinois 22 enters Phase I studies, consideration could be given to more evenly balancing the right-of-way acquisition if acquiring park land does not conflict with Village of North Barrington plans.

Drainage requirements may result in the need to raise the profile of Illinois 22 in this area. Should this be the case, shifting the alignment even further north or south would be necessary to avoid conflicts with the trees, golf course, and park. A final determination of profile and alignment would be made in subsequent Phase I studies.

Stormwater detention requirements along Illinois 22 are for approximately 3 to 5 acre-feet of storage per mile. The 18-foot median recommended for this segment, if landscaped, would reduce this requirement by 1 acre-foot per mile. For this segment of Illinois 22, detention requirements of about 20 acre-feet would be required. Suitable right-of-way to provide such detention should be identified during Phase I studies.

In addition, this segment of Illinois 22 affects at least one floodplain (see Exhibit B-2). Any filling of ditches in the proximity of a floodplain requires 120 percent compensatory storage to meet the Stormwater Commission of Lake County requirements. Retention of the first ½ inch of runoff for 24 hours, to avoid direct discharge into streams, lakes, and wetland areas, also requires 2 cubic feet of retention per foot of improvement (i.e., a filter bed).

Traffic Control, Operations, and Safety

Much of the land use and local street system in Segment I is undergoing transition or evolution. It is essential that the SRA corridor plan for this segment establish a long-range framework that reinforces the operational and safety objectives of the SRA system. The keys to establishing this framework are the location of future traffic signals and the maintenance of median access control.

The diagrams along the top of each SRA plan exhibit indicate locations of existing and potential signalized intersections, the lane arrangements at these locations, and spacing to adjacent signals. The plan itself indicates the locations of median access breaks. Where no break is shown, it is the intent of the plan that vehicles entering or exiting driveways or other existing and future access points be restricted to right-in and right-out movements only.

The traffic control plan for Segment I calls for retention of signals at U.S. 14, Kelsey Road (to be installed within 5 years), and Illinois 59. Additional potential signalized intersections also are noted. In locating these signals, SRA guidelines for signal spacing were referenced with local network considerations, future land uses, and other constraints that fix the locations.

The traffic control and geometric plan for Segment I should result in significant improvements to safety as well as traffic operations. The potential signal locations meet SRA spacing guidelines of ¼ mile or greater except for the Ski Hill Road/Doyle Road location, which is somewhat less and is recommended for access reasons. The intent of the plan is to show new signals at locations where they can be implemented efficiently should accident or other signal warrants be met. Also, the plan's intent is to provide direction to Fox River Grove, Lake Barrington, North Barrington, Lake Zurich, and private developers regarding acceptable local circulation and access to Illinois 22.

The western terminus of the Illinois 22 SRA is an at-grade signalized intersection with U.S. 14. Upgrading the existing signalization, accompanied by increased capacity, would serve long-range needs (see Exhibit C-1). Two new proposed signalized intersections are shown in the plan at Ski Hill Road/Doyle Road and County Line Road. The intent of the SRA plan is that the Ski Hill Road intersection be the access point for expected future development both north and south of Illinois 22. A full access point is provided for the existing shopping center north of Illinois 22. The County Line Road signal would provide the means for safe access to existing developments south of Illinois 22, and to future residential developments on land currently vacant to the north. Other potential full access points that are shown on the plan include median openings and protected left-turn lanes. It is the intent of the SRA plan shown in Exhibit C-1 that future developments be provided one signalized intersection. Future subdivision networks should be designed to enable access to Illinois 22 via either County Line Road or Kelsey Road. In addition, any redevelopment south of Illinois 22 and west of Doyle Road should access Illinois 22 via Doyle Road or the access point provided for the shopping center north of Illinois 22.

The programmed signalized intersection at Kelsey Road would be upgraded to provide left- and right-turn lanes (see Exhibit C-2). To the east, the SRA plan provides for several median openings, and one signal location to serve expected residential development. The signal location is recommended to be aligned with the existing main driveway access to Good Shepherd Hospital. About ½ mile to the east, a signalized intersection also is proposed to serve Stonehenge Golf Course and new development along Harbor Drive.

The next major recommended signalized intersection is at Old Barrington Road, as shown in Exhibit C-3. (This location is the site of a proposed North Barrington Village Hall complex. The Village has recommended consideration of a signal at this intersection. A signal is warranted at this location, but currently is not programmed by IDOT.) No signals are considered necessary or desirable between Old Barrington Road and Illinois 59. Median openings at Bertha Lane and Heritage Lane should function safely as unsignalized intersections. About ¼ mile east of Illinois 59 is the existing intersection of Honey Lake Road. At this location, it is recommended that the intersection remain unsignalized and serve residential developments on both sides of Illinois 22. Another ½ mile to the east, at the existing Rainbow Road intersection (a "T-intersection"), local street improvements and traffic control measures are recommended. An extension of Rainbow Road is recommended to the north running along the east edge of Lafferty Park, which would form a conventional four-leg intersection with Illinois 22 that could be signalized to serve existing residential developments on both sides of the roadway. Hewes Drive would be converted to allow right-in and right-out turns only. Proposed signalization of the intersections, as presented previously, should contribute to improved safety in this section of Illinois 22. The existing accident rate (5.38 accidents per MVM) on Illinois 22 between U.S. 14 and Kelsey Road is high for a roadway of this type.

The addition of a raised median and turn lanes also should improve safety along this segment of Illinois 22. The raised median allows left turns only at selected locations, thereby reducing the number of vehicular conflict points and, consequently, the number of opportunities for the most severe accident types. The addition of turn lanes at intersections also reduces the potential for accidents by removing the turning vehicles from through traffic lanes, and decreases the amount of accelerating and braking at intersections (with a consequent improvement in air quality).

To verify the reasonableness of the recommended improvements, a planning-level intersection capacity analysis was performed. Table 16 shows the results of that analysis for all future signalized intersections along Illinois 22. The analysis utilizes CATS year 2010 SRA forecast traffic volumes as a general reference. As noted in the table, assumptions for unavailable minor crossroad traffic volumes were made. Other capacity analysis assumptions are detailed in Appendix A.

The capacity analysis indicates that the recommended plan should produce acceptable volume to capacity (v/c) ratios for Segment I, which, in turn, would result in reasonable levels of service during peak periods. The analysis of one intersection—U.S. 14 and Illinois 22—shows an estimated v/c of 1.11. This is explained by the very high CATS forecast volume of 56,000 vpd for U.S. 14. A separate SRA study of U.S. 14 confirms that the U.S. 14 corridor will only be able to accommodate 80 to 85 percent of the CATS forecast. Assuming a lower volume of 40,000 to 45,000 vpd is more reasonable for planning the U.S. 14 and Illinois 22 intersection, it would then operate (as proposed) with a v/c of approximately 0.90. The v/c of Old Barrington Road is shown as 1.07. This is explained by the high CATS forecast volume of 31,000 vpd on Illinois 22, and the constraints on capacity improvements in this area. This v/c ratio indicates that the intersection could serve 93 percent of the expected daily traffic. The adjustment and fine tuning of the signal timing, once the signal is installed, should allow the recommended cross section to serve the entire expected volume.

Public Transportation

The Metra C&NW Northwest commuter rail line operates immediately west of, and parallel to, U.S. 14. There are no recommended improvements to this facility, although improved signing for the Fox River Grove station is needed on Illinois 22. There are no proposed bus route additions for this section of Illinois 22, but as population and development increase, bus routes may be warranted. Future bus turnout areas will require 5 to 10 feet of additional right-of-way, for a total of 125 to 130 feet of right-of-way. A bus turnout detail within 125 of right-of-way is shown in Appendix A. Consideration also should be given to bus waiting shelters and paved sidewalks for pedestrians. Appropriate standards for locating and marking bus stops should be followed.

Table 16
Evaluation of Signalized Intersection Operations Along Segment I (U.S. 14 to U.S. 12) of Illinois 22

Intersection of Illinois 22 and:	Lane Arrangements[b]		Year 2010 ADT (vpd)[c]		v/c for Intersection[d]
	SRA	Crossroad	SRA	Crossroad	
U.S. 14*	LL-RR	LL-TT	24,000	56,000	1.11
Ski Hill Road/Doyle Road[a]	L-TT-R	L-TR	24,000	5,000	0.64
County Line Road[a]	L-TT-R	L-TR	24,000	5,000	0.64
Kelsey Road[a]	L-TT-R	L-T-R	24,000	12,000	0.94
Good Shepherd Hospital East Drive[a]	L-TT-R	L-TR	27,000	5,000	0.70
Harbor Road[a]	L-TT-R	L-TR	27,000	5,000	0.69
Old Barrington Road[a]	L-TT-R	L-T-R	31,000	12,000	1.07
Ilinois 59*	LL-TTT-R	LL-TTT-R	38,000	40,000	0.94
Rainbow Road[a]	L-TT-R	L-TR	38,000	5,000	0.90

Note: *Denotes SRA corridor.
[a]Assumed for unavailable volumes: 20,000 vpd for major arterials, 12,000 vpd for minor arterials, and 5,000 vpd for local roadways.
[b]L = Left-turn lane; T=through lane; R=right-turn lane; and TR=through and right-turn lane.
[c]ADT = Average Daily Traffic.
[d]v/c = Volume to Capacity Ratio.

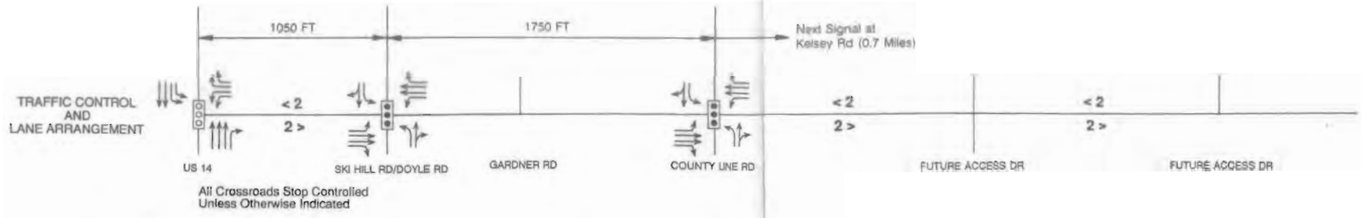
Consideration also should be given to reserving right-of-way at or near the Illinois 22 and Illinois 59 intersection for a park-n-ride facility. This facility would primarily serve commuters to the 786-acre Sears Merchandise Group in Hoffman Estates. The most feasible location for this facility would be the northeast quadrant of the intersection, which currently is occupied by a horse farm.

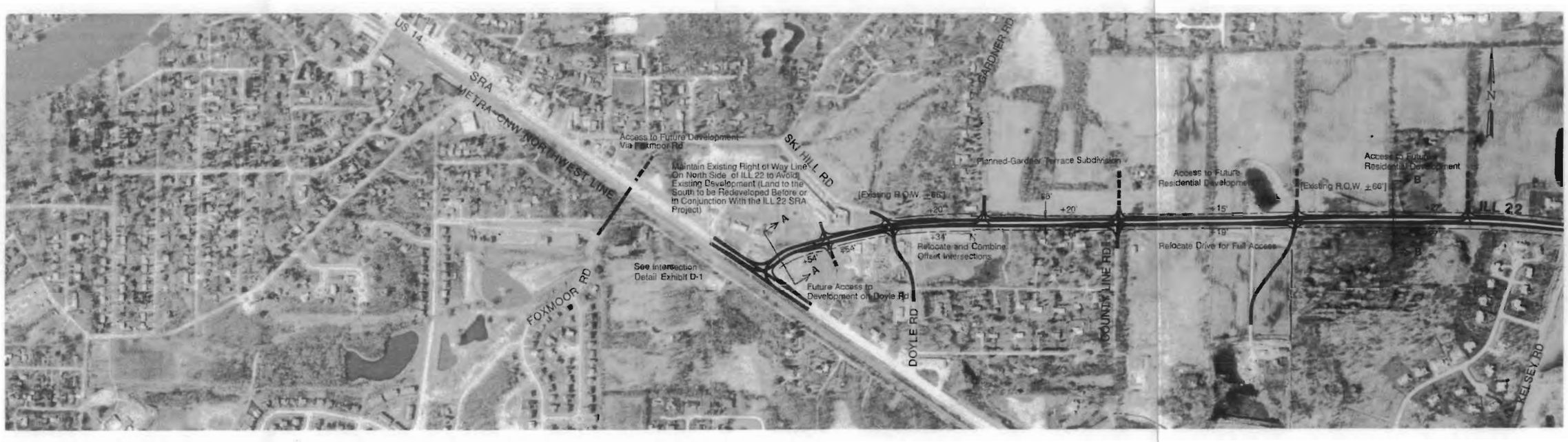
Construction and Right-of-Way Costs

The consultant's opinion of the total cost of the recommended plan for Segment I is $26.1 million in 1991 dollars (see Table 17). This total includes construction costs, acquisition of right-of-way, and reconstruction of structures. (In Segment I, the Flint Creek bridge requires reconstruction.) The roadway reconstruction cost is estimated to be $17.4 million, which includes improving Illinois 22 from a two-lane roadway to a four-lane roadway with a raised median and curb and gutter. Other construction costs include intersections, detention of stormwater, the recommended extension of Rainbow Road east of Lafferty Park, and the realignment of Doyle Road. Reconstruction of the bridge over Flint Creek is estimated at $500,000. The right-of-way acquisition cost is based on the estimated costs of the various types of land uses that would need to be acquired. It is estimated that 33.2 acres of right-of-way will need to be acquired at a cost of $3.6 million.

Table 17
Opinions of Construction and Right-of-Way Cost for SRA Improvements Along Segment I (U.S. 14 to U.S. 12) of Illinois 22 (1991 Dollars)

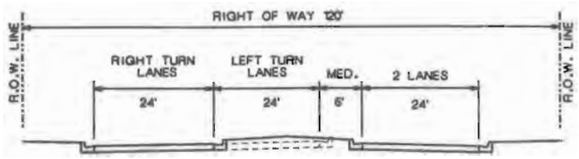
Roadway Reconstruction	$17,400,000
Intersections/Interchanges (U.S. 14, Ski Hill Road/Doyle Road, County Line Road, Good Shepherd Hospital East Drive, Harbor Road, Old Barrington Road, Illinois 59, and Rainbow Road)	2,600,000
Structures and Retaining Walls (Flint Creek)	500,000
Other (Realignment of Doyle Road, Access Drive, extension of Rainbow Road, and drainage detention)	2,000,000
Subtotal	22,500,000
Right-of-Way	3,600,000
TOTAL	**$26,100,000**



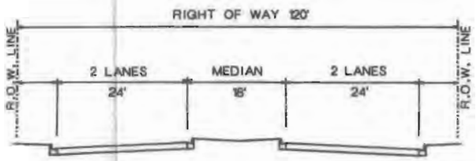


LEGEND

- EXISTING SIGNAL
- POTENTIAL SIGNAL
- SIGNAL TO BE REMOVED
- PROPOSED LANE ARRANGEMENT
- < 3 NUMBER OF LANES
- FUTURE RIGHT OF WAY LINE
- B BUS STOP



ROADWAY SECTION A–A
US 14 INTERSECTION APPROACHES



ROADWAY SECTION B–B
US 14 TO KELSEY RD
(100 FT of right of way Gardner Rd to 1100 FT east of County Line Rd)

ILL 22 – PROPOSED PLAN

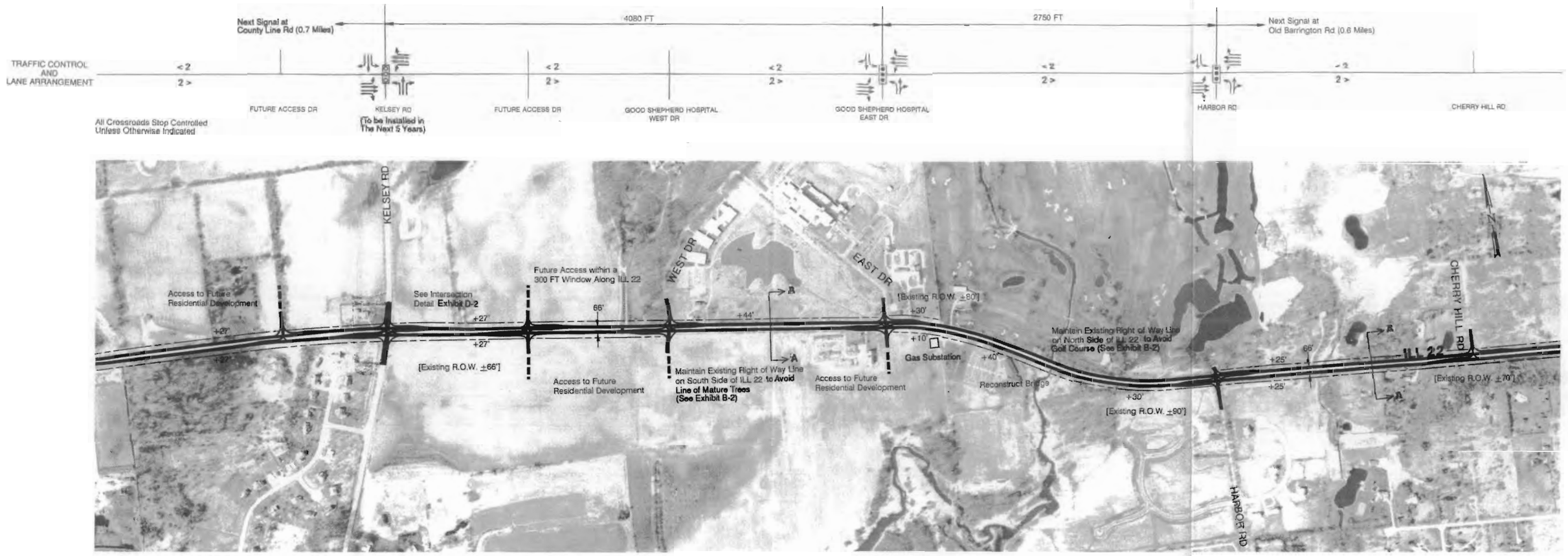
Strategic Regional Arterial Planning Study

EXHIBIT C-1

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

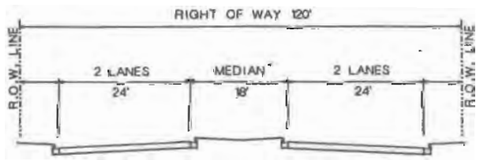
ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale: 0 200 400 feet



LEGEND

- EXISTING SIGNAL
- POTENTIAL SIGNAL
- SIGNAL TO BE REMOVED
- PROPOSED LANE ARRANGEMENT
- < 3 NUMBER OF LANES
- FUTURE RIGHT OF WAY LINE
- B BUS STOP



ROADWAY SECTION A–A
KELSEY RD TO CHERRY HILL RD
(110 FT of right of way between the hospital drives)

ILL 22 – PROPOSED PLAN

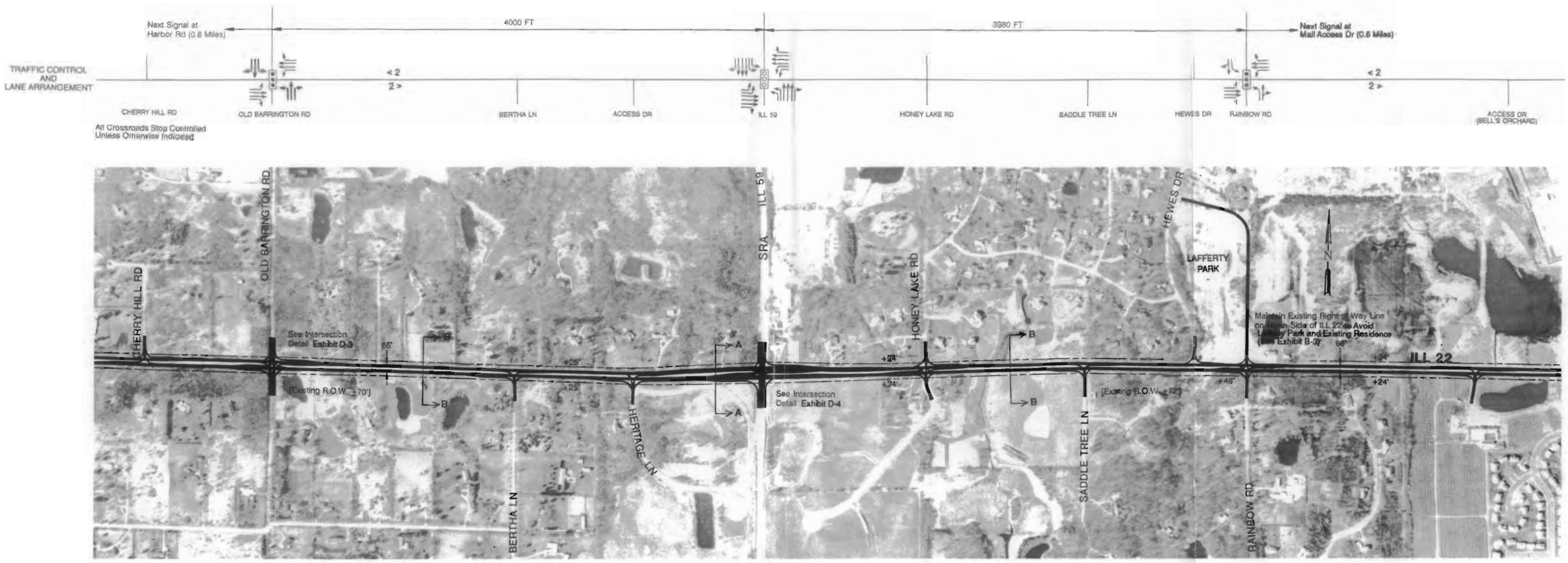
Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA Strategic Regional Arterial Planning Study

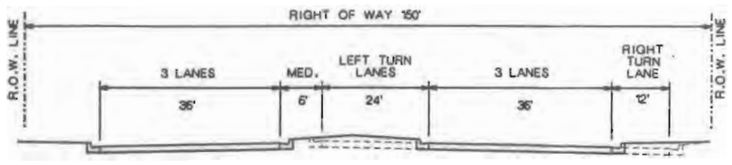
EXHIBIT C-2

Scale: 0 200 400 Feet

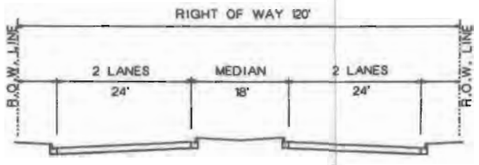


LEGEND

- EXISTING SIGNAL
- POTENTIAL SIGNAL
- SIGNAL TO BE REMOVED
- PROPOSED LANE ARRANGEMENT
- < 3 NUMBER OF LANES
- FUTURE RIGHT OF WAY LINE
- B BUS STOP



ROADWAY SECTION A–A
ILL 59 INTERSECTION APPROACHES



ROADWAY SECTION B–B
CHERRY HILL RD TO ACCESS DR

ILL 22 – PROPOSED PLAN

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

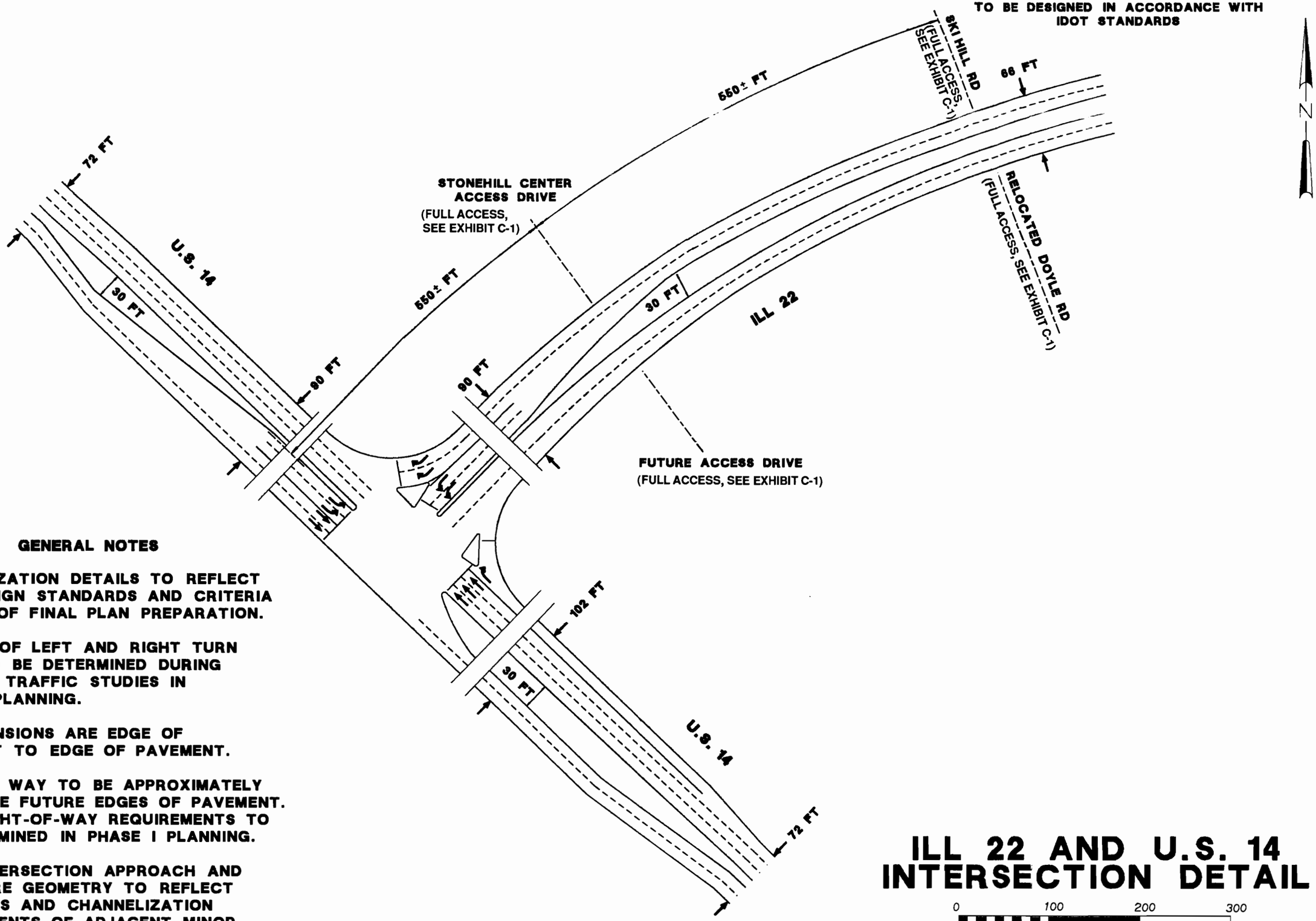
ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA Strategic Regional Arterial Planning Study

EXHIBIT C-3

Scale: 0 200 400 feet

TAPERS NOT TO SCALE
TO BE DESIGNED IN ACCORDANCE WITH
IDOT STANDARDS



GENERAL NOTES

CHANNELIZATION DETAILS TO REFLECT IDOT DESIGN STANDARDS AND CRITERIA AT TIME OF FINAL PLAN PREPARATION.

LENGTHS OF LEFT AND RIGHT TURN LANES TO BE DETERMINED DURING DETAILED TRAFFIC STUDIES IN PHASE I PLANNING.

ALL DIMENSIONS ARE EDGE OF PAVEMENT TO EDGE OF PAVEMENT.

RIGHT OF WAY TO BE APPROXIMATELY 15' OUTSIDE FUTURE EDGES OF PAVEMENT. FINAL RIGHT-OF-WAY REQUIREMENTS TO BE DETERMINED IN PHASE I PLANNING.

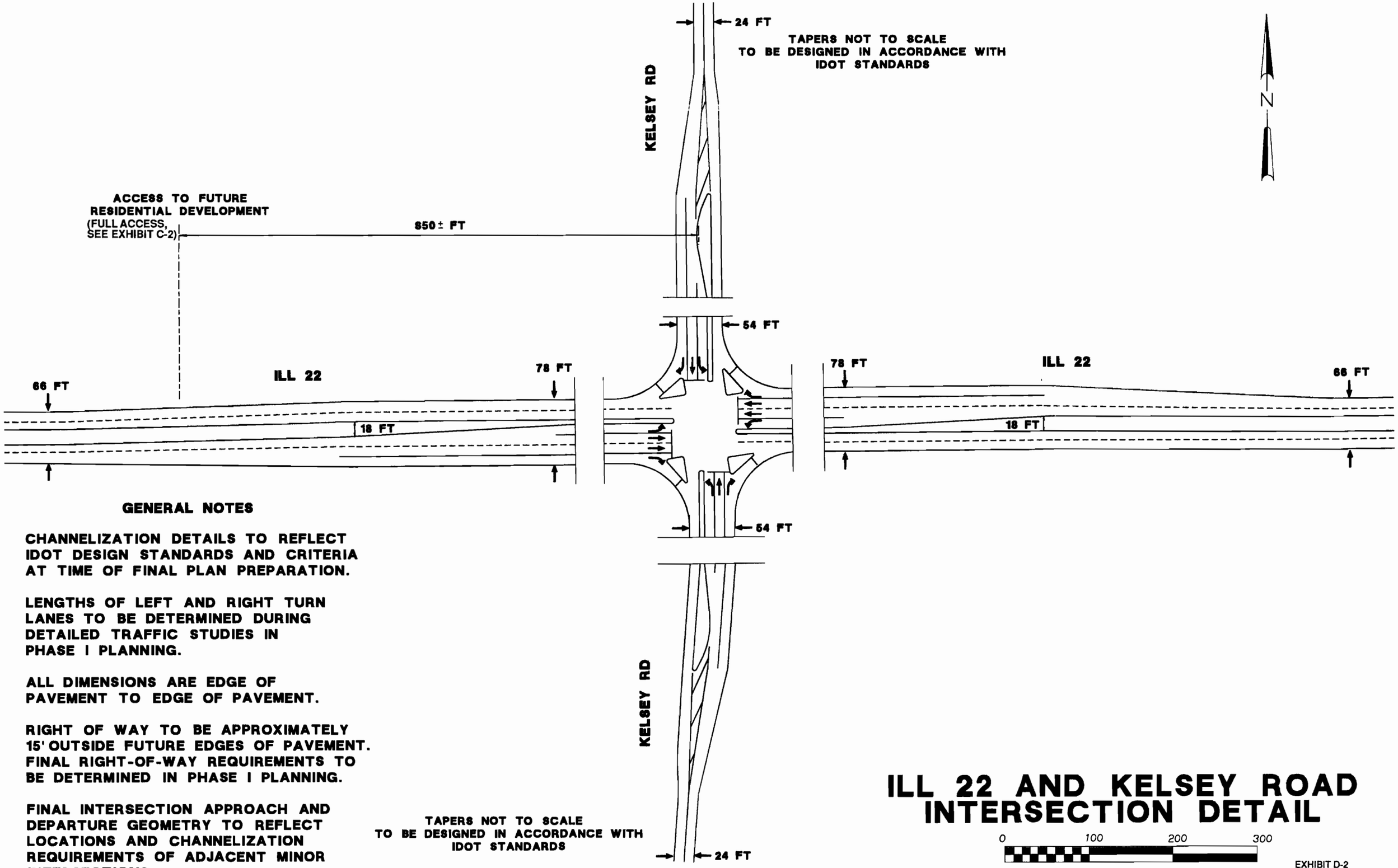
FINAL INTERSECTION APPROACH AND DEPARTURE GEOMETRY TO REFLECT LOCATIONS AND CHANNELIZATION REQUIREMENTS OF ADJACENT MINOR INTERSECTIONS.

ILL 22 AND U.S. 14 INTERSECTION DETAIL

0 100 200 300

SCALE 1"=100'

EXHIBIT D-1



GENERAL NOTES

CHANNELIZATION DETAILS TO REFLECT IDOT DESIGN STANDARDS AND CRITERIA AT TIME OF FINAL PLAN PREPARATION.

LENGTHS OF LEFT AND RIGHT TURN LANES TO BE DETERMINED DURING DETAILED TRAFFIC STUDIES IN PHASE I PLANNING.

ALL DIMENSIONS ARE EDGE OF PAVEMENT TO EDGE OF PAVEMENT.

RIGHT OF WAY TO BE APPROXIMATELY 15' OUTSIDE FUTURE EDGES OF PAVEMENT. FINAL RIGHT-OF-WAY REQUIREMENTS TO BE DETERMINED IN PHASE I PLANNING.

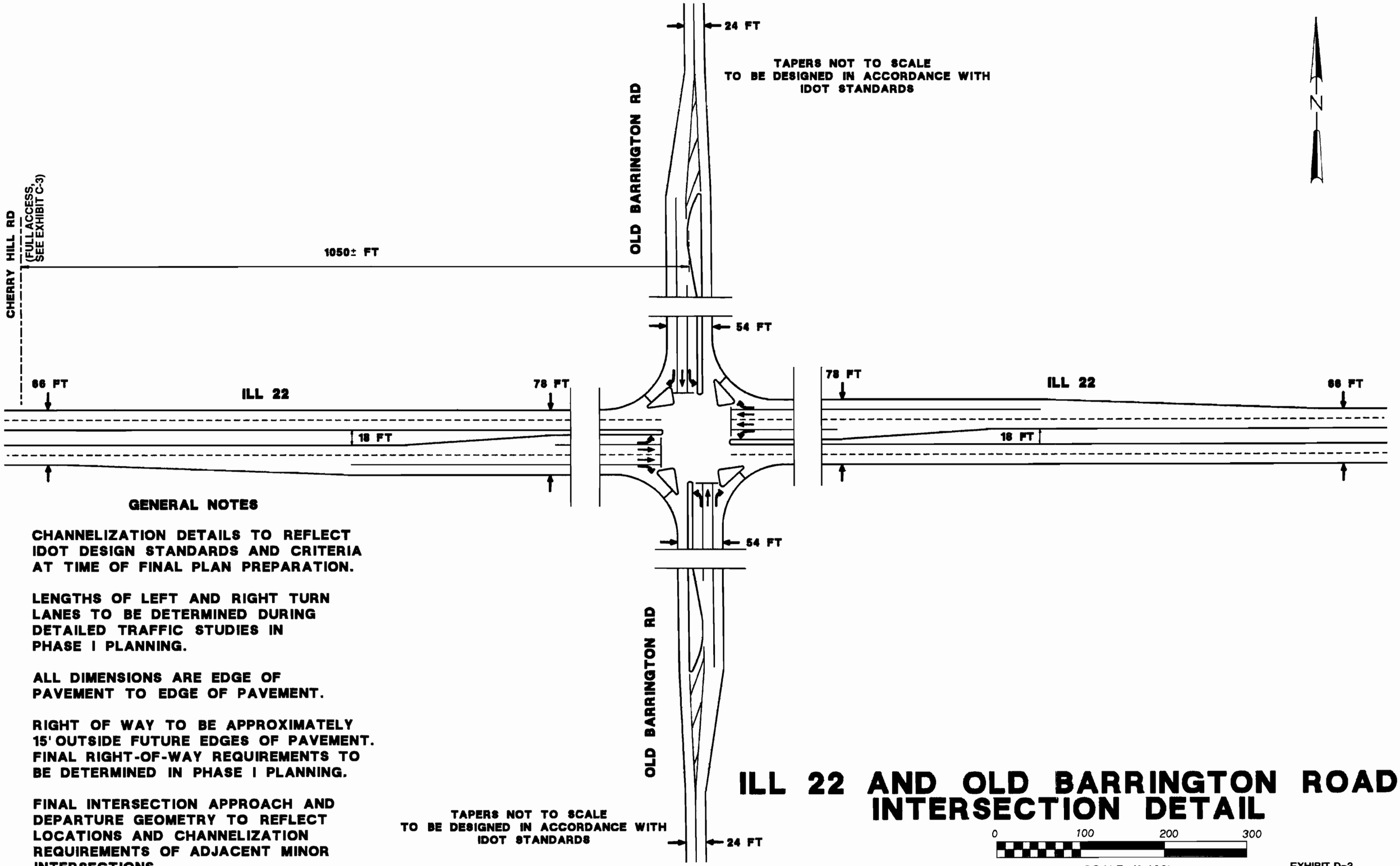
FINAL INTERSECTION APPROACH AND DEPARTURE GEOMETRY TO REFLECT LOCATIONS AND CHANNELIZATION REQUIREMENTS OF ADJACENT MINOR INTERSECTIONS.

ILL 22 AND KELSEY ROAD INTERSECTION DETAIL

0 100 200 300

SCALE 1"=100'

EXHIBIT D-2



GENERAL NOTES

CHANNELIZATION DETAILS TO REFLECT IDOT DESIGN STANDARDS AND CRITERIA AT TIME OF FINAL PLAN PREPARATION.

LENGTHS OF LEFT AND RIGHT TURN LANES TO BE DETERMINED DURING DETAILED TRAFFIC STUDIES IN PHASE I PLANNING.

ALL DIMENSIONS ARE EDGE OF PAVEMENT TO EDGE OF PAVEMENT.

RIGHT OF WAY TO BE APPROXIMATELY 15' OUTSIDE FUTURE EDGES OF PAVEMENT. FINAL RIGHT-OF-WAY REQUIREMENTS TO BE DETERMINED IN PHASE I PLANNING.

FINAL INTERSECTION APPROACH AND DEPARTURE GEOMETRY TO REFLECT LOCATIONS AND CHANNELIZATION REQUIREMENTS OF ADJACENT MINOR INTERSECTIONS.

ILL 22 AND OLD BARRINGTON ROAD INTERSECTION DETAIL

0 100 200 300

SCALE 1"=100'

EXHIBIT D-3

TAPER TO 18' MEDIAN AND 4 BASIC
THROUGH LANES (TWO IN EACH DIRECTION)
IN ACCORDANCE WITH IDOT STANDARDS

ACCESS TO POTENTIAL
PARK AND RIDE LOT
(FULL ACCESS)

30 FT

ILL 59

114 FT

MINIMUM 800 FT

N

NOTE: INTERSECTION DETAIL ASSUMES ILLINOIS 59, DESIGNED TO FULL SRA STANDARDS. ILLINOIS 59 TO BE STUDIED IN SUBSEQUENT SRA PLANNING STUDY

66 FT

ILL 22

114 FT

30 FT

114 FT

ILL 22

66 FT

30 FT

GENERAL NOTES

CHANNELIZATION DETAILS TO REFLECT IDOT DESIGN STANDARDS AND CRITERIA AT TIME OF FINAL PLAN PREPARATION.

LENGTHS OF LEFT AND RIGHT TURN LANES TO BE DETERMINED DURING DETAILED TRAFFIC STUDIES IN PHASE I PLANNING.

ALL DIMENSIONS ARE EDGE OF PAVEMENT TO EDGE OF PAVEMENT.

RIGHT OF WAY TO BE APPROXIMATELY 15' OUTSIDE FUTURE EDGES OF PAVEMENT. FINAL RIGHT-OF-WAY REQUIREMENTS TO BE DETERMINED IN PHASE I PLANNING.

FINAL INTERSECTION APPROACH AND DEPARTURE GEOMETRY TO REFLECT LOCATIONS AND CHANNELIZATION REQUIREMENTS OF ADJACENT MINOR INTERSECTIONS.

114 FT

ILL 59

30 FT

TAPER TO 18' MEDIAN AND 4 BASIC
THROUGH LANES (TWO IN EACH DIRECTION)
IN ACCORDANCE WITH IDOT STANDARDS

ILL 22 AND ILL 59 INTERSECTION DETAIL

0 100 200 300

SCALE 1"=100'

EXHIBIT D-4

Segment II—"Lake Zurich"
(U.S. 12 to Kemper Drive)

Segment II of the Illinois 22 SRA is approximately 4.1 miles long, extending from U.S. 12 (a SRA) to Kemper Drive, and positioned to contain the entire Lake Zurich CBD. Segment II includes the villages of Lake Zurich and Kildeer (see Exhibits C-4 and C-5).

Cross Section and Geometric Characteristics

The recommended cross section within this segment includes four basic through lanes (two in each direction of travel), an 18-foot raised or 14-foot flush median, and closed drainage (i.e., curb and gutter) to be constructed generally within 120 feet of right-of-way (expect for the flush median section between the channelization of U.S. 12 and Whitney Road/Ela Road, where the recommenced right-of-way width is 90 feet). The 120-foot right-of-way dimension should provide a sufficient border area for grading, for making profile ties to crossroads, for placing closed drainage structures, and for constructing sidewalks. The 90-foot right-of-way dimension may be somewhat constrained, but should be sufficient with the use of easements during construction. The roadway cross section includes 12-foot lanes and a full-width, raised median. The raised median itself offers the possibility of special landscaping treatments to offset the aesthetic effects of a wider roadway. The flush median was recommended from the needed channelization at the U.S. 12 intersection to Whitney Road/Ela Road to reduce the width of the road, to protect the surrounding businesses, and to serve numerous access points.

There are specific locations within Segment II where the dimensions require modification. Existing residential properties between Buesching Road and Telser Road limit readily-available right-of-way to 110 feet (see Exhibit C-5). In addition, spot locations where greater right-of-way will be required include the approaches to U.S. 12, and the Buesching Road and Quentin Road at-grade intersections. At these locations, development of a 30-foot median is recommended to allow provision of double left-turn lanes off of Illinois 22. See Exhibits C-4, C-5, D-5, and D-8 for details of the proposed intersection plans at these locations. Also, although Exhibit C-4 shows the impacts and layout of a full SRA-to-SRA intersection at

U.S. 12, the possibility of an interchange also was considered at this location because of the high traffic volumes predicted for U.S. 12 and Illinois 22. Two possible interchange forms are shown in Exhibits D-6 and D-7.

A bypass of the Lake Zurich CBD, which will require the acquisition of significant right-of-way, is recommended to avoid the highly-commercialized Lake Zurich CBD and its on-street parking, historic buildings, and park. The EJ&E Railway also crosses Illinois 22 at grade immediately east of the Lake Zurich CBD. It is proposed that this railroad and the bypass be grade separated. The alignment of the bypass has been recommended by a concurrent study sponsored by the Village of Lake Zurich in which six different alternatives were considered (see Appendix B). The Village Board of Lake Zurich has formally chosen Alternative 4 as its preferred alignment for a Lake Zurich Bypass. This alignment will be studied further in the Phase I analysis of this area. (The Village's study of Lake Zurich's bypass was completely local and independent of any IDOT study. Any alternative(s) recommended by the Village also will need to be completely analyzed by IDOT.) A recommended cross section of four basic through lanes with a median for the bypass fulfills the minimum basic requirements of a SRA. Additional right-of-way will be required at the Old Rand Road intersection to provide for a 30-foot median. This bypass will improve traffic flow on Illinois 22, and retain the character of the Lake Zurich CBD by shifting through traffic to a separate route. The introduction of a bypass of the Lake Zurich CBD is essential to the ability of Illinois 22 to operate as a SRA.

Developing the recommended cross section requires tailoring the alignment to existing conditions and constraints. In general, the recommended Illinois 22 roadway plan in Segment II follows the existing horizontal alignment (except in the Lake Zurich bypass area described above) and attempts to avoid existing buildings and other sensitive areas. In most cases, the roadway is widened about the existing centerline, resulting in an even acquisition of right-of-way on both the north and south sides of the roadway. For example, from Quentin Road to Kemper Drive, the existing right-of-way is 66 feet. As demonstrated in Exhibit C-5, widening about the centerline produces the need to acquire 27 feet on each side of the roadway to develop the desired 120 feet of right-of-way.

Exceptions to the above symmetrical widening scheme occur at two locations within Segment II. Between Buesching Road and Telser Road (see Exhibit C-5), all the widening is assumed to occur to the north side. The present south edge of pavement is maintained to avoid conflict with existing residential buildings. Immediately west of Quentin Road, the alignment is transitioned to the south into undeveloped land to avoid an existing business (see Exhibit C-5). The present north edge of pavement is maintained, and right-of-way acquisition would occur entirely to the south.

Drainage requirements may result in the need to raise the profile of Illinois 22 in this area. Should this be the case, shifting the alignment even further north or south would be necessary to avoid conflicts with existing structures. A final determination of profile and alignment would be made in subsequent Phase I studies.

Stormwater detention requirements along Illinois 22 are for approximately 3 to 5 acre-feet of storage per mile. The 18-foot median recommended for most of this segment, if landscaped, would reduce this requirement by 1 acre-foot per mile. The area recommended for a flush median would have no such reduction. For this segment of Illinois 22, detention requirements of about 16.3 acre-feet would be required. Suitable right-of-way to provide such detention should be identified during Phase I studies.

In addition, this segment of Illinois 22 effects at least two floodplains (see Exhibits B-4 and B-5). Any filling of ditches in the proximity of a floodplain requires 120 percent compensatory storage to meet the Stormwater Commission of Lake County requirements. Retention of the first ½ inch of runoff for 24 hours, to avoid direct discharge into streams, lakes, and wetlands also requires 2 cubic feet of retention per foot of improvement (i.e., a filter bed).

Traffic Control, Operations, and Safety

Much of the land use and local street system in the vicinity of Segment II from immediately west of U.S. 12 to Buesching Road are fairly well established. However, at some locations between Buesching Road and Kemper Drive some undeveloped land still remains, and the expected type of land use is less certain. It is essential that the SRA corridor plan for this segment establish a long-range framework that

reinforces the operational and safety objectives of the SRA system. The keys to establishing this framework are the location of future traffic signals and the maintenance of median access control.

The diagrams along the top of each SRA plan exhibit indicate locations of existing and proposed signalized intersections, the lane arrangements at these locations, and spacing to adjacent signals. The plan itself indicates the locations of median access breaks. Where no break is shown, it is the intent of the plan that vehicles entering or exiting driveways or other existing and future access points be restricted to right-in and right-out movements only.

The traffic control plan for Segment II calls for retention of existing signals at U.S. 12, Whitney Road/Ela Road, Oakwood Road/Old Mill Grove Road, Quentin Road, and Kemper Drive. Additional signalized intersections are proposed at the Mall Access Drive and Buesching Road. In locating these signals, SRA guidelines for signal spacing were referenced with local network considerations, future land uses, safety, and other constraints that fix the locations.

The traffic control and geometric plan for Segment II should result in significant improvements to safety as well as traffic operations. All the signal locations but the Mall Access Drive meet SRA spacing guidelines of ¼ mile or greater. The potential signal at the Mall Access Drive was based on the traffic expected in this area and safety. The intent of the plan is to show new signals at locations where they can be implemented efficiently should accident or other signal warrants be met. Also, the plan's intent is to provide direction to Lake Zurich, Kildeer, and private developers regarding acceptable local circulation and access to Illinois 22.

The western end of Segment II is just west of the U.S. 12 commercial area. The intent of the SRA plan is that the unsignalized Cortland Drive intersection serve as the access point for the existing development to the south, and for the shopping center loading dock area to the north. If the shopping center access drive cannot be realigned to the west because of possible wetlands, the existing drive location would be limited to right-in and right-out movements only. Any new development that occurs to the south should also access Illinois 22 at Cortland Drive. Just to the east, a signal is proposed at the Mall Access Drive to serve the existing shopping centers

on both sides of Illinois 22. East of that, the upgrade of U.S. 12 signalization, accompanied by increased capacity, would serve long-range needs (see Exhibits C-4 and D-5). East of U.S. 12, the upgrade of existing Whitney Road/Ela Road signalization, accompanied by increased capacity, would serve long-range needs. New signalization and capacity increases also are recommended for the Lake Zurich bypass and the Old Rand Road intersection. The introduction of the bypass and new or upgraded signalization should decrease the high existing accident rate (14.53 accidents per MVM) within the Lake Zurich CBD.

Continuing east along Illinois 22, a signal is proposed at Buesching Road (see Exhibits C-4 and C-5). To the east of Buesching Road, between Buesching Road and Oakwood Road/Old Mill Grove Road, the plan shows two full access points with protected left-turn movements to serve the Lake Zurich industrial park. The existing signal at Oakwood Road/Old Mill Grove Road also would be upgraded. East of that signal, the SRA plan provides for median openings at Telser Road and Fern Road to serve expected office and industrial development to the north, and residential land uses to the south. The existing signal at Quentin Road would be upgraded along with the recommended cross section and geometric recommendations discussed previously. A median opening is proposed at Fox Tail Drive to serve residential development safely both north ("Beacon Hill") and south of Illinois 22. The signalization of Buesching Road and the numerous proposed channelized median openings should contribute to improved safety in this section of Illinois 22. The existing accident rates of 4.78 and 3.11 accidents per MVM west and east of Quentin Road, respectively, are high for a roadway of this type.

The recommended median openings at Bell's Apple Orchard, at Cortland Drive, between Buesching Road and Oakwood Road/Old Mill Grove Road (the Lake Zurich industrial park area), at Telser Road, at Fern Road, between Quentin Road and Fox Tail Road, and at Fox Tail Road should operate safely as unsignalized intersections. All of these intersections will provide protected left-turn movements and also should improve safety on Illinois 22.

Additional future access to the industrial park and office development to the north of Illinois 22 between Buesching Road and Quentin Road will be provided by a proposed parallel roadway located approximately ¼ mile north of Illinois 22 (see

Exhibit C-5). This new roadway allows development access to land along Illinois 22 without increasing the recommended number of median openings and/or crossroad intersections. A new roadway also is proposed in the southwest quadrant of the Quentin Road intersection in order to provide access to this quadrant from Quentin Road. The "Harrington Farms Kimball Hill" development will access Illinois 22 from South Krueger Road, which is proposed to be aligned with Kemper Drive (see Exhibit C-5). In conjunction with the horizontal realignment of South Krueger Road, the vertical alignment of Illinois 22 will be improved. This new horizontal and vertical alignment removes the currently unsafe condition of the South Krueger Road and Kemper Drive area, and is especially relevant with the possibility of the "Harrington Farms Kimball Hill" development.

The addition of a raised median and/or turn lanes also should improve safety along this segment of Illinois 22. The raised median allows left turns only at selected locations, thereby reducing the number of vehicular conflict points and, consequently, the number of opportunities for the most severe accident types. The addition of turn lanes at intersections, or provision of a flush median, also reduce the potential for accidents by removing the turning vehicles from through traffic lanes, and decrease the amount of accelerating and braking at intersections (with a consequent improvement in air quality).

To verify the reasonableness of the recommended improvements, a planning-level intersection capacity analysis was performed. Table 18 shows the results of that analysis for all future signalized intersections along Illinois 22. The analysis utilizes CATS year 2010 SRA forecast traffic volumes as a general reference. As noted in the table, assumptions for unavailable minor crossroad traffic volumes were made. Other capacity analysis assumptions are detailed in Appendix A.

The capacity analysis indicates that the recommended plan should produce acceptable v/c ratios for Segment II, which would result in reasonable levels of service during peak periods. The analysis of one intersection, Quentin Road, produces a v/c of 1.05. This is explained by the high CATS forecast volume of 37,000 vpd on Illinois 22, and the constraints on capacity improvements in this area. This v/c ratio indicates that the intersection could serve 95 percent of the expected daily traffic. However, the adjustment and fine tuning of the signal timing, once the signal is installed, should

Table 18
Evaluation of Signalized Intersection Operations Along Segment II (U.S. 12 to Kemper Drive) of Illinois 22

Intersection of Illinois 22 and:	Lane Arrangements[b]		Year 2010 ADT[c]		v/c for Intersection[d]
	SRA	Crossroad	SRA	Crossroad	
Mall Access Drive[a]	L-TTT-R	L-TR	38,000	5,000	0.69
U.S. 12*	LL-TTT-R	LL-TTT-R	38,000	40,000	0.83
Ela Road/Whitney Road[a]	L-TT-R	L-TR	24,000	12,000	0.92
Buesching Road[a]	L-TT-R	L-TR	26,000	12,000	0.96
Oakwood Road/Old Mill Grove Road[a]	L-TT-R	L-TR	26,000	12,000	0.96
Quentin Road[a]	LL-TT-R	L-T-TR	37,000	20,000	1.05
Kemper Drive/S. Krueger Road[a]	L-TT-R	L-T-R	37,000	12,000	0.90

Note: *Denotes SRA corridor.
[a]Assumed for unavailable volumes: 20,000 vpd for major arterials, 12,000 vpd for minor arterials, and 5,000 vpd for local roadways.
[b]L = Left-turn lane; T=through lane; R=right-turn lane; and TR=through and right-turn lane.
[c]ADT = Average Daily Traffic.
[d]v/c = Volume to Capacity Ratio.

allow the recommended cross section to serve the entire expected volume. The Whitney Road/Ela Road, Buesching Road, and Oakwood Road/Old Mill Grove Road intersections have expected v/c ratios of over 0.90. These intersections, and the Quentin Road intersection, should be monitored continuously to ensure that they are operating adequately.

Public Transportation

The EJ&E Railway operates immediately east of the Lake Zurich CBD. Although there are no recommended improvements to this facility in the near future, Metra is currently evaluating the potential for commuter service on this rail line, and has identified two possible station locations near Illinois 22. One would be in Lake Zurich either near U.S. 12 and Ela Road or north of Illinois 22, and the other would be located on Old McHenry Road approximately 1.75 miles north of Illinois 22. Station locations have only been identified for this rail line between Barrington and Aurora; the actual year when commuter operation might commence is uncertain. The EJ&E Railway currently crosses Illinois 22 at grade. The recommended bypass plan calls for the railroad and Illinois 22 to be grade separated.

There are no proposed bus route additions for this section of Illinois 22. However, as population and development increase, more bus routes may be warranted. Future bus turnouts will require 5 to 20 feet of additional right-of-way, for a total of 125 to 130 feet. Preferred bus shelter locations for the existing bus routes are noted on Exhibit C-5. These bus stops should be implemented when development and/or service needs warrant. A bus turnout detail within 125 feet of right-of-way is shown in Appendix A. Consideration also should be given to bus waiting shelters and paved sidewalks for pedestrians. Appropriate standards for locating and marking bus stops should be followed.

Construction and Right-of-Way Costs

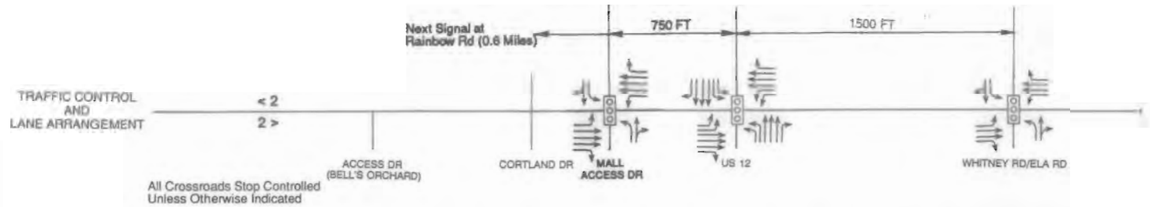
The consultant's opinion of the total cost of the recommended plan for Segment II is $30.5 million in 1991 dollars (see Table 19). This total includes construction costs, acquisition of right-of-way, and construction of structures. (In Segment II, a new bridge separating Illinois 22 from the EJ&E Railway is required.) The roadway

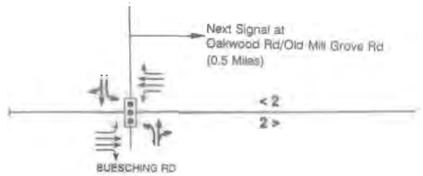
reconstruction cost is estimated to be $14.1 million, which includes improving Illinois 22 from a two-lane roadway to a four-lane roadway with a raised median and curb and gutter. Other construction costs include intersections and detention of drainage, as well as the new roadway north of Illinois 22 between Buesching Road and Quentin Road, the new roadway in the southwest quadrant of the Quentin Road intersection, and the realignment of South Krueger Road. In addition, all estimates include the cost of the Lake Zurich bypass concept with one signalized intersection at Old Rand Road. Construction of the EJ&E Railway bridge is estimated at $1 million. The right-of-way acquisition cost is based on the estimated costs of the various types of land uses that would need to be acquired. It is estimated that 43.3 acres of right-of-way will need to be acquired at a cost of $10.5 million.

Table 19
Opinions of Construction and Right-of-Way Cost for SRA Improvements Along Segment II (U.S. 12 to Kemper Drive) of Illinois 22 (1991 Dollars)

Roadway Reconstruction	$14,100,000
Intersections/Interchanges (Mall Access Drive, U.S. 12, Old Rand Road, and Buesching Road)	1,300,000
Structures and Retaining Walls (EJ&E Railway)	1,000,000
Other (Access roads: Buesching Road to Quentin Road, southwest quadrant of Quentin Road and Illinois 22, realignment of S. Krueger Road, and drainage detention)	3,600,000
Subtotal	20,000,000
Right-of-Way	10,500,000
TOTAL	**$30,500,000**

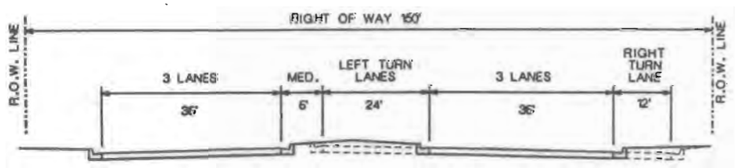
Note: All estimates include the Lake Zurich bypass.



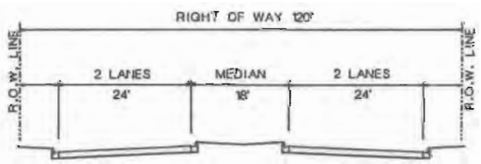


LEGEND

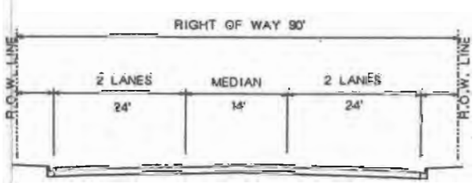
- EXISTING SIGNAL
- POTENTIAL SIGNAL
- SIGNAL TO BE REMOVED
- PROPOSED LANE ARRANGEMENT
- < 3 NUMBER OF LANES
- FUTURE RIGHT OF WAY LINE
- B BUS STOP



ROADWAY SECTION A–A
US 12 INTERSECTION APPROACHES



ROADWAY SECTION B–B
ACCESS DR (BELL'S ORCHARD) TO US 12
EAST OF BUESCHING RD
(110 FT of right of way east of Buesching Rd)



ROADWAY SECTION C–C'
US 12 TO WHITNEY RD/ELA RD

ILL 22 – PROPOSED PLAN

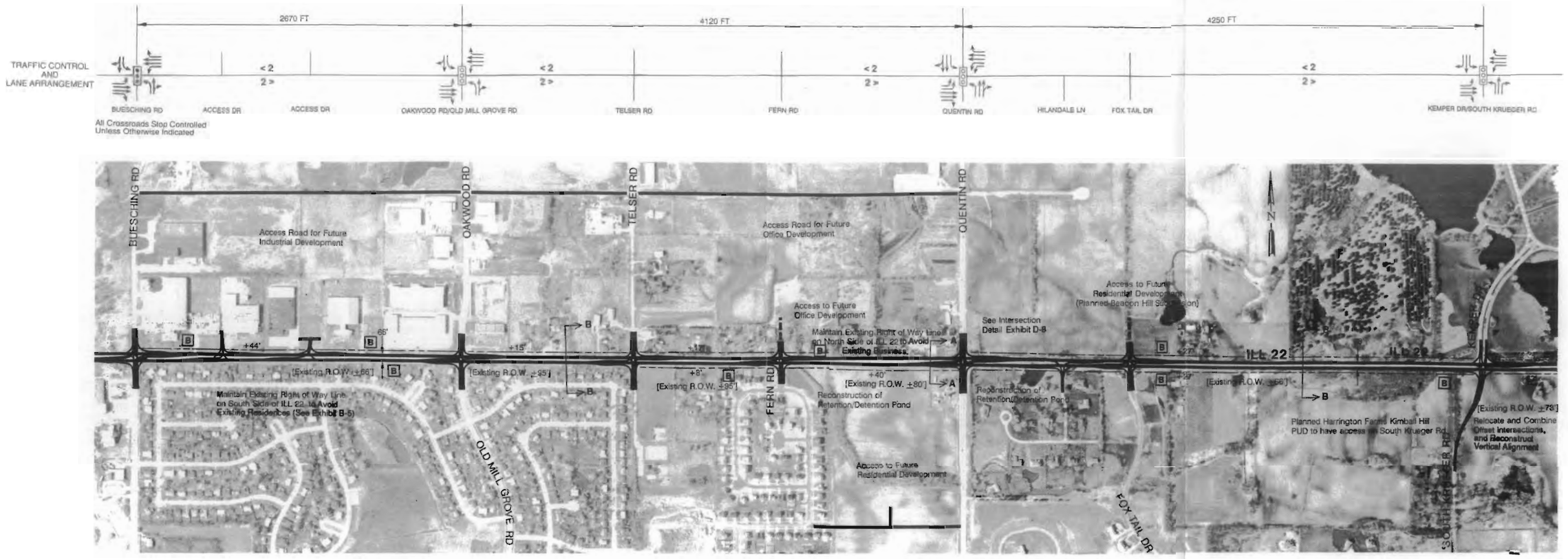
SRA Strategic Regional Arterial Planning Study

EXHIBIT C-4

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

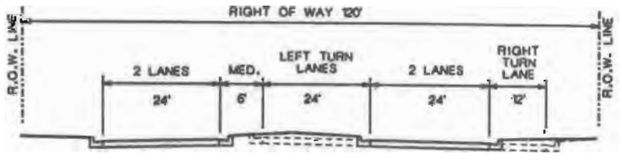
ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale: 0 200 400 Feet

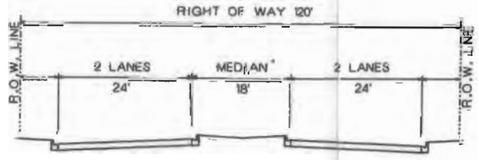


LEGEND

- EXISTING SIGNAL
- POTENTIAL SIGNAL
- SIGNAL TO BE REMOVED
- PROPOSED LANE ARRANGEMENT
- < 3 NUMBER OF LANES
- FUTURE RIGHT OF WAY LINE
- B BUS STOP



ROADWAY SECTION A–A
QUENTIN RD INTERSECTION APPROACHES



ROADWAY SECTION B–B
BUESCHING RD TO SOUTH KRUEGER RD
(110 FT of right of way between Buesching Rd and Telser Rd)

ILL 22 – PROPOSED PLAN

SRA Strategic Regional Arterial Planning Study **EXHIBIT C-5**

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale: 0 200 400 feet

GENERAL NOTES

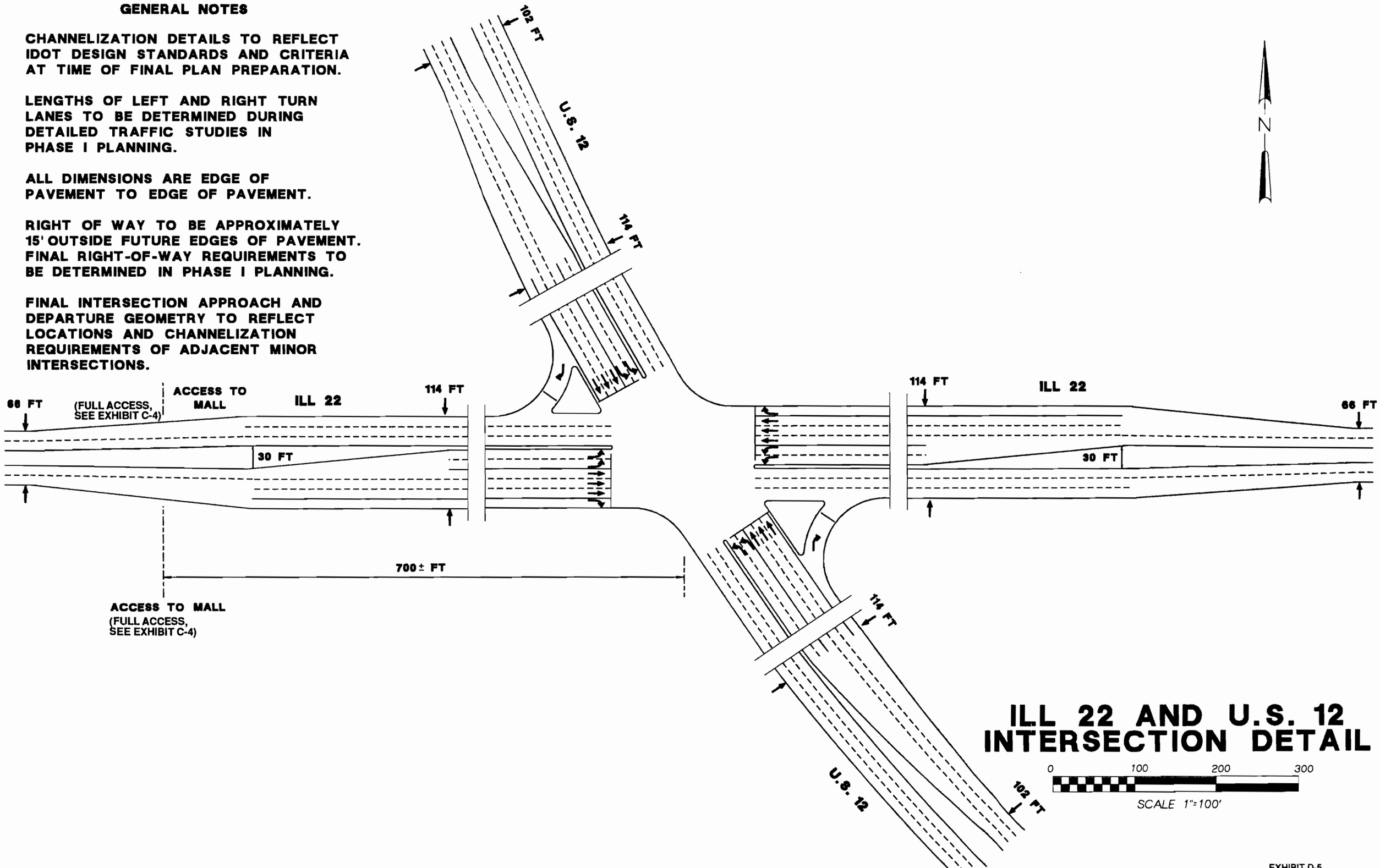
CHANNELIZATION DETAILS TO REFLECT IDOT DESIGN STANDARDS AND CRITERIA AT TIME OF FINAL PLAN PREPARATION.

LENGTHS OF LEFT AND RIGHT TURN LANES TO BE DETERMINED DURING DETAILED TRAFFIC STUDIES IN PHASE I PLANNING.

ALL DIMENSIONS ARE EDGE OF PAVEMENT TO EDGE OF PAVEMENT.

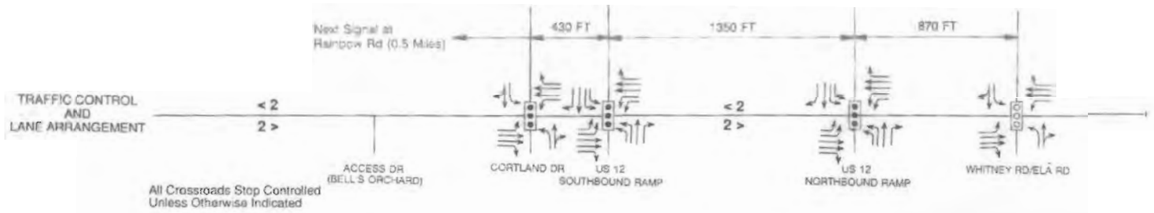
RIGHT OF WAY TO BE APPROXIMATELY 15' OUTSIDE FUTURE EDGES OF PAVEMENT. FINAL RIGHT-OF-WAY REQUIREMENTS TO BE DETERMINED IN PHASE I PLANNING.

FINAL INTERSECTION APPROACH AND DEPARTURE GEOMETRY TO REFLECT LOCATIONS AND CHANNELIZATION REQUIREMENTS OF ADJACENT MINOR INTERSECTIONS.

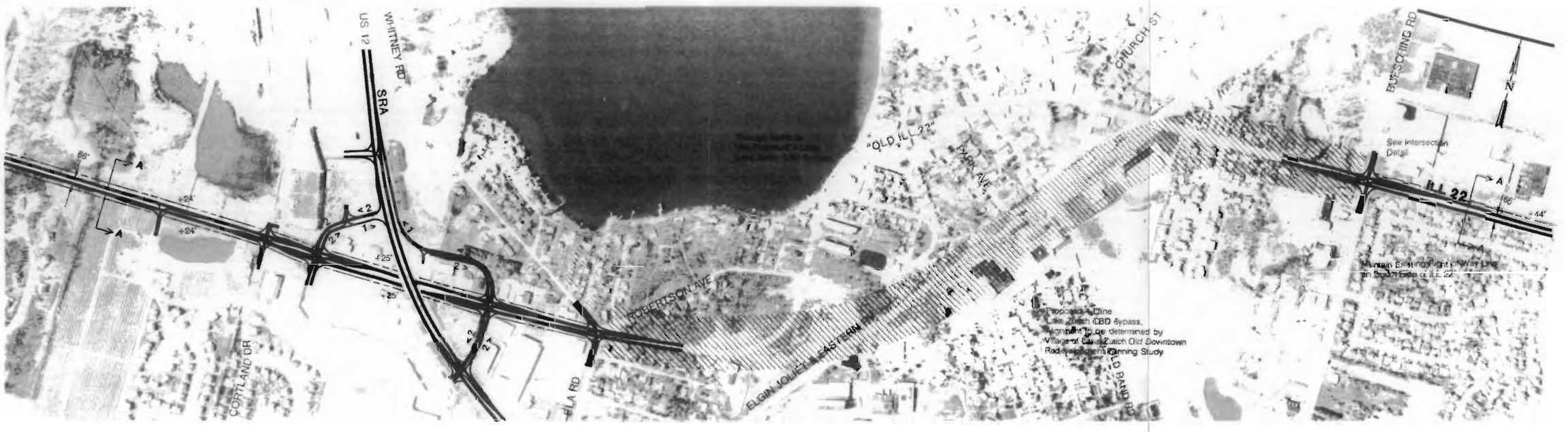


ILL 22 AND U.S. 12 INTERSECTION DETAIL

EXHIBIT D-5

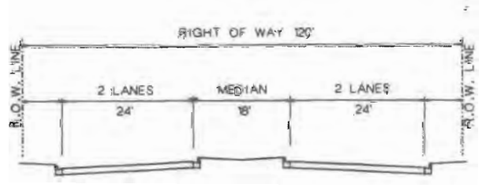


Proposed 4 Lane
Lake Zurich CBD Bypass



LEGEND

- EXISTING SIGNAL
- POTENTIAL SIGNAL
- SIGNAL TO BE REMOVED
- PROPOSED LANE ARRANGEMENT
- < 3 NUMBER OF LANES
- FUTURE RIGHT OF WAY LINE
- B BUS STOP



ROADWAY SECTION A—A
ACCESS DR (BELL'S ORCHARD) TO WHITNEY RD/ELA RD
EAST OF BUESCHING RD
(110 FT of right of way east of Buesching Rd)

ILL 22 – PROPOSED PLAN

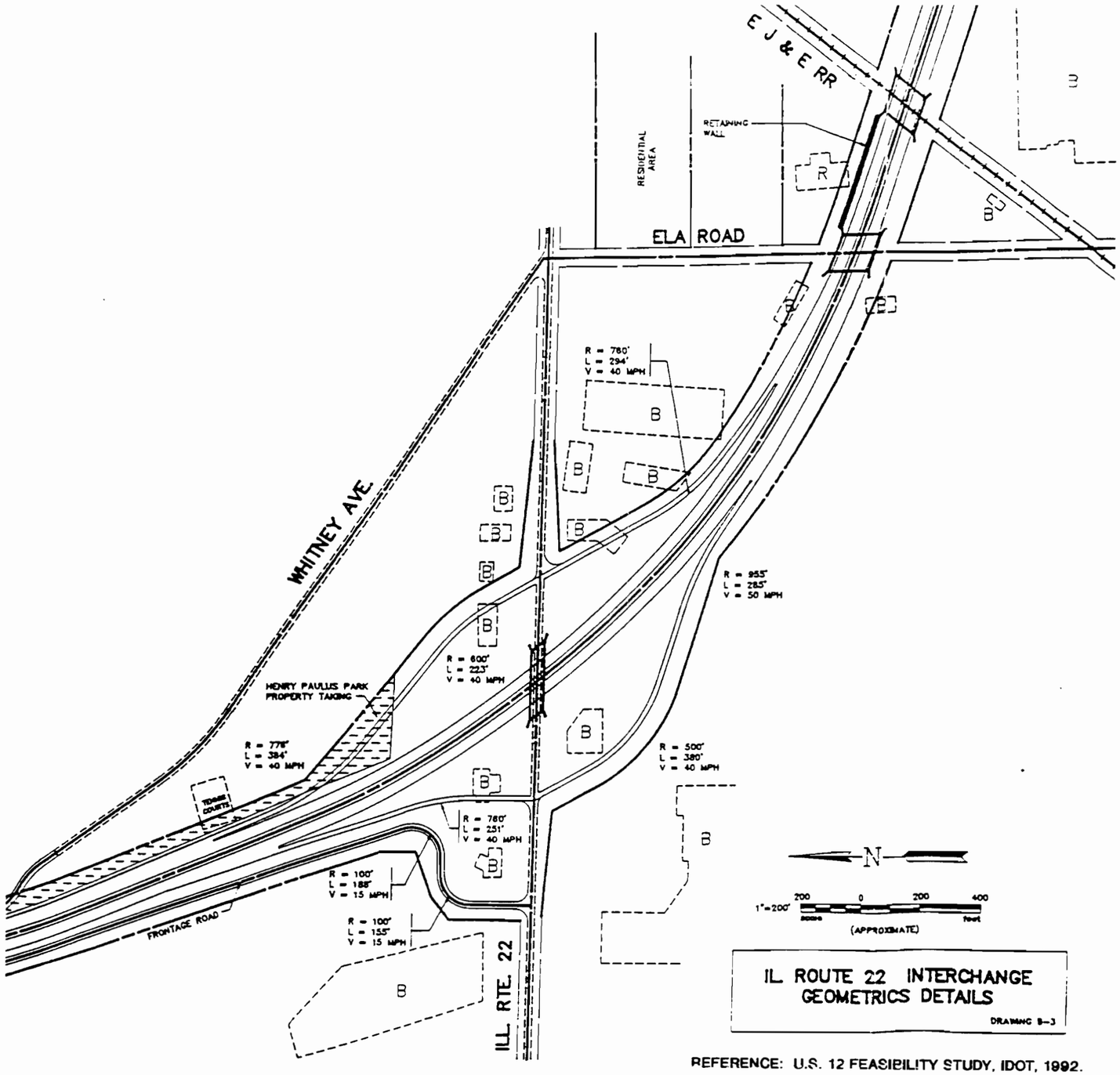
SRA Strategic Regional Arterial Planning Study

EXHIBIT D–6

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

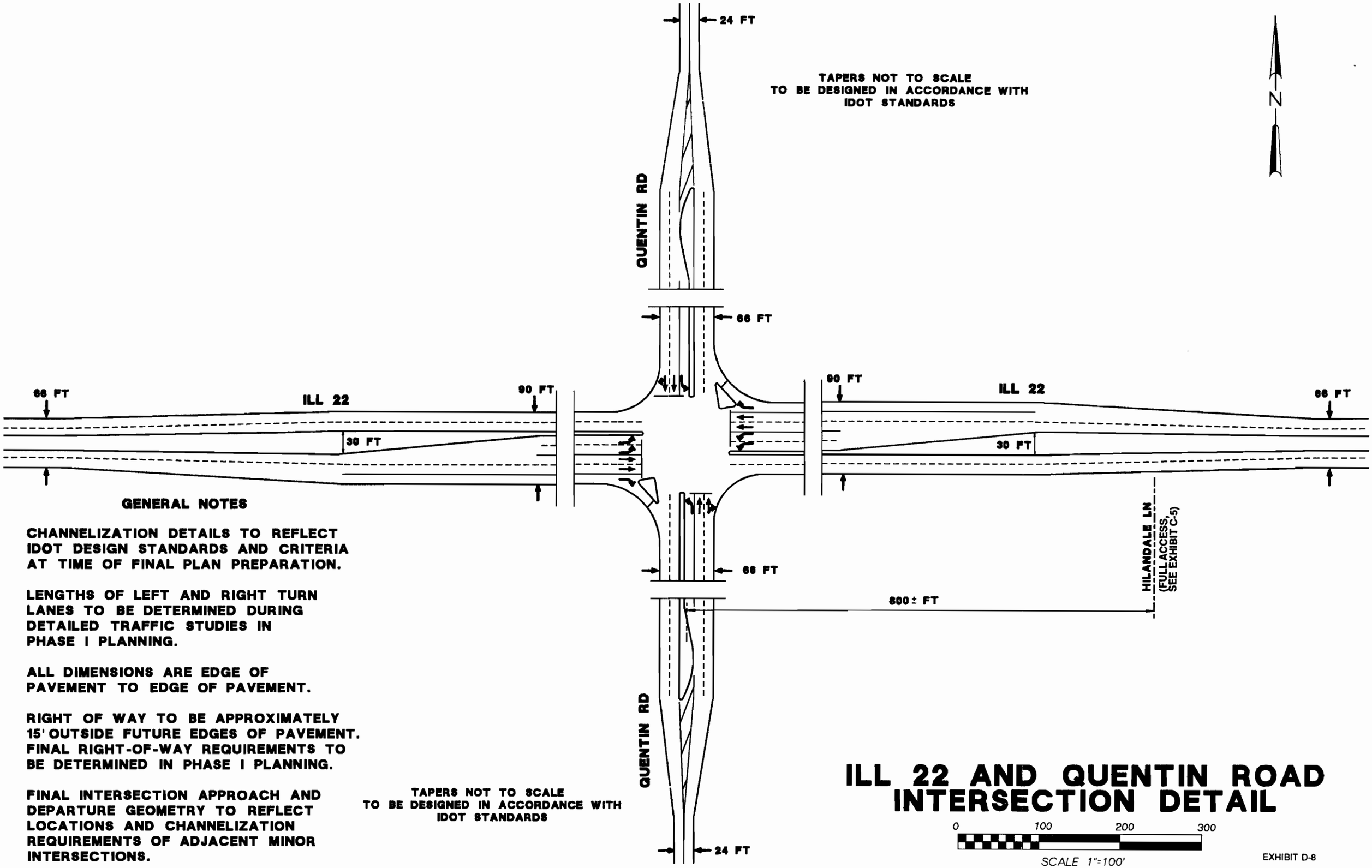
Scale 0 200 400 feet



IL ROUTE 22 INTERCHANGE
GEOMETRICS DETAILS

DRAWING B-3

REFERENCE: U.S. 12 FEASIBILITY STUDY, IDOT, 1992.



TAPERS NOT TO SCALE
TO BE DESIGNED IN ACCORDANCE WITH
IDOT STANDARDS

N

TAPERS NOT TO SCALE
TO BE DESIGNED IN ACCORDANCE WITH
IDOT STANDARDS

GENERAL NOTES

CHANNELIZATION DETAILS TO REFLECT IDOT DESIGN STANDARDS AND CRITERIA AT TIME OF FINAL PLAN PREPARATION.

LENGTHS OF LEFT AND RIGHT TURN LANES TO BE DETERMINED DURING DETAILED TRAFFIC STUDIES IN PHASE I PLANNING.

ALL DIMENSIONS ARE EDGE OF PAVEMENT TO EDGE OF PAVEMENT.

RIGHT OF WAY TO BE APPROXIMATELY 15' OUTSIDE FUTURE EDGES OF PAVEMENT. FINAL RIGHT-OF-WAY REQUIREMENTS TO BE DETERMINED IN PHASE I PLANNING.

FINAL INTERSECTION APPROACH AND DEPARTURE GEOMETRY TO REFLECT LOCATIONS AND CHANNELIZATION REQUIREMENTS OF ADJACENT MINOR INTERSECTIONS.

ILL 22 AND QUENTIN ROAD INTERSECTION DETAIL

0 100 200 300

SCALE 1"=100'

EXHIBIT D-8

Segment III—"Long Grove"
(Kemper Drive to Willow Parkway)

Segment III of the Illinois 22 SRA is approximately 4 miles long, extending from Kemper Drive to Willow Parkway just east of Buffalo Grove Road. The segment is at the center of the Illinois 22 corridor. Segment III includes the villages of Kildeer, Long Grove, and Buffalo Grove (see Exhibits C-6 and C-7).

Cross Section and Geometric Characteristics

The recommended cross sections within this segment include four basic through lanes (two in each travel direction), an 18-foot raised or 14-foot flush median, and closed drainage (i.e., curb and gutter) to be constructed generally within 120 feet of right-of-way (except for a flush median section adjacent to Long Grove Woods, where the recommended right-of-way is reduced to 90 feet). The 120-foot right-of-way dimension should provide a sufficient border area for grading, for making profile ties to crossroads, for placing closed drainage structures, and for constructing bikeways and/or sidewalks. However, the 90-foot right-of-way dimension in the highly-sensitive Long Grove Woods area may require the use of some retaining wall to protect the adjacent land uses. The roadway cross section includes 12-foot lanes and a full-width raised or flush median. The raised median itself offers the possibility of special landscaping treatments to offset the aesthetic effects of a wider roadway. A flush median has been recommended in the Long Grove Woods area to reduce the width of the road, to protect aesthetic attributes of the surrounding area, and to serve the numerous access points.

There also are spot locations where right-of-way greater than 120 feet will be required—the approaches to the Illinois 83 and the Buffalo Grove Road at-grade intersections. At both locations development of a 30-foot median is recommended to allow provision of double left-turn lanes off of Illinois 22. However, both locations also will have one or more approaches where the existing right-of-way width may be adequate outside the immediate intersection area. See Exhibits C-7, D-10, and D-11 for details of the proposed intersection plans at these locations. Exhibit D-9 is an intersection detail of Old McHenry Road.

Developing the recommended cross section requires tailoring the alignment to existing conditions and constraints. In general, the recommended Illinois 22 roadway plan in Segment III follows the existing horizontal alignment, but attempts to avoid existing buildings and other sensitive areas. In most cases, the roadway is widened about the existing centerline, resulting in an even acquisition of right-of-way on both the north and south sides of the roadway. For example, in the Long Grove Woods area, the Village of Long Grove Comprehensive Plan indicates 80 feet of right-of-way. As demonstrated in Exhibits C-6 and C-7, widening about the centerline would require an additional 5 feet of right-of-way on each side of the roadway to develop the desired 90-foot right-of-way.

Exceptions to the above symmetrical widening within Segment III occur between Kemper Drive and Old McHenry Road. Just east of Kemper Drive, the roadway is shifted south to avoid the Kemper Lakes Golf Course. East of that, the roadway centerline is shifted slightly to the north to avoid wetlands and an existing building on the south. Immediately to the east of this area, the roadway centerline is shifted back to the south to avoid a proposed development in the northwest quadrant of the Old McHenry Road intersection.

Drainage requirements may necessitate raising the profile of Illinois 22 in Segment III. Should this be the case, shifting the alignment even further north or south would be necessary to avoid conflicts with any wetlands, existing structures, and the Oak Hills at Long Grove Park in the southeast quadrant of the Illinois 83 intersection. A final determination of profile and alignment would be made in subsequent Phase I studies.

Stormwater detention requirements along Illinois 22 are for approximately 3 to 5 acre-feet of storage per mile. The 18-foot median recommended for this segment, if landscaped, would reduce this requirement by 1 acre-foot per mile. The area recommended for a flush median would have no such reduction. For this segment of Illinois 22, detention requirements of about 17.3 acre-feet would be required. Suitable right-of-way to provide such detention should be identified during Phase I studies.

In addition, this segment of Illinois 22 effects at least six floodplain areas (see Exhibits B-6 and B-7). Any filling of ditches in the proximity of a floodplain requires 120 percent compensatory storage to meet the Stormwater Commission of Lake County requirements. Retention of the first ½ inch of runoff for 24 hours, to avoid direct discharge into streams, lakes, and wetlands, also requires 2 cubic feet of retention per foot of improvement (i.e., a filter bed).

Traffic Control, Operations, and Safety

Much the land use and local street system in Segment III is undergoing transition or evolution. It is essential that the SRA corridor plan for this segment establish a long-range framework that reinforces the operational and safety objectives of the SRA system. The keys to establishing this framework are the location of future traffic signals and the maintenance of median access control. In addition, cross section compatibility with the proposed FAP 342 project just west of Old McHenry Road is essential. (The exact cross section of Illinois 22 in the FAP 342 area will be determined by a concurrent IDOT Phase I study. The FAP 342 centerline shown is as of January 1, 1992. A final recommendation still needs to be developed.)

The diagrams along the top of each SRA plan exhibit indicate locations of existing and proposed signalized intersections, the lane arrangements at these locations, and spacing to adjacent signals. The plan itself indicates the locations of median access breaks. Where no break is shown, it is the intent of the plan that vehicles entering or exiting driveways or other existing and future access points be restricted to right-in and right-out movements only. Left turns are allowed along the entire length of the flush median area.

The traffic control plan for Segment III calls for retention of existing signals at Old McHenry Road, Illinois 83, Buffalo Grove Road, and the Access Drive/Arboretum Way (see Exhibits C-6 and C-7). Upgrading the existing signalization, accompanied by the recommended cross section and geometric improvements discussed previously, would serve long-range needs. No new signalized intersections are proposed in this segment.

The traffic control and geometric plan for Segment III should result in significant improvements to safety as well as traffic operations. Signal locations meet SRA spacing guidelines of ¼ mile or greater in this section of Illinois 22. The intent of the plan is to provide median openings at locations where they can be implemented efficiently, and to provide direction to Kildeer, Long Grove, Buffalo Grove, and private developers regarding acceptable local circulation and access to Illinois 22.

A median opening is proposed just west of Old McHenry Road to serve expected commercial development safely north and south of Illinois 22 (see Exhibit C-6). The plan also shows median openings at Stone Haven Road, Hampton Drive, and Acacia Terrace/Oak Grove Drive. The intent of the SRA plan is that the Stone Haven Road intersection be the access point for the residential development to the south, as well as for future residential development north of Illinois 22. The Hampton Drive opening would provide the means for safe access to the residential development north of Illinois 22, and Acacia Terrace/Oak Grove Drive will provide safe access to residential developments north and south of Illinois 22. It is the intent of the SRA plan that future developments that are not provided a median opening in this plan be designed to enable access to Illinois 22 via other crossing roadways such as Old McHenry Road, Illinois 83, and Buffalo Grove Road. It is not expected that any development will occur in the Long Grove Woods area. Access to existing land uses will be provided by use of the flush median.

Signals are not considered necessary or desirable within the Long Grove Woods area (Old McHenry Road to Stone Haven Road). Median openings, in addition to the four discussed above, are proposed at Tall Oaks Drive and Willow Parkway. All of the median openings should function safely as unsignalized intersections.

The existing accident rates of 5.84 accidents per MVM between Old McHenry Road and Illinois 83, 4.20 accidents per MVM between Illinois 83 and Buffalo Grove Road, and 4.80 accidents per MVM east of Buffalo Grove Road are somewhat high for a facility of this type. The addition of a raised or flush median and intersection channelization should improve traffic safety.

The addition of a raised median and/or turn lanes also should improve safety along this segment of Illinois 22. The raised median allows left turns only at selected locations, thereby reducing the number of vehicular conflict points and, consequently, the number of opportunities for the most severe accident types. The addition of turn lanes at intersections, or provision of a flush median, also reduces the potential for accidents by removing the turning vehicles from through traffic lanes. Turn lanes and flush medians would reduce the amount of accelerating and braking at intersections, with a consequent improvement in air quality.

To verify the reasonableness of the recommended improvements, a planning-level intersection capacity analysis was performed. Table 20 shows the results of that analysis for all future signalized intersections along Illinois 22. The analysis utilizes CATS year 2010 SRA forecast traffic volumes as a general reference. As noted in the table, assumptions for unavailable minor crossroad traffic volumes were made. Other capacity analysis assumptions are detailed in Appendix A.

The capacity analysis indicates that the recommended plan should produce acceptable v/c ratios for Segment III, which would result in reasonable levels of service during peak periods. The analysis of the Old McHenry Road and Illinois 83 intersections shows estimated v/c ratios of 1.02 and 1.01, respectively. These v/c ratios indicate that the recommended intersection lane arrangement for Old McHenry Road and Illinois 83 could serve 98 and 99 percent of the expected traffic, respectively. The slightly high v/c ratios are explained by the high CATS forecast volumes in this area, and the constraints on capacity improvements. However, the adjustment and fine tuning of the signal timing, once signals are installed at Old McHenry Road and Illinois 83, should allow the recommended cross section to serve all the expected volume. All the other existing or proposed signalized intersections are expected to operate adequately.

Public Transportation

Although there are no recommended public rail facilities or proposed bus route additions for this section of Illinois 22, as population and development increase, more bus routes may be warranted. Future bus turnout areas require 5 to 10 feet of additional right-of-way for a total of 125 to 130 feet. Bus turnouts should not be

Table 20
Evaluation of Signalized Intersection Operations Along Segment III (Kemper Drive to Willow Parkway) of Illinois 22

Intersection of Illinois 22 and:	Lane Arrangements[b]		Year 2010 ADT (vpd)[c]		v/c for Intersection[d]
	SRA	Crossroad	SRA	Crossroad	
Old McHenry Road[a]	L-TT-R	L-T-TR	37,000	20,000	1.02
Illinois 83*	LL-TT-R	LL-TT-R	33,000	33,000	1.01
Buffalo Grove Road[a]	LL-TT-R	L-T-TR	33,000	20,000	0.88
Arboretum Way/Access Drive[a]	L-TT-R	L-TR	33,000	5,000	0.72

Note: *Denotes SRA corridor.
[a]Assumed for unavailable volumes: 20,000 vpd for major arterials, 12,000 vpd for minor arterials, and 5,000 vpd for local roadways.
[b]L = Left-turn lane; T=through lane; R=right-turn lane; and TR=through and right-turn lane.
[c]ADT = Average Daily Traffic.
[d]v/c = Volume to Capacity Ratio.

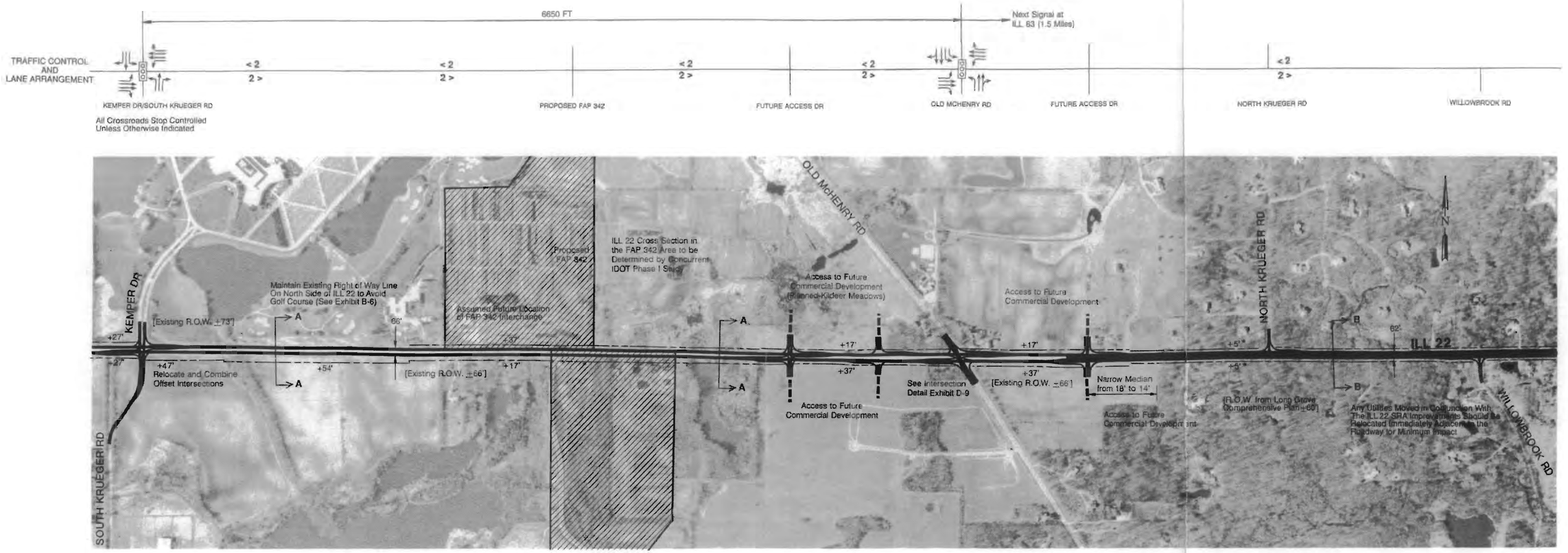
constructed in the Long Grove Woods area (90 feet of right-of-way), unless more right-of-way is acquired (35 to 40 feet). A bus turnout detail within 125 feet of right-of-way is shown in Appendix A. Consideration also should be given to bus waiting shelters and paved sidewalks for pedestrians. Appropriate standards for locating and marking bus stops should be followed.

Construction and Right-of-Way Costs

The consultant's opinion of the total cost of the recommended plan for Segment III is $20.5 million in 1991 dollars (see Table 21). This total includes construction costs, acquisition of right-of-way, and construction of structures. (In this segment, the estimate also includes the $2.8-million estimated cost of the retaining wall in the Long Grove Woods area.) The roadway reconstruction cost is estimated to be $14.1 million, which includes improving Illinois 22 from a two-lane roadway to a four-lane roadway with a raised or flush median and curb and gutter. Other construction costs include intersections and detention of drainage. No costs related to the FAP 342 project have been included in this estimate. The right-of-way acquisition cost is based on the estimated cost of the various types of land uses that would need to be acquired. It is estimated that 13.2 acres of right-of-way will need to be acquired at a cost of $2.7 million.

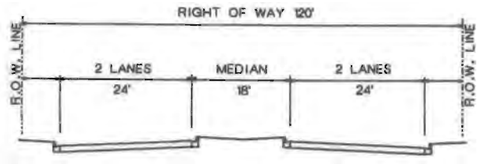
Table 21
Opinions of Construction and Right-of-Way Cost for SRA Improvements Along Segment III (Kemper Drive to Willow Parkway) of Illinois 22 (1991 Dollars)

Roadway Reconstruction	$14,100,000
Intersections/Interchanges	-0-
Structures and Retaining Walls	2,800,000
Other (Drainage detention)	900,000
Subtotal	17,800,000
Right-of-Way	2,700,000
TOTAL	**$20,500,000**

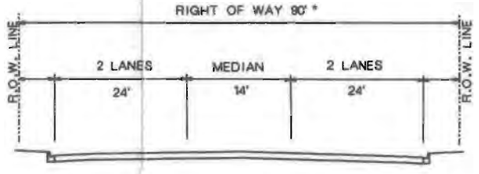


LEGEND

- EXISTING SIGNAL
- POTENTIAL SIGNAL
- SIGNAL TO BE REMOVED
- PROPOSED LANE ARRANGEMENT
- < 3 NUMBER OF LANES
- FUTURE RIGHT OF WAY LINE
- B BUS STOP



ROADWAY SECTION A–A
SOUTH KRUEGER RD/KEMPER DR TO EAST OF OLD McHENRY RD



ROADWAY SECTION B–B
EAST OF OLD McHENRY RD TO WILLOWBROOK RD
* Retaining wall to be used as required to minimize right-of-way acquisition

ILL 22 – PROPOSED PLAN

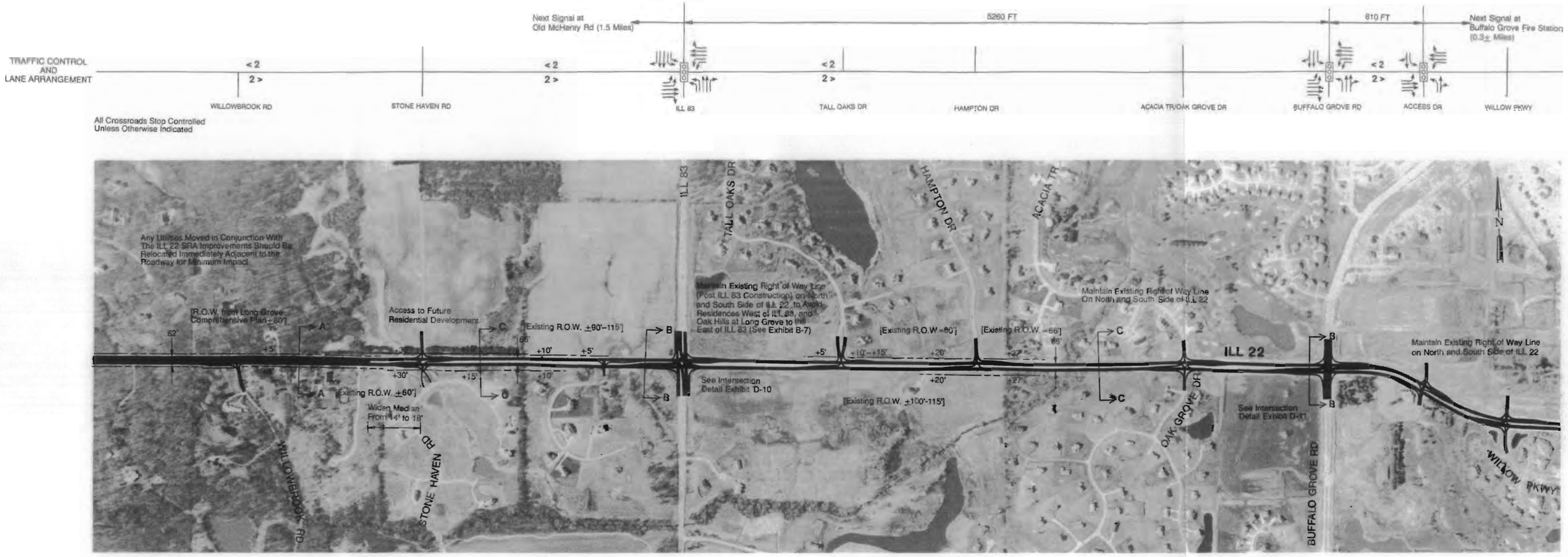
SRA Strategic Regional Arterial Planning Study

EXHIBIT C-6

Scale: 0 200 400 feet

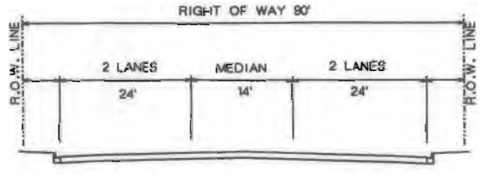
Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

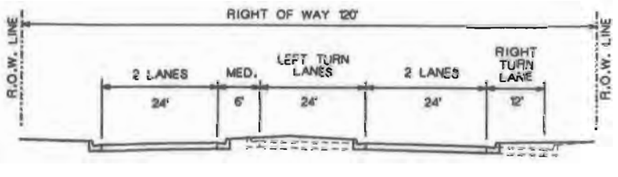


LEGEND

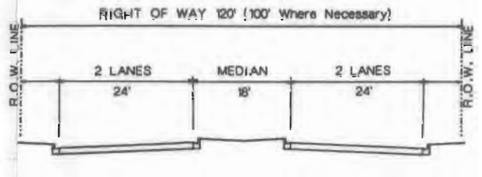
- EXISTING SIGNAL
- POTENTIAL SIGNAL
- SIGNAL TO BE REMOVED
- PROPOSED LANE ARRANGEMENT
- < 3 NUMBER OF LANES
- FUTURE RIGHT OF WAY LINE
- B BUS STOP



ROADWAY SECTION A–A
WILLOWBROOK RD TO WEST OF STONE HAVEN RD
* Retaining wall to be used as required to minimize right-of-way acquisition



ROADWAY SECTION B–B
ILL 83 INTERSECTION APPROACHES
BUFFALO GROVE ROAD INTERSECTION APPROACHES



ROADWAY SECTION C–C
WEST OF STONE HAVEN RD TO WILLOW PARKWAY

ILL 22 – PROPOSED PLAN

SRA Strategic Regional Arterial Planning Study EXHIBIT C-7

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale: 0 200 400 feet

TAPERS NOT TO SCALE
TO BE DESIGNED IN ACCORDANCE WITH
IDOT STANDARDS

24 FT

OLD MCHENRY RD

78 FT

N

ACCESS TO FUTURE
COMMERICAL DEVELOPMENT
(PLANNED - KILDEER MEADOWS)
(RIGHT-IN / RIGHT-OUT
ONLY, SEE EXHIBIT C-6)

660± FT

66 FT

ILL 22

78 FT

18 FT

78 FT

ILL 22

62 FT

18 FT

ACCESS TO FUTURE
COMMERICAL DEVELOPMENT
(RIGHT-IN / RIGHT-OUT
ONLY, SEE EXHIBIT C-6)

66 FT

OLD MCHENRY RD

24 FT

TAPERS NOT TO SCALE
TO BE DESIGNED IN ACCORDANCE WITH
IDOT STANDARDS

GENERAL NOTES

CHANNELIZATION DETAILS TO REFLECT IDOT DESIGN STANDARDS AND CRITERIA AT TIME OF FINAL PLAN PREPARATION.

LENGTHS OF LEFT AND RIGHT TURN LANES TO BE DETERMINED DURING DETAILED TRAFFIC STUDIES IN PHASE I PLANNING.

ALL DIMENSIONS ARE EDGE OF PAVEMENT TO EDGE OF PAVEMENT.

RIGHT OF WAY TO BE APPROXIMATELY 15' OUTSIDE FUTURE EDGES OF PAVEMENT. FINAL RIGHT-OF-WAY REQUIREMENTS TO BE DETERMINED IN PHASE I PLANNING.

FINAL INTERSECTION APPROACH AND DEPARTURE GEOMETRY TO REFLECT LOCATIONS AND CHANNELIZATION REQUIREMENTS OF ADJACENT MINOR INTERSECTIONS.

ILL 22 AND OLD MCHENRY ROAD INTERSECTION DETAIL

0 100 200 300

SCALE 1"=100'

EXHIBIT D-9

78 FT

TAPERS NOT TO SCALE
TO BE DESIGNED IN ACCORDANCE WITH
IDOT STANDARDS

N

ILL 83

30 FT

90 FT

66 FT

ILL 22

90 FT

30 FT

HERITAGE LN
(FULL ACCESS,
SEE EXHIBIT C-7)

650± FT

90 FT

ILL 22

66 FT

30 FT

ILL 83

30 FT

78 FT

TAPERS NOT TO SCALE
TO BE DESIGNED IN ACCORDANCE WITH
IDOT STANDARDS

GENERAL NOTES

CHANNELIZATION DETAILS TO REFLECT IDOT DESIGN STANDARDS AND CRITERIA AT TIME OF FINAL PLAN PREPARATION.

LENGTHS OF LEFT AND RIGHT TURN LANES TO BE DETERMINED DURING DETAILED TRAFFIC STUDIES IN PHASE I PLANNING.

ALL DIMENSIONS ARE EDGE OF PAVEMENT TO EDGE OF PAVEMENT.

RIGHT OF WAY TO BE APPROXIMATELY 15' OUTSIDE FUTURE EDGES OF PAVEMENT. FINAL RIGHT-OF-WAY REQUIREMENTS TO BE DETERMINED IN PHASE I PLANNING.

FINAL INTERSECTION APPROACH AND DEPARTURE GEOMETRY TO REFLECT LOCATIONS AND CHANNELIZATION REQUIREMENTS OF ADJACENT MINOR INTERSECTIONS.

ILL 22 AND ILL 83 INTERSECTION DETAIL

0 100 200 300

SCALE 1"=100'

EXHIBIT D-10

SANDLEWOOD RD
(FULL ACCESS)

66 FT

BUFFALO GROVE RD

18 FT

850± FT

800± FT

66 FT

ACCESS DRIVE
(FULL ACCESS,
SEE EXHIBIT C-7)

66 FT

ILL 22

90 FT

30 FT

90 FT

ILL 22

66 FT

30 FT

ARBORETUM WAY
(FULL ACCESS,
SEE EXHIBIT C-7)

TAPERS NOT TO SCALE
TO BE DESIGNED IN ACCORDANCE WITH
IDOT STANDARDS

N

GENERAL NOTES

CHANNELIZATION DETAILS TO REFLECT IDOT DESIGN STANDARDS AND CRITERIA AT TIME OF FINAL PLAN PREPARATION.

LENGTHS OF LEFT AND RIGHT TURN LANES TO BE DETERMINED DURING DETAILED TRAFFIC STUDIES IN PHASE I PLANNING.

ALL DIMENSIONS ARE EDGE OF PAVEMENT TO EDGE OF PAVEMENT.

RIGHT OF WAY TO BE APPROXIMATELY 15' OUTSIDE FUTURE EDGES OF PAVEMENT. FINAL RIGHT-OF-WAY REQUIREMENTS TO BE DETERMINED IN PHASE I PLANNING.

FINAL INTERSECTION APPROACH AND DEPARTURE GEOMETRY TO REFLECT LOCATIONS AND CHANNELIZATION REQUIREMENTS OF ADJACENT MINOR INTERSECTIONS.

BUFFALO GROVE RD

18 FT

66 FT

66 FT

TAPERS NOT TO SCALE
TO BE DESIGNED IN ACCORDANCE WITH
IDOT STANDARDS

ILL 22 AND BUFFALO GROVE ROAD INTERSECTION DETAIL

0 100 200 300

SCALE 1"=100'

EXHIBIT D-11

Segment IV—"Lincolnshire"
(Willow Parkway to I-94)

Segment IV of the Illinois 22 SRA is approximately 4 miles long, extending from Willow Parkway, just west of the Wisconsin Central Railroad, to I-94. The segment is located immediately west of I-94. Segment IV includes a small portion of the village of Buffalo Grove west of the Wisconsin Central Railroad, and the village of Lincolnshire (see Exhibits C-8 and C-9).

Cross Section and Geometric Characteristics

The recommended cross sections within this segment include four basic through lanes (two in each direction), an 18-foot raised or a 14-foot flush median, and closed drainage (i.e., curb and gutter) to be constructed generally within 100 feet of right-of-way (120 feet of desirable right-of-way is only available between Willow Parkway and Main Street/Prairie Road), with the exception of a flush median section east of the Des Plaines River where the recommended right-of-way is reduced to 90 feet. The 90- or 100-foot right-of-way dimension will be somewhat constrained in border areas for grading, for making profile ties to crossroads, for placing closed drainage structures, and for providing bikeways and or sidewalks, but it should be sufficient with the use of easements, etc. during construction. The 120-foot right-of-way dimension between Willow Parkway and Main Street/Prairie Road should be sufficient without the use of easements. The roadway cross section includes 12-foot lanes and a full-width raised or flush median. The raised median itself offers the possibility of special landscaping treatments to offset the aesthetic effects of a wider roadway. A flush median has been recommended east of the Des Plaines River to reduce the width of the road, to avoid greater conflicts with existing buildings, and to serve numerous access points.

There also are spot locations where greater right-of-way will be required—the approaches to Main Street/Prairie Road, Illinois 21/U.S. 45, and the I-94 interchange area (Hewitt Drive/Westminster Way to Lakeside Drive) at-grade intersections. At all of these locations, development of a 30-foot median is recommended to allow provision of double left-turn lanes off of Illinois 22. At the Illinois 21/U.S. 45 intersection and I-94 interchange area, an even greater right-of-way width is

recommended to enable development of an additional through lane in each direction. See Exhibits C-8, C-9, D-12, and D-14 for details of the proposed intersection and interchange (I-94) plans at these locations. Exhibit D-13 is an intersection detail of Riverwoods Road.

Developing the recommended cross section requires tailoring the alignment to existing conditions and constraints. In general, the recommended Illinois 22 roadway plan in Segment IV follows the existing horizontal alignment and attempts to avoid existing buildings and other sensitive areas. Between Main Street/Prairie Road and Barclay Boulevard/Old Half Day Road, this avoidance is assisted by limiting the recommended right-of-way to 100 feet. In most cases, the roadway is widened about the existing centerline, resulting in an even acquisition of right-of-way on both the north and south sides of the roadway. However, the amount of existing buildings, roadways, and sensitive areas in this segment makes equal right-of-way acquisition on both sides of Illinois 22 difficult. For example, just west of Schelter Road the existing right-of-way is 66 feet. As demonstrated in Exhibit C-8, the right-of-way will need to be acquired on the south side of the roadway to develop the desired 100 feet of right-of-way. Areas where right-of-way is taken equally on both sides of the roadway occur between Old Mill Road and Nottingham Drive, where 10 feet of right-of-way must be acquired on both sides of Illinois 22, and in the I-94 interchange area.

Drainage requirements may require raising the profile of Illinois 22 in Segment IV. Should this be the case, shifting the alignment even further north or south along the majority of this segment would be necessary to avoid conflicts with the existing roadways, structures, and a park west of Old Mill Road. This raise in profile also may require acquisition of additional right-of-way in the 90-foot right-of-way area if a retaining wall is not used. A final determination of profile and alignment would be made in subsequent Phase I studies.

Stormwater detention requirements along Illinois 22 are for approximately 3 to 5 acre-feet of storage per mile. The 18-foot median recommended for a portion of this segment, if landscaped, would reduce this requirement by 1 acre-foot per mile. The flush median area east of the Des Plaines River would have no such reduction. For this segment of Illinois 22, detention requirements of about 17.5 acre-feet would

be required. Suitable right-of-way to provide such detention should be identified during Phase I studies.

In addition, this segment of Illinois 22 affects at least four floodplain areas (see Exhibits B-8 and B-9). Any filling of ditches in the proximity of a floodplain requires 120 percent compensatory storage to meet the Stormwater Commission of Lake County requirements. Retention of the first ½ inch of runoff for 24 hours, to avoid direct discharge into streams, lakes, and wetlands, also requires 2 cubic feet of retention per foot of improvement (i.e., a filter bed).

Traffic Control, Operations, and Safety

Much the land use and local street system in Segment IV is well established, however, there are some areas south of Illinois 22 and west of Illinois 21/U.S. 45 that are still evolving. It is essential that the SRA corridor plan for this segment establish a long-range framework that reinforces the operational and safety objectives of the SRA system. The keys to establishing this framework are the location of future traffic signals and the maintenance of median access control.

The diagrams along the top of each SRA plan exhibit indicate locations of existing and proposed signalized intersections, the lane arrangements at these locations, and spacing to adjacent signals. The plan itself indicates the locations of median access breaks. Where no break is shown, it is the intent of the plan that vehicles entering or exiting driveways or other existing and future access points be restricted to right-in and right-out movements only. Left turns are allowed along the entire length of the flush median area.

The traffic control plan for Segment IV calls for retention of existing signals at the Buffalo Grove fire station access drive (under flashing operation), Main Street/Prairie Road, Prairie Road, Barclay Boulevard/Old Half Day Road (west), Illinois 21/U.S. 45, Old Half Day Road (east), Elm Road/Oxford Drive, Riverwoods Road, Hewitt Drive/Westminster Way, the I-94 ramps, and Lakeside Drive (see Exhibits C-8 and C-9).

Upgrading the existing signalization, accompanied by the recommended cross section and geometric improvements previously discussed, would serve long-range needs. An additional signalized intersection is proposed at the east drive of Adlai Stevenson High School. This signal is proposed for safe and efficient access to the school and the undeveloped land to the south. Because the east drive intersection is the main entrance and exit at the school, an additional roadway is proposed to connect the west and east drives to allow full access to all school parking lots. Another new signal is also proposed at Berkshire Lane. This signal is proposed to safely and efficiently serve the existing residential development south of Illinois 22 and any development that may occur to the north. In locating these new signals, SRA spacing guidelines were referenced with local network considerations, future land uses, and other constraints that fix the locations.

The traffic control and geometric plan for Segment IV should result in significant improvements to safety as well as traffic operations. The proposed and existing signal locations generally meet SRA spacing guidelines of ¼ mile or greater. The intent of the plan is to provide new signals and/or median openings at locations where they can be implemented efficiently should accident or other signal warrants be met. Also, the plan's intent is to provide direction to Buffalo Grove, Lincolnshire, and private developers regarding acceptable local circulation and access schemes.

The recommended median openings at Prairie Lane, Apple Hill Lane, Hotz Road, Schelter Road, and a future access drive east of Illinois 21/U.S. 45 should function safely as unsignalized intersections. Access east of the Des Plaines River will be provided to all land uses by use of the flush median. All of the median openings provide protected left-turn movements, should function safely as unsignalized intersections, and should improve the safety of Illinois 22.

The existing accident rates of 4.80 accidents per MVM west of the Wisconsin Central Railroad, 6.55 accidents per MVM between Elm Road/Oxford Drive and Riverwoods Road, and 7.20 accidents per MVM between Riverwoods Road and I-94 are high for a roadway of this type. However, the Riverwoods Road intersection has been improved recently, and its operation and safety have improved. The addition of a raised or flush median and intersection channelization also should improve traffic safety.

The addition of a raised median and/or turn lanes should improve safety along this segment of Illinois 22. The raised median allows left turns only at selected locations, thereby reducing the number of vehicular conflict points and, consequently, the number of opportunities for the most severe accident types. The addition of turn lanes at intersections or provision of a flush median also reduce the potential for accidents by removing the turning vehicles from through traffic lanes. Turn lanes at intersections decrease the amount of accelerating and braking, with a consequent improvement in air quality.

Another recommendation in the plan of Segment IV includes the relocation of the Prairie Road intersection (east of the railroad tracks) to the east if the land uses change in that area. This relocation will improve the operation of the Prairie Road and Main Street/Prairie Road intersections in conjunction with the Wisconsin Central at-grade railroad crossing. The relocation will be even more relevant when the proposed commuter service begins on these tracks.

To verify the reasonableness of the recommended improvements, a planning-level intersection capacity analysis was performed. Table 22 shows the results of that analysis for all future signalized intersections along Illinois 22. The analysis utilizes CATS year 2010 SRA forecast traffic volumes as a general reference. As noted in the table, assumptions for minor crossroad volumes were made. Other capacity analysis assumptions are detailed in Appendix A.

The capacity analysis indicates that the recommended plan should produce acceptable v/c ratios for Segment IV, which would result in reasonable levels of service during peak periods. However, the analysis of the Riverwoods Road intersection shows an estimated v/c of 1.35 primarily because of the high crossing traffic volumes projected for Riverwoods Road. The Elm Road/Oxford Drive and Berkshire Lane intersections (v/c ratios of 1.02 and 0.96) generally will operate at capacity. All the other existing or proposed signalized intersections are expected to operate adequately.

Table 22
Evaluation of Signalized Intersection Operations Along Segment IV (Willow Parkway to I-94) of Illinois 22

Intersection of Illinois 22 and:	Lane Arrangements[c]		Year 2010 ADT (vpd)[d]		v/c for Intersection[e]
	SRA	Crossroad	SRA	Crossroad	
Main Street/Prairie Road[a]	L-TT-R	L-T-TR	33,000	12,000	0.86
Prairie Road[a]	L-TT	L-R	33,000	12,000	0.81
East Drive (High School)[a]	L-TT-R	L-TR	29,000	5,000	0.65
Old Half Day Road/Barclay Boulevard[a]	L-TT-R	L-TR	29,000	12,000	0.89
Illinois 21/U.S. 45*[b]	LL-TTT-R	LL-TTT-R	34,000	39,000	0.73
Old Half Day Road[a]	L-TT	L-R	34,000	12,000	0.83
Elm Road/Oxford Drive[a]	L-TT-R	LTR	34,000	12,000	1.02
Riverwoods Road	L-TT-R	L-TR	34,000	23,000	1.35
Berkshire Lane[a]	L-TT-R	L-TR	33,000	12,000	0.96
Hewitt Drive/Westminster Way[a]	LL-TT-R	LL-TR	33,000	5,000	0.61
I-94 Eastbound Ramps[a]	LL-TT	LL-RR	33,000	20,000 (one way)	0.88

Note: *Denotes SRA corridor.
[a]Assumed for unavailable volumes: 20,000 vpd for major arterials, 12,000 vpd for minor arterials, and 5,000 vpd for local roadways.
[b]Assumed 40-percent increase over existing Illinois 21/U.S. 45 volumes.
[c]L = Left-turn lane; T=through lane; R=right-turn lane; and TR=through and right-turn lane.
[d]ADT = Average Daily Traffic.
[e]v/c = Volume to Capacity Ratio.

Public Transportation

There is potential for new commuter rail service in this segment of Illinois 22. The possibility of new commuter service on the Wisconsin Central Railroad currently is being evaluated by Metra. This is a priority project and, if feasible, may be implemented in the near future. A station has been proposed by Metra just north of Illinois 22 and immediately west of the tracks. The lane arrangements shown at the Main Street/Prairie Road and Illinois 22 intersection south of the train station location were planned to accommodate the future train station traffic. Initially, partial commuter service would provide three rush hour trains in each direction Monday through Friday. Full service would be provided when commuter use warrants. Because surrounding land uses and crossroads in this area make depressing Illinois 22 difficult, the Wisconsin Central Railroad would cross Illinois 22 at grade. Regardless of location, the train station should be implemented to enable continuous operation of Illinois 22 during passenger loading and unloading.

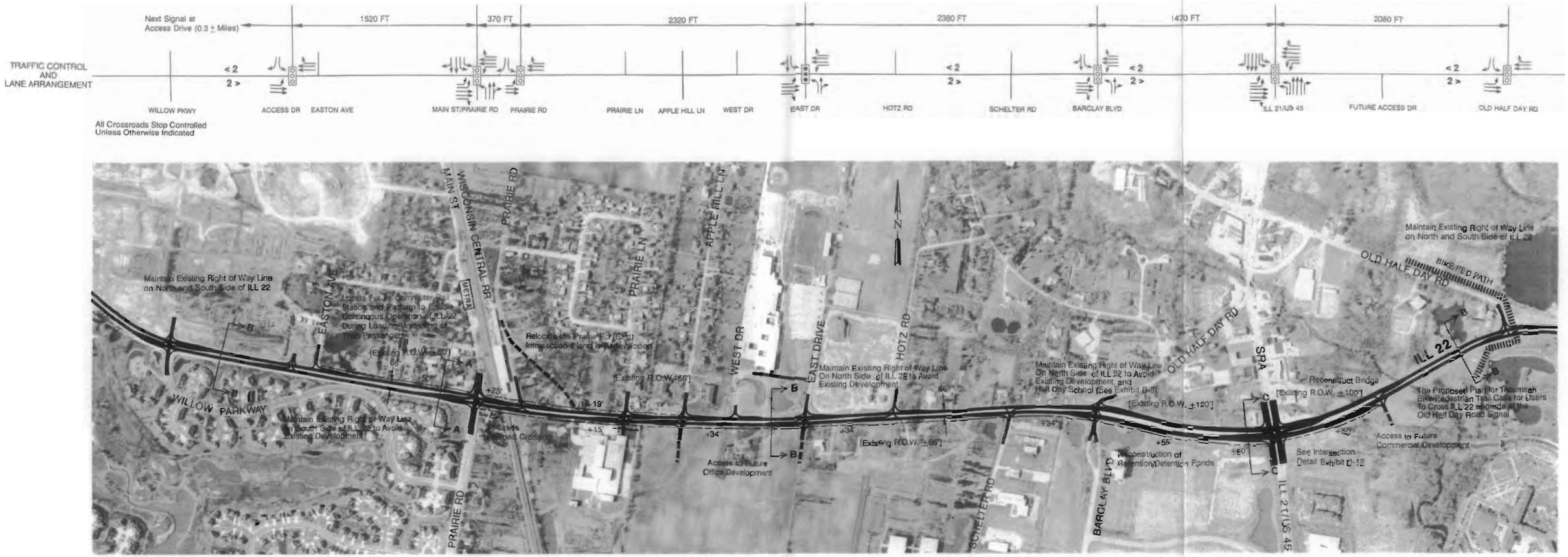
No new bus routes have been proposed on Illinois 22 for this segment. However, a Pace bus route has been proposed to cross Illinois 22 at Main Street/Prairie Road. This route would operate between Mundelein and the Des Plaines Metra Station. Service on this route would precede the proposed Metra commuter rail service on the Wisconsin Central Railroad discussed above. As population and development increase, more bus routes also may be warranted. Future bus turnout areas require 5 to 10 feet of additional right-of-way for a total of 125 to 130 feet. Bus turnouts should not be constructed within the areas with 90 or 100 feet of right-of-way unless more right-of-way is acquired (25 to 40 feet). A bus turnout detail within 125 feet of right-of-way is shown in Appendix A. Consideration also should be given to bus waiting shelters and paved sidewalks for pedestrians. Appropriate standards for locating and marking bus stops should be followed. In addition, transportation demand management options to reduce single-occupancy vehicles during peak travel periods should be investigated for the office centers near I-94.

Construction and Right-of-Way Costs

The consultant's opinion of the total cost of the recommended plan for Segment IV is $22.7 million in 1991 dollars (see Table 23). This total includes construction costs, acquisition of right-of-way, and construction of structures. (In Segment IV, the estimate includes the reconstruction costs of the Indian Creek, Des Plaines River, North Branch Chicago River-West Fork, and I-94 bridges.) The roadway reconstruction cost is estimated to be $14 million, which includes improving Illinois 22 from a two-lane roadway to a four-lane roadway with a raised or flush median and closed drainage. Reconstruction of the four bridges in this section is estimated at $2.4 million. Other construction costs include intersections and the detention of drainage. The right-of-way acquisition cost is based on the estimated cost of the various types of land uses that would need to be acquired. It is estimated that 11.6 acres of right-of-way will need to be acquired at a cost of $4.2 million.

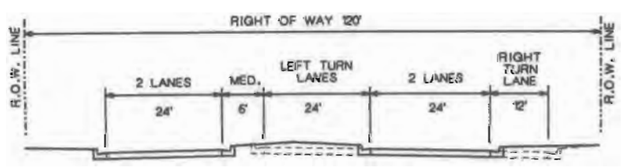
Table 23
Opinions of Construction and Right-of-Way Cost for SRA Improvements Along Segment IV (Willow Parkway to I-94) of Illinois 22 (1991 Dollars)

Roadway Reconstruction	$14,000,000
Intersections/Interchanges (East Drive at Adlai Stevenson High School, Illinois 21/U.S. 45, and Berkshire Lane)	1,200,000
Structures and Retaining Walls (Indian Creek, Des Plaines River, North Branch Chicago River–West Fork, and I-94)	2,400,000
Other (Drainage detention)	900,000
Subtotal	18,500,000
Right-of-Way	4,200,000
TOTAL	**$22,700,000**

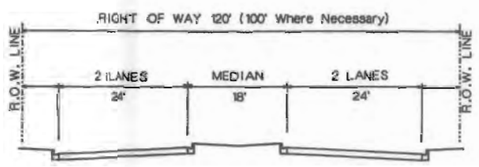


LEGEND

- EXISTING SIGNAL
- POTENTIAL SIGNAL
- SIGNAL TO BE REMOVED
- PROPOSED LANE ARRANGEMENT
- < 3 NUMBER OF LANES
- FUTURE RIGHT OF WAY LINE
- B BUS STOP
- METRA PROPOSED TRAIN STATION

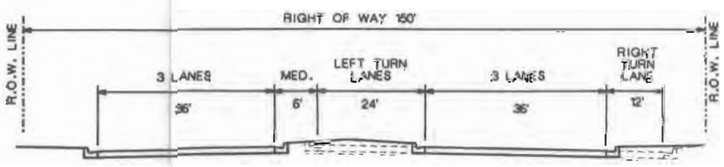


ROADWAY SECTION A–A
MAIN ST/PRAIRIE RD WEST INTERSECTION APPROACH



ROADWAY SECTION B–B
WILLOW PARKWAY TO OLD HALF DAY RD (EAST)

Maintain Existing Right of Way Line on North Side of ILL 22



ROADWAY SECTION C–C
ILL 21/US 45 INTERSECTION APPROACHES

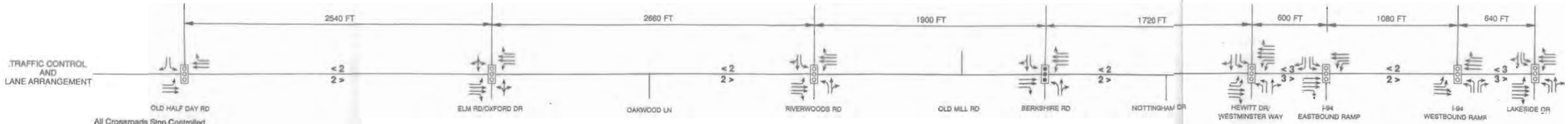
ILL 22 – PROPOSED PLAN

SRA Strategic Regional Arterial Planning Study EXHIBIT C-8

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

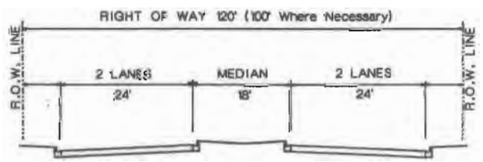
ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale 0 200 400 600

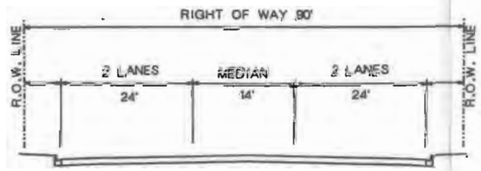


LEGEND

- EXISTING SIGNAL
- POTENTIAL SIGNAL
- SIGNAL TO BE REMOVED
- PROPOSED LANE ARRANGEMENT
- < 3 NUMBER OF LANES
- FUTURE RIGHT OF WAY LINE
- B BUS STOP



ROADWAY SECTION A—A
OLD HALF DAY RD (EAST) TO WEST OF THE DES PLAINES RIVER



ROADWAY SECTION B—B
WEST OF THE DES PLAINES RIVER TO I-94

ILL 22 – PROPOSED PLAN

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA Strategic Regional Arterial Planning Study

EXHIBIT C-9

Scale: 0 200 400 feet

TAPER IN ACCORDANCE WITH
IDOT STANDARDS AND PREVIOUS
ILL 21 / U.S. 45 SRA STUDY

ILL 21 / U.S. 45

30 FT

114 FT

N

TAPER TO 18' MEDIAN AND 4 BASIC
THROUGH LANES (TWO IN EACH DIRECTION)
IN ACCORDANCE WITH IDOT STANDARDS

90 FT

ILL 22

114 FT

30 FT

TAPER TO 18' MEDIAN AND 4 BASIC
THROUGH LANES (TWO IN EACH DIRECTION)
IN ACCORDANCE WITH IDOT STANDARDS

114 FT

ILL 22

90 FT

30 FT

GENERAL NOTES

CHANNELIZATION DETAILS TO REFLECT IDOT DESIGN STANDARDS AND CRITERIA AT TIME OF FINAL PLAN PREPARATION.

LENGTHS OF LEFT AND RIGHT TURN LANES TO BE DETERMINED DURING DETAILED TRAFFIC STUDIES IN PHASE I PLANNING.

ALL DIMENSIONS ARE EDGE OF PAVEMENT TO EDGE OF PAVEMENT.

RIGHT OF WAY TO BE APPROXIMATELY 15' OUTSIDE FUTURE EDGES OF PAVEMENT. FINAL RIGHT-OF-WAY REQUIREMENTS TO BE DETERMINED IN PHASE I PLANNING.

FINAL INTERSECTION APPROACH AND DEPARTURE GEOMETRY TO REFLECT LOCATIONS AND CHANNELIZATION REQUIREMENTS OF ADJACENT MINOR INTERSECTIONS.

114 FT

900± FT

ACCESS TO FUTURE
COMMERICAL DEVELOPMENT
(FULL ACCESS,
SEE EXHIBIT C-8)

ILL 21 / U.S. 45

30 FT

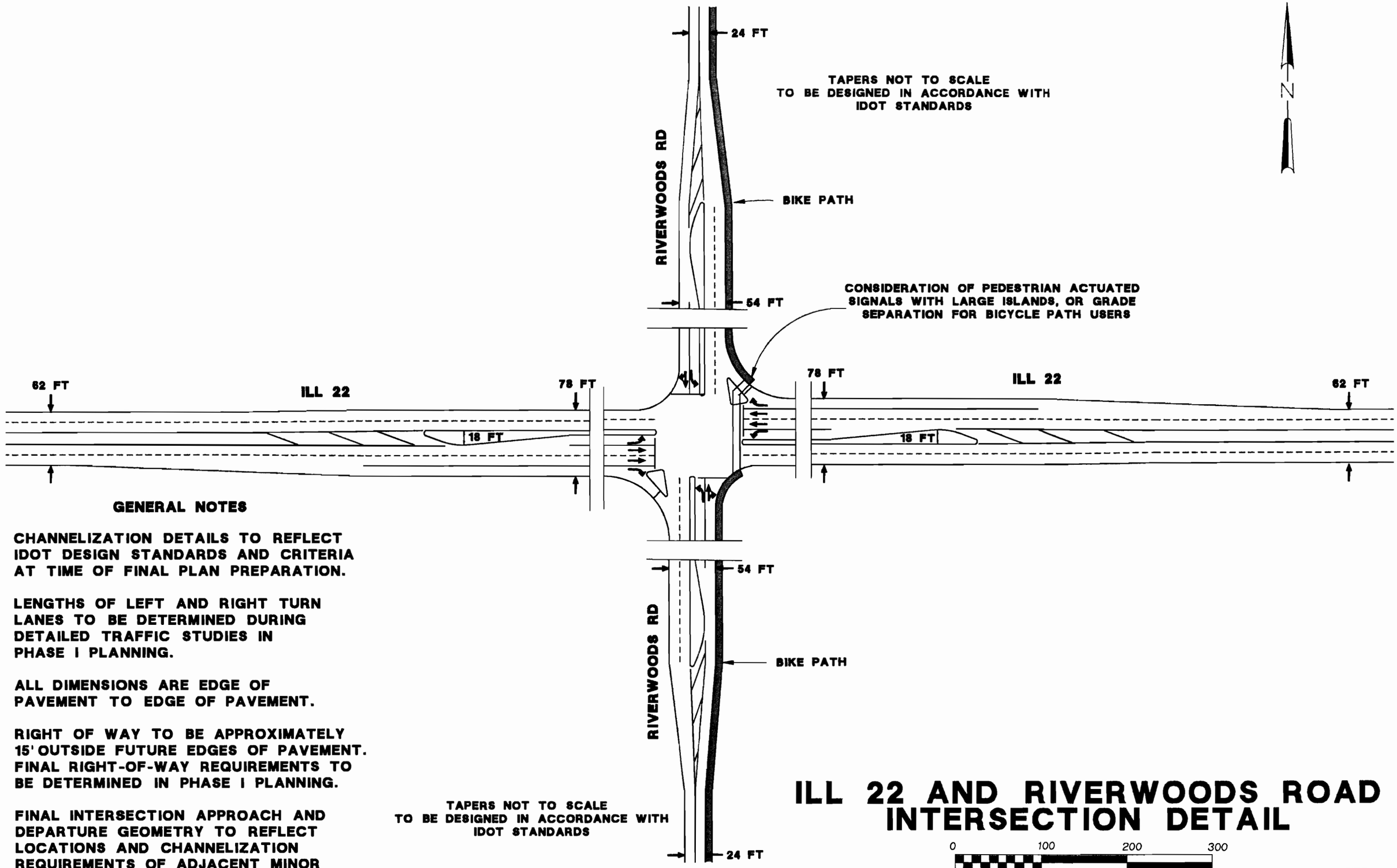
TAPER IN ACCORDANCE WITH
IDOT STANDARDS AND PREVIOUS
ILL 21 / U.S. 45 SRA STUDY

ILL 22 AND ILL 21 / U.S. 45 INTERSECTION DETAIL

0 100 200 300

SCALE 1"=100'

EXHIBIT D-12



GENERAL NOTES

CHANNELIZATION DETAILS TO REFLECT IDOT DESIGN STANDARDS AND CRITERIA AT TIME OF FINAL PLAN PREPARATION.

LENGTHS OF LEFT AND RIGHT TURN LANES TO BE DETERMINED DURING DETAILED TRAFFIC STUDIES IN PHASE I PLANNING.

ALL DIMENSIONS ARE EDGE OF PAVEMENT TO EDGE OF PAVEMENT.

RIGHT OF WAY TO BE APPROXIMATELY 15' OUTSIDE FUTURE EDGES OF PAVEMENT. FINAL RIGHT-OF-WAY REQUIREMENTS TO BE DETERMINED IN PHASE I PLANNING.

FINAL INTERSECTION APPROACH AND DEPARTURE GEOMETRY TO REFLECT LOCATIONS AND CHANNELIZATION REQUIREMENTS OF ADJACENT MINOR INTERSECTIONS.

ILL 22 AND RIVERWOODS ROAD INTERSECTION DETAIL

0 100 200 300

SCALE 1"=100'

EXHIBIT D-13

GENERAL NOTES

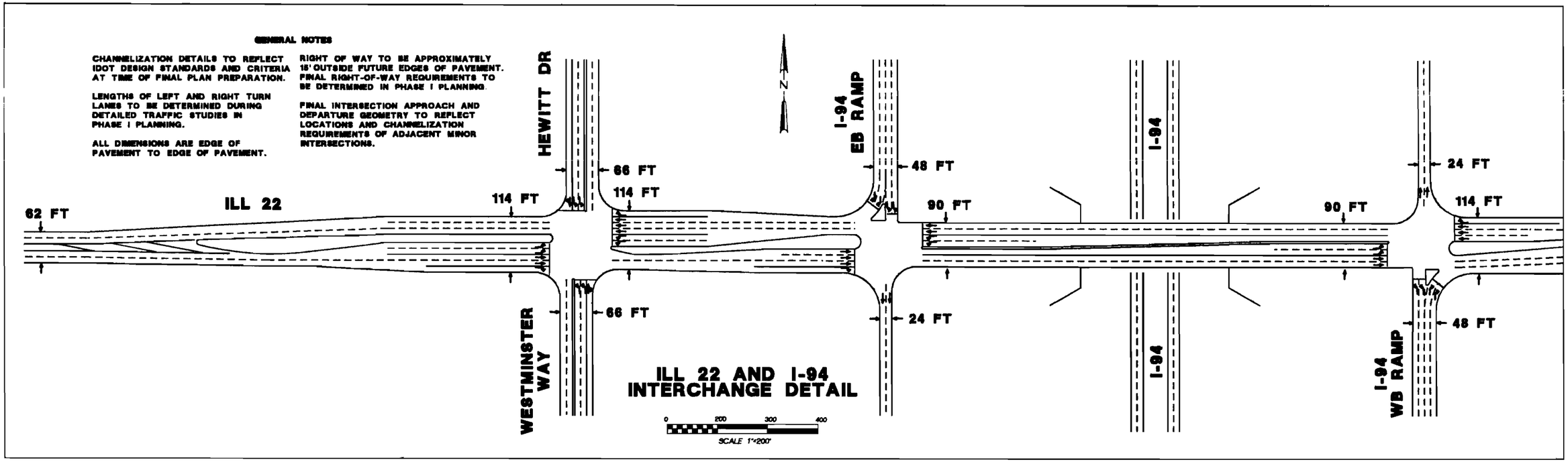
CHANNELIZATION DETAILS TO REFLECT IDOT DESIGN STANDARDS AND CRITERIA AT TIME OF FINAL PLAN PREPARATION.

LENGTHS OF LEFT AND RIGHT TURN LANES TO BE DETERMINED DURING DETAILED TRAFFIC STUDIES IN PHASE I PLANNING.

ALL DIMENSIONS ARE EDGE OF PAVEMENT TO EDGE OF PAVEMENT.

RIGHT OF WAY TO BE APPROXIMATELY 15' OUTSIDE FUTURE EDGES OF PAVEMENT. FINAL RIGHT-OF-WAY REQUIREMENTS TO BE DETERMINED IN PHASE I PLANNING.

FINAL INTERSECTION APPROACH AND DEPARTURE GEOMETRY TO REFLECT LOCATIONS AND CHANNELIZATION REQUIREMENTS OF ADJACENT MINOR INTERSECTIONS.



ILL 22 AND I-94 INTERCHANGE DETAIL

0 200 300 400

SCALE 1"=200'

GENERAL NOTES

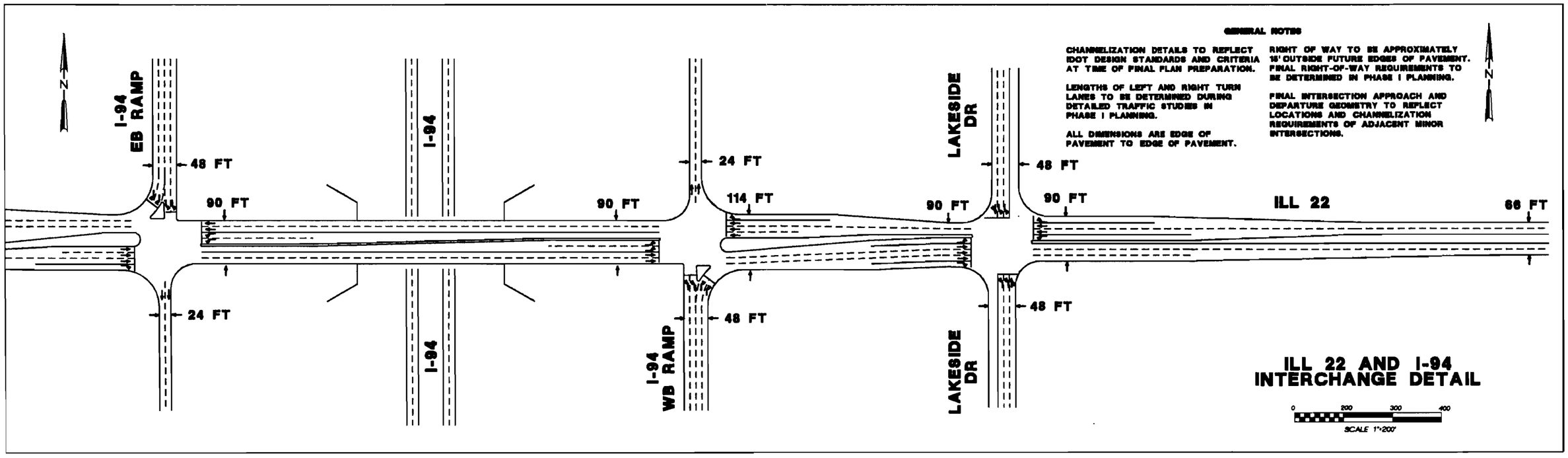
CHANNELIZATION DETAILS TO REFLECT IDOT DESIGN STANDARDS AND CRITERIA AT TIME OF FINAL PLAN PREPARATION.

LENGTHS OF LEFT AND RIGHT TURN LANES TO BE DETERMINED DURING DETAILED TRAFFIC STUDIES IN PHASE I PLANNING.

ALL DIMENSIONS ARE EDGE OF PAVEMENT TO EDGE OF PAVEMENT.

RIGHT OF WAY TO BE APPROXIMATELY 15' OUTSIDE FUTURE EDGES OF PAVEMENT. FINAL RIGHT-OF-WAY REQUIREMENTS TO BE DETERMINED IN PHASE I PLANNING.

FINAL INTERSECTION APPROACH AND DEPARTURE GEOMETRY TO REFLECT LOCATIONS AND CHANNELIZATION REQUIREMENTS OF ADJACENT MINOR INTERSECTIONS.



ILL 22 AND I-94 INTERCHANGE DETAIL

0 200 300 400

SCALE 1"=200'

EXHIBIT D-14

Segment V—"Highland Park"
(I-94 to U.S. 41)

Segment V of the Illinois 22 SRA is approximately 3 miles long, extending from I-94 to U.S. 41 at the east end of the corridor. Segment V includes the village of Bannockburn and the city of Highland Park (see Exhibits C-10 and C-11).

Cross Section and Geometric Characteristics

The recommended cross section within this segment include four basic through lanes (two in each travel direction), an 18-foot raised or a 14-foot flush median, and closed drainage (i.e., curb and gutter) to be constructed generally within 120 feet of right-of-way (except for a flush median section east of Illinois 43, where the recommended right-of-way is reduced to 90 feet). The 120-foot right-of-way dimension should provide a sufficient border area for grading, for making profile ties to crossroads, for placing closed drainage structures, and for providing sidewalks. The 90-foot right-of-way dimension east of Illinois 43 will be somewhat more constrained, but should be sufficient with the use of easements, etc. during construction. The roadway cross section includes 12-foot lanes and a full-width raised or flush median. The raised median itself offers the possibility of special landscaping treatments to offset the aesthetic impacts of a wider roadway. A flush median has been recommended east of Illinois 43 to reduce the width of the road, to avoid greater conflicts with existing buildings, and to serve the numerous access points.

There are also spot locations where greater right-of-way will be required—the approaches to the I-94 interchange area (Hewitt Drive/Westminster Way to Lakeside Drive) and the at-grade intersections at Illinois 43. At the Illinois 43 location, development of a 30-foot median is recommended to allow provision of double left-turn lanes off of Illinois 22. At the I-94 interchange area, an even greater width is recommended to develop an additional through lane in each direction. See Exhibits C-10, C-11, D-14 (previous page), and D-16 for details of the proposed intersections and interchange (I-94) plans. Exhibit D-15 and D-17 are intersection details for Telegraph Road and Ridge Road/Tennyson Lane, respectively. Additional right-of-way also may be necessary in the U.S. 41 area. The recommended intersection lane arrangement or possible interchange form at this location will be

chosen within the concurrent U.S. 41 SRA study. Exhibit D-18 presents a possible long-range interchange form for U.S. 41.

Developing the recommended cross section requires tailoring the alignment to existing conditions and constraints. In general, the recommended Illinois 22 roadway plan in Segment V follows the existing horizontal alignment, and attempts to avoid existing buildings and other sensitive areas. In most cases, the roadway is widened about the existing centerline, resulting in an even acquisition of right-of-way on both the north and south sides of the roadway. For example, west of Illinois 43 the existing right-of-way is 60 feet. As demonstrated in Exhibit C-10, widening about the centerline would require acquisition of 30 feet on each side of the roadway to develop the desired 120-foot right-of-way.

There are no exceptions to the symmetrical widening scheme within this segment. Right-of-way is taken equally on both sides of the roadway between I-94 and Illinois 43; east of Illinois 43, the existing right-of-way (or right-of-way to be acquired for current IDOT projects) is adequate for the cross section recommended. Thus, the 90-foot right-of-way recommendation avoids conflicts with existing structures and sensitive areas.

Drainage requirements may necessitate raising the profile of Illinois 22 in Segment V. Should this be the case, additional right-of-way may be necessary in the 90-foot right-of-way area if a retaining wall is not used. A final determination of profile and alignment would be made in subsequent Phase I studies.

Stormwater detention requirements along Illinois 22 are for approximately 3 to 5 acre-feet of storage per mile. The 18-foot median recommended for a portion of this segment, if landscaped, would reduce this requirement by 1 acre-foot per mile. The flush median area recommended east of Illinois 43 would have no such reduction. For this segment of Illinois 22, detention requirements of about 13.9 acre-feet would be required. Suitable right-of-way to provide such detention should be identified during Phase I studies.

In addition this segment of Illinois 22 effects at least one floodplain (see Exhibit B-11). Any filling of ditches in the proximity of a floodplain requires

120 percent compensatory storage to meet the Stormwater Commission of Lake County requirements. Retention of the first ½ inch of runoff for 24 hours, to avoid direct discharge into streams, lakes, and wetlands, also requires 2 cubic feet of retention per foot of improvement (i.e., a filter bed).

Traffic Control, Operations, and Safety

Although much of the land use and local street system in Segment V are well established, there are some areas between I-94 and Illinois 43 that are still evolving. It is essential that the SRA corridor plan for this segment establish a long-range framework that reinforces the operational and safety objectives of the SRA system. The keys to establishing this framework are the locations of future traffic signals and the maintenance of median access control.

The diagrams along the top of each SRA plan exhibit indicate locations of existing and proposed signalized intersections, the lane arrangements at these locations, and spacing to adjacent signals. The plan itself indicates the locations of median access breaks. Where no break is shown, it is the intent of the plan that vehicles entering or exiting driveways or other existing and future access points be restricted to right-in and right-out movements only. Left turns are allowed along the entire length of the flush median area.

The traffic control plan for Segment V calls for retention of existing signals at the I-94 ramps, and at Lakeside Drive, Telegraph Road, Illinois 43, Ridge Road/Tennyson Lane, and U.S. 41 (see Exhibits C-10 and C-11). If an interchange is recommended by the concurrent U.S. 41 study, its ramp terminals would be signalized (see Exhibit D-18). Upgrading the existing signalization, accompanied by increased capacity, would serve long-range needs. No new signalized intersections are proposed within this segment.

The traffic control and geometric plan for Segment V should result in significant improvements to safety as well as traffic operations. Signal locations meet SRA spacing guidelines of ¼ mile or greater in this section of Illinois 22. The intent of the plan is to provide median openings at locations where they can be implemented efficiently. Also, the plan's intent is to provide direction to Bannockburn, Highland

Park, and private developers regarding acceptable local circulation and access to Illinois 22.

Median openings are shown at the Trinity College access drive, and at Bridle Lane, Dunsinane Lane, and Highmoor Lane. The median opening at the College is intended to serve the undeveloped land and the existing church north of Illinois 22. The Dunsinane Lane median opening also is intended to provide access to the undeveloped land north of Illinois 22. All of these median openings should function safely as unsignalized intersections. A flush median provides access to all land uses east of Illinois 43.

The existing accident rates of 10.39 accidents per MVM between I-94 and Illinois 43 and 5.81 accidents per MVM between Illinois 43 and U.S. 41 are very high and high, respectively, for a roadway of this type. Sixty-five accidents occurred at Illinois 43 between January of 1987 and October of 1989 with one pedestrian fatality. The implementation of the recommended plan should improve traffic safety in these areas.

The addition of a raised median and/or turn lanes also should improve safety along this segment of Illinois 22. The raised median allows left turns only at selected locations, thereby reducing the number of vehicular conflict points and, consequently, the number of opportunities for the most severe accident types. The addition of turn lanes at intersections or a flush median also reduces the potential for accidents by removing turning vehicles from through traffic lanes. Turn lanes also reduce the amount of accelerating and braking at intersections, with a consequent improvement in air quality.

To verify the reasonableness of the recommended improvements, a planning-level intersection capacity analysis was performed. Table 24 shows the results of that analysis for all future signalized intersections along Illinois 22. The analysis utilizes CATS year 2010 SRA forecast traffic volumes as a general reference. As noted in the table, assumptions for minor crossroad volumes were made. Other capacity analysis assumptions are detailed in Appendix A.

The capacity analysis indicates that the recommended plan should produce acceptable v/c ratios for the entire segment, which would result in reasonable levels of service

Table 24
Evaluation of Signalized Intersection Operations Along Segment V (I-94 to US 41) of Illinois 22

Intersection of Illinois 22 and:	Lane Arrangements[b]		Year 2010 ADT (vpd)[c]		v/c for Intersection[d]
	SRA	Crossroad	SRA	Crossroad	
I-94 Westbound Ramps[a]	LL-TT	LL-RR	33,000	20,000 (one way)	0.88
Lakeside Drive[a]	L-TT-R	LL-TR	33,000	5,000	0.68
Telegraph Road[a]	L-TT-R	L-TR	30,000	12,000	0.91
Illinois 43	LL-TT-R	LL-TT-R	31,000	22,000	0.71
Tennyson Lane/Ridge Road[a]	L-TT-R	L-TR	30,000	12,000	0.91

[a]Assumed for unavailable volumes: 20,000 vpd for major arterials, 12,000 vpd for minor arterials, and 5,000 vpd for local roadways.
[b]L= Left-turn lane, T = through lane, R=right-turn lane, TR=through and right-turn lane.
[c]ADT = Average Daily Traffic.
[d]v/c = Volume to Capacity Ratio.

during peak periods. Although a somewhat high v/c ratio occurs at the Telegraph Road and Tennyson Lane/Ridge Road intersections, these intersections would operate at reasonable levels of service and are not considered a concern with the lane arrangements recommended. An intersection analysis of either a U.S. 41 intersection or possible interchange terminals will be completed in the current U.S. 41 SRA study.

Public Transportation

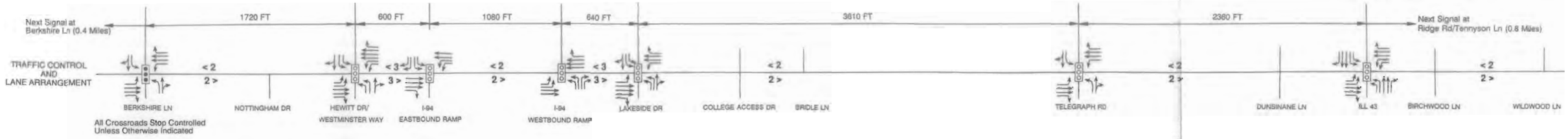
There are no proposed public rail facilities or bus route additions for this section of Illinois 22, although improved signing to the Metra Milwaukee District North Line Lake Forest station is needed. In addition, as population and development increase, more bus routes may be warranted. Future bus turnout areas require 5 to 10 feet of additional right-of-way for a total of 125 to 130 feet. Bus turnouts cannot be constructed in the section east of Illinois 43 (90 feet of right-of-way) unless more right-of-way is acquired (35 to 40 feet). A bus turnout detail within 125 feet of right-of-way is shown in Appendix A. Consideration should be given to bus waiting shelters and paved sidewalks for pedestrians, and the appropriate standards for locating and marking bus stops should be followed.

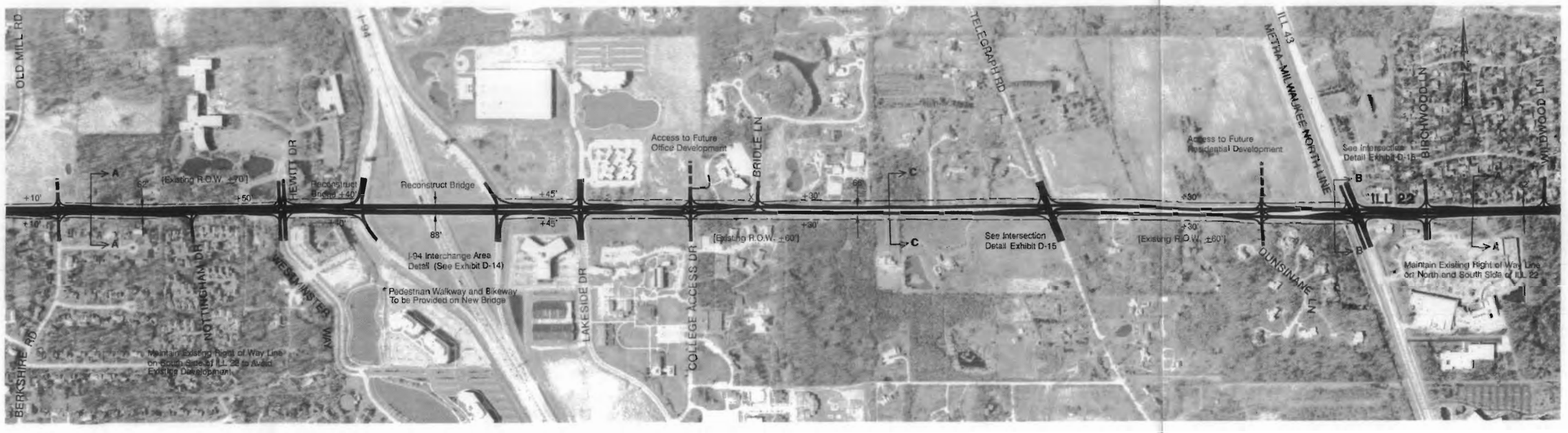
Construction and Right-of-Way Costs

The consultant's opinion of the total cost of the recommended plan for Segment V is $14.4 million in 1991 dollars (see Table 25). This total includes construction costs, acquisition of right-of-way, and reconstruction of structures. (The structure carrying the C&NW Railroad over Illinois 22 just west of U.S. 41 will not be reconstructed if at all possible, however, the bridge over the North Branch Chicago River will be reconstructed.) The roadway reconstruction cost is estimated to be $10.7 million, which includes improving Illinois 22 from a two-lane roadway to a four-lane roadway with a raised or flush median and closed drainage. Other construction costs include intersections and the detention of drainage. Reconstruction of the bridge over the North Branch Chicago River was estimated at $500,000. The right-of-way acquisition cost is based on the estimated cost of the various types of land uses that would need to be acquired. It is estimated that 9.7 acres of right-of-way will need to be acquired at a cost of $1.5 million.

Table 25
Opinions of Construction and Right-of-Way Cost for SRA Improvements Along Segment V (I-94 to U.S. 41) of Illinois 22 (1991 Dollars)

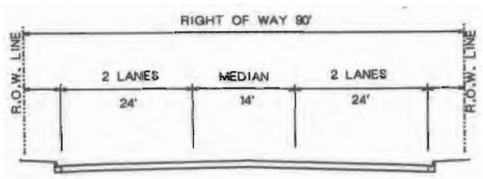
Roadway Reconstruction	$10,700,000
Intersections/Interchanges (U.S. 41)	1,000,000
Structures and Retaining Walls (North Branch Chicago River)	500,000
Other (Drainage detention)	700,000
Subtotal	12,900,000
Right-of-Way	1,500,000
TOTAL	**$14,400,000**



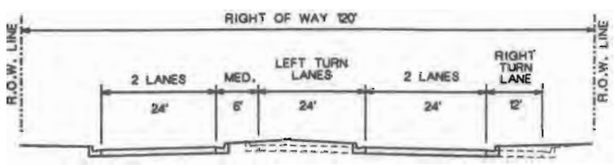


LEGEND

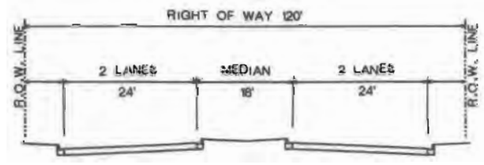
- EXISTING SIGNAL
- POTENTIAL SIGNAL
- SIGNAL TO BE REMOVED
- PROPOSED LANE ARRANGEMENT
- < 3 NUMBER OF LANES
- FUTURE RIGHT OF WAY LINE
- B BUS STOP



ROADWAY SECTION A-A
BERKSHIRE RD TO HEWITT DR/WESTMINSTER WAY
ILL 43 TO WILDWOOD LN



ROADWAY SECTION B–B
ILL 43 INTERSECTION APPROACHES



ROADWAY SECTION C–C
I-94 TO ILL 43

ILL 22 – PROPOSED PLAN

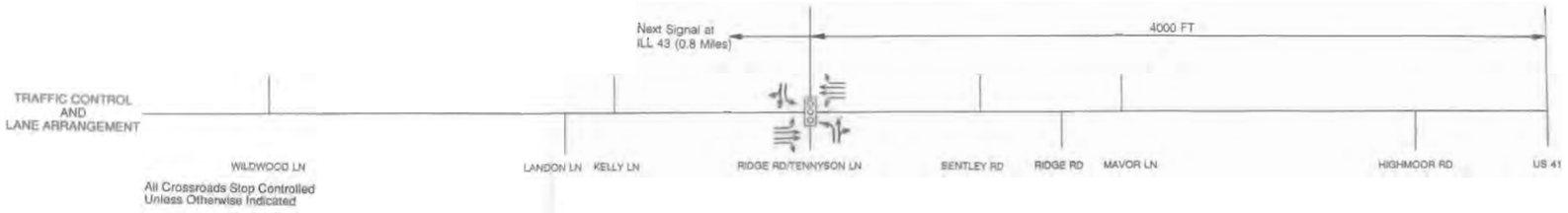
Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

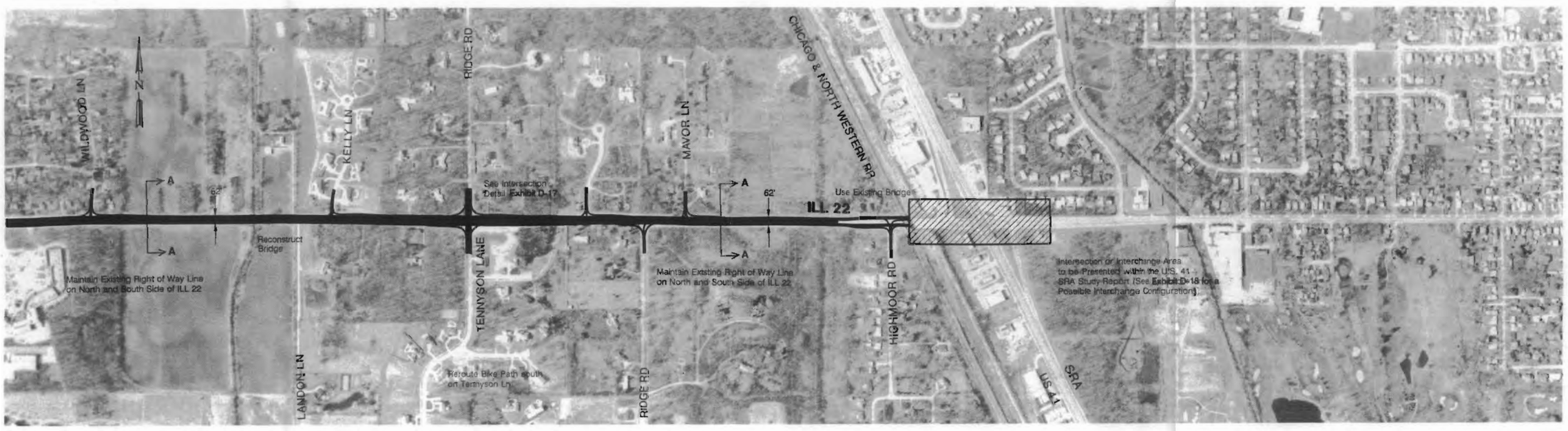
ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA Strategic Regional Arterial Planning Study

EXHIBIT C-10

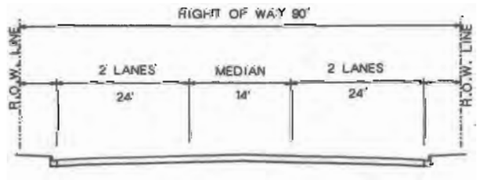
Scale 0 200 400 feet





LEGEND

- EXISTING SIGNAL
- POTENTIAL SIGNAL
- SIGNAL TO BE REMOVED
- PROPOSED LANE ARRANGEMENT
- < 3 NUMBER OF LANES
- FUTURE RIGHT OF WAY LINE
- B BUS STOP



ROADWAY SECTION A–A
WILDWOOD LN TO US 41

ILL 22 – PROPOSED PLAN

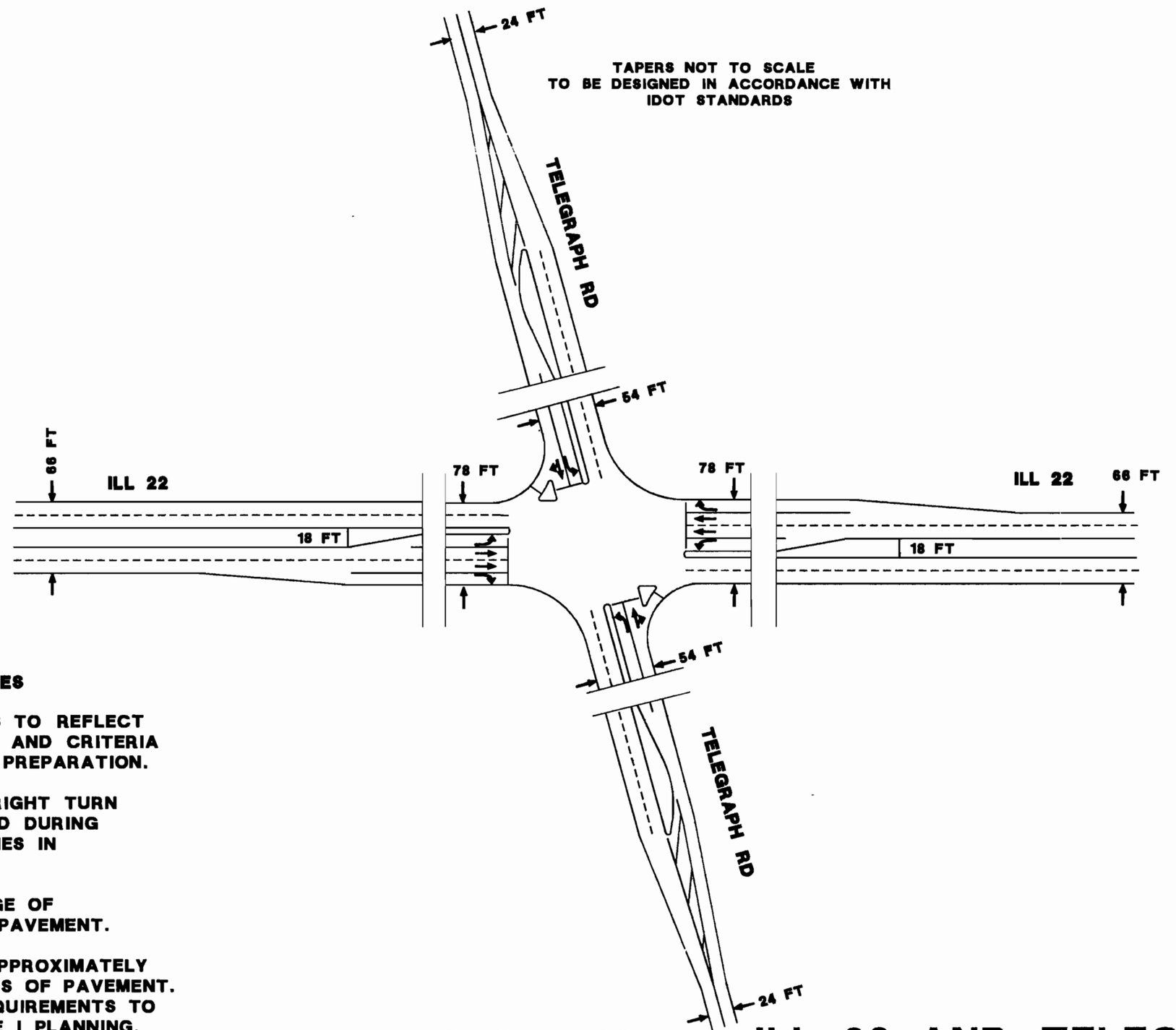
Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA Strategic Regional Arterial Planning Study

EXHIBIT C-11

Scale: 0 200 400' feet



N

GENERAL NOTES

CHANNELIZATION DETAILS TO REFLECT IDOT DESIGN STANDARDS AND CRITERIA AT TIME OF FINAL PLAN PREPARATION.

LENGTHS OF LEFT AND RIGHT TURN LANES TO BE DETERMINED DURING DETAILED TRAFFIC STUDIES IN PHASE I PLANNING.

ALL DIMENSIONS ARE EDGE OF PAVEMENT TO EDGE OF PAVEMENT.

RIGHT OF WAY TO BE APPROXIMATELY 15' OUTSIDE FUTURE EDGES OF PAVEMENT. FINAL RIGHT-OF-WAY REQUIREMENTS TO BE DETERMINED IN PHASE I PLANNING.

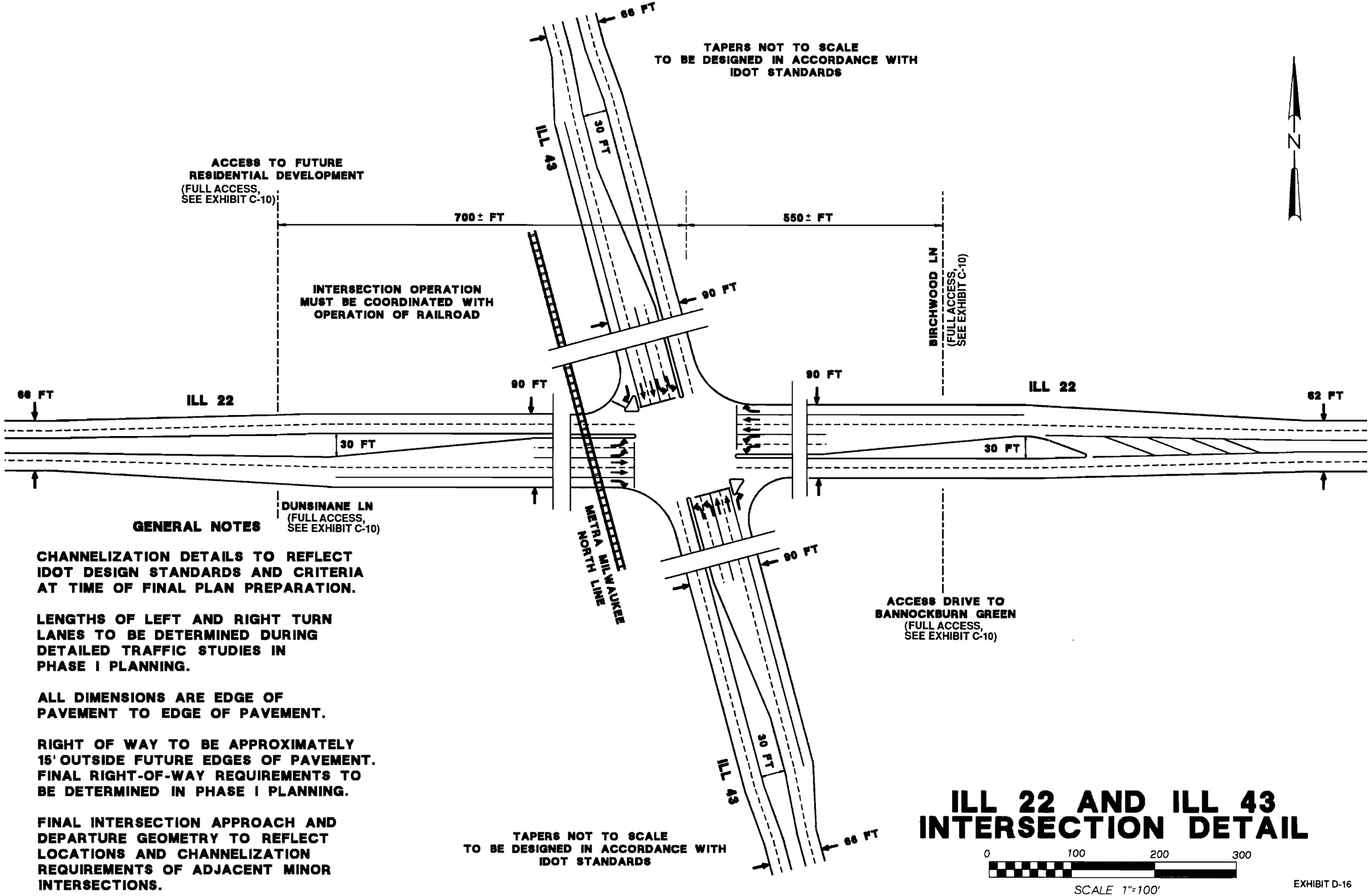
FINAL INTERSECTION APPROACH AND DEPARTURE GEOMETRY TO REFLECT LOCATIONS AND CHANNELIZATION REQUIREMENTS OF ADJACENT MINOR INTERSECTIONS.

ILL 22 AND TELEGRAPH ROAD INTERSECTION DETAIL

0 100 200 300

SCALE 1"=100'

EXHIBIT D-15



GENERAL NOTES

CHANNELIZATION DETAILS TO REFLECT IDOT DESIGN STANDARDS AND CRITERIA AT TIME OF FINAL PLAN PREPARATION.

LENGTHS OF LEFT AND RIGHT TURN LANES TO BE DETERMINED DURING DETAILED TRAFFIC STUDIES IN PHASE I PLANNING.

ALL DIMENSIONS ARE EDGE OF PAVEMENT TO EDGE OF PAVEMENT.

RIGHT OF WAY TO BE APPROXIMATELY 15' OUTSIDE FUTURE EDGES OF PAVEMENT. FINAL RIGHT-OF-WAY REQUIREMENTS TO BE DETERMINED IN PHASE I PLANNING.

FINAL INTERSECTION APPROACH AND DEPARTURE GEOMETRY TO REFLECT LOCATIONS AND CHANNELIZATION REQUIREMENTS OF ADJACENT MINOR INTERSECTIONS.

ILL 22 AND ILL 43 INTERSECTION DETAIL

0 100 200 300

SCALE 1"=100'

EXHIBIT D-16

TAPERS NOT TO SCALE
TO BE DESIGNED IN ACCORDANCE WITH
IDOT STANDARDS

24 FT

RIDGE RD

BIKE PATH

KELLY LN
(FULL ACCESS,
SEE EXHIBIT C-11)

1050± FT

900± FT

BENTLEY RD
(FULL ACCESS,
SEE EXHIBIT C-11)

54 FT

PEDESTRIAN ACTUATED SIGNALS
FOR BICYCLE PATH USERS

64 FT

ILL 22

78 FT

78 FT

ILL 22

64 FT

18 FT

18 FT

54 FT

TENNYSON RD

BIKE PATH

24 FT

TAPERS NOT TO SCALE
TO BE DESIGNED IN ACCORDANCE WITH
IDOT STANDARDS

N

GENERAL NOTES

CHANNELIZATION DETAILS TO REFLECT IDOT DESIGN STANDARDS AND CRITERIA AT TIME OF FINAL PLAN PREPARATION.

LENGTHS OF LEFT AND RIGHT TURN LANES TO BE DETERMINED DURING DETAILED TRAFFIC STUDIES IN PHASE I PLANNING.

ALL DIMENSIONS ARE EDGE OF PAVEMENT TO EDGE OF PAVEMENT.

RIGHT OF WAY TO BE APPROXIMATELY 15' OUTSIDE FUTURE EDGES OF PAVEMENT. FINAL RIGHT-OF-WAY REQUIREMENTS TO BE DETERMINED IN PHASE I PLANNING.

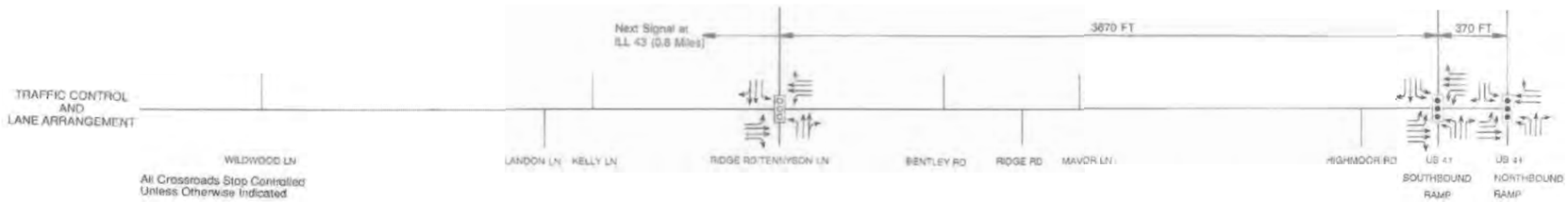
FINAL INTERSECTION APPROACH AND DEPARTURE GEOMETRY TO REFLECT LOCATIONS AND CHANNELIZATION REQUIREMENTS OF ADJACENT MINOR INTERSECTIONS.

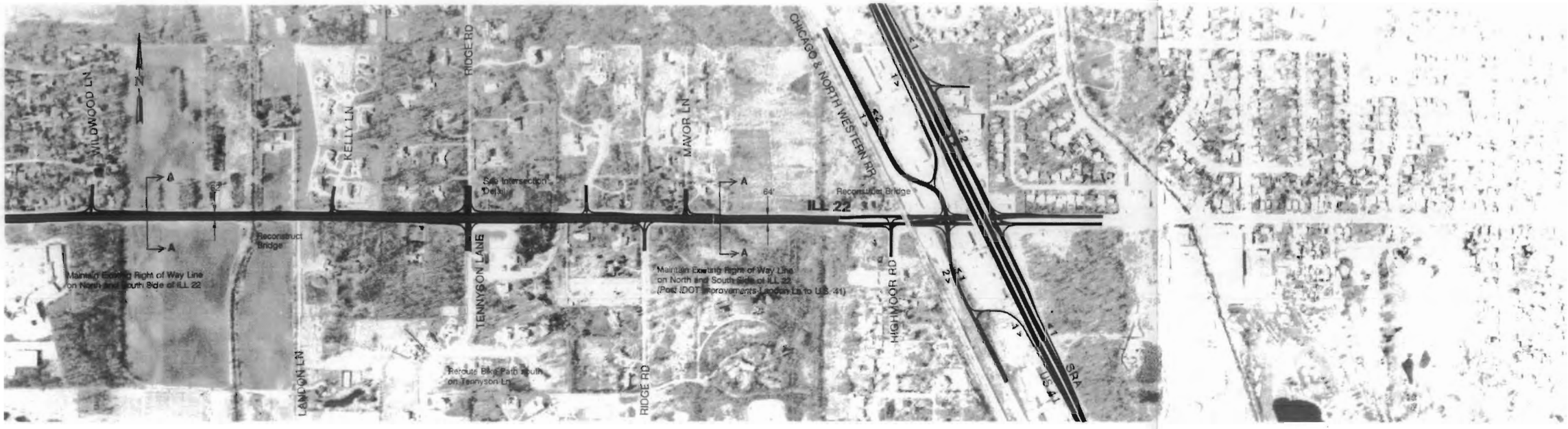
ILL 22 AND RIDGE ROAD/ TENNYSON LANE INTERSECTION DETAIL

0 100 200 300

SCALE 1"=100'

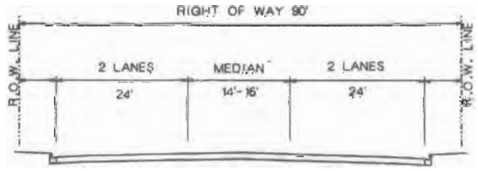
EXHIBIT D-17





LEGEND

- EXISTING SIGNAL
- POTENTIAL SIGNAL
- SIGNAL TO BE REMOVED
- PROPOSED LANE ARRANGEMENT
- < 3 NUMBER OF LANES
- FUTURE RIGHT OF WAY LINE
- B BUS STOP



ROADWAY SECTION A–A
WILDWOOD LN TO US 41
16 FT median planned by IDOT from Tennyson Ln/Ridge Rd to Highmoor Rd.

ILL 22 – PROPOSED PLAN

Prepared by CH2M HILL in association with
METRO Transportation Group and EJM Engineering

ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA Strategic Regional Arterial Planning Study

EXHIBIT D-18

Scale: 0 200 400 feet

Illinois 22 Corridor Summary

This study addresses long-range transportation needs along the Illinois 22 SRA. The following paragraphs summarize the expected operations and capacity of the Illinois 22 arterial under future conditions. The summary also includes an opinion of the costs to implement the plan as recommended. In addition, because of the significant investment required for implementing the recommended plan, the prioritization scheme discussed below was developed.

Operational Analysis of the Illinois 22 Corridor

An evaluation of traffic operations during high demand (peak) periods was performed for the entire corridor. Techniques, procedures, and assumptions consistent with the *1985 Highway Capacity Manual (HCM)*, published as Transportation Research Board Special Report 209, were used. The corridor was evaluated as a suburban, multilane highway for its entire length.

The year 2010 CATS SRA traffic forecast was used to develop theoretical peak period traffic volumes for analysis purposes. Assumptions were made for the general volumes of crossroad traffic and for patterns of turning movements.

Other assumptions for signalization (green time/cycle, cycle lengths, effects of progression) were made consistent with the intersection analyses. These assumptions are documented in Appendix A. All data requirements or assumptions were compatible with the SRA concept and guidelines in the *HCM*.

The quality of operation of Illinois 22 is a function of the character of the arterial (which affects the safe operating speed under free flow conditions), the number and spacing of signalized intersections, and the delay and level of service at those intersections.

Appendix A shows a planning-level operational analysis of each signalized intersection along Illinois 22. Table A-2 in Appendix A summarizes the operational assumptions that were used to generate the arterial analysis for each intersection and arterial segment.

Table 26 summarizes the arterial analysis of the entire Illinois 22 SRA corridor. The year 2010 CATS forecast traffic can be accommodated at level of service D or better for the entire length. (Note that forecast traffic for the Lake Zurich bypass is not available. However, the forecast traffic volumes for the existing Illinois 22 alignment were assumed to be adequate.) In general, the average forecasted travel speeds are in the mid-20 mph range or higher. The exceptions are 18 mph in Lake Zurich and 17 to 21 mph in Lincolnshire.

Relatively reasonable speeds and levels of service are achievable along the entire length of Illinois 22. The two segments with level of service D are within the Lincolnshire area, although the Lake Zurich segment is also very close, with an average speed of only 18 mph. Along Illinois 22, these segments are the most highly travelled and have numerous signalized intersections.

Implementation Costs

A total investment in 1991 dollars of $114.2 million will be necessary to implement the recommended plan for Illinois 22. This opinion of cost, detailed in Table 27, includes approximately $91.7 million in roadway, intersection/interchange, drainage detention, and structural improvements, and $22.5 million in right-of-way acquisition. Because of the significant investment required for implementation, a prioritization scheme was developed. The total cost was divided into short-term, basic, and post-2010 recommendation sections.

Project Prioritization

The $114.2-million implementation cost for Illinois 22 is substantial. The SRA plan will require construction over many years. Table 28 presents a suggested program of priority improvements, categorized by short-term, basic, and post-2010 recommendations.

Short-Term Recommendations

Short-term implementation recommendations represent plan elements or projects that address immediate problems and/or needs, that are generally low cost in nature, or that are intended to reflect specific known plans, activities, etc. that are expected to occur well before the year 2010. Examples of short-term improvements include

Table 26
Summary of Illinois 22 Suburban Arterial Analysis

Segment	Segment Length (miles)	Number of Signalized Intersections	Free Flow Operating Speed (mph)	100% of CATS "2010" Forecast	
				Average Peak Period Speed (mph)	LOS[a]
U.S. 14 to Kelsey Road	1.23	3	40-55	23	C
Kelsey Road to Illinois 59	2.65	4	50	24	C
Illinois 59 to U.S. 12	1.45	3	35-50	23	C
U.S. 12 to Quentin Road	2.81	5	30-40	18	C
Quentin Road to Buffalo Grove Road	4.56	4	50	30	B
Buffalo Grove Road to Riverwoods Road	3.07	9	40-50	17	D
Riverwoods Road to Hewitt Drive/Westminster Way	0.69	2	40	21	D
Hewitt Drive/Westminster Way to Illinois 43	2.26	5	40-45	25	C
Illinois 43 to Illinois 41	1.56	2	40	26	C
Overall Average Arterial Speed (mph)				23	—

[a]LOS = Level of service.

Table 27
Opinions of Construction and Right-of-Way Costs for SRA Improvements Along Illinois 22 (1991 Dollars)

Summary of Total Cost—All Segments

	Short Term[a]	Basic 2010 Plan[a]	Recommended Post-2010[a,b]	Possible Post-2010[a,c]	Total[d]
Roadway Reconstruction	190,000	70,110,000	-0-	300,000	70,300,000
Intersections/Interchanges	500,000	5,600,000	-0-	8,500,000	6,100,000
Structures and Retaining Walls	-0-	6,100,000	1,100,000	-0-	7,200,000
Other	-0-	8,100,000	-0-	-0-	8,100,000
Subtotal	690,000	89,910,000	1,100,000	8,800,000	91,700,000
Right-of-Way	50,000	22,450,000	-0-	74,000	22,500,000
Total	**740,000**	**112,360,000**	**1,100,000**	**8,874,000**	**114,200,000**

[a]See items listed on Table 28.

[b]The recommended post-2010 item is widening the I-94 bridge from five to seven lanes.

[c]Possible post-2010 items include an interchange at U.S. 12, and the relocation of Prairie Road to the east (if the land is redeveloped).

[d]The total column is the sum of the Short Term, Basic 2010 Plan, and Recommended Post-2010 columns.

Table 28
Illinois 22 SRA Implementation Plan

Exhibit No.	'Description of Improvement	Priority of Implementation			Comment
		Short Term	Basic 2010 Plan	Post 2010	
Segment I:					
C-1	Implement recommended cross section		•		
C-2	Implement recommended cross section		•		Kelsey Road to be signalized/channelized in the next 5 years
C-3	Implement recommended cross section		•		
	Signalization/channelization of the Old Barrington Road intersection	•			
Segment II:					
C-4	Implement recommended cross section.		•		
	Possible U.S. 12 interchange			•	
	Signalization/channelization of the Mall Access Drive and Buesching Road intersections	•			
C-5	Implement recommended cross section		•		
	Alignment of South Krueger Road with Kemper Drive and channelization	•			
Segment III					
C-6	Implement recommended cross section		•		Old McHenry Road is currently being signalized/channelized
C-7	Implement recommended cross section		•		
Segment IV					
C-8	Implement recommended cross section		•		
	Relocate Praire Road intersection			•	Only if land is redeveloped
	Signalization/channelization at Adlai Stevenson High School East Drive and Berkshire Lane intersections	•			
	Channelization at Old Half Day Road (east)	•			
C-9	Main Street/Prairie Road intersection reconstruction		•		Contingent upon construction of Lincolnshire Train Station
	Implement recommended cross section		•		
	I-94 interchange improvements (bridge widening to seven lanes as shown on recommended plan)			•	I-94 bridge widening to five lanes for channelization is planned in the short term
Segment V					
C-10	Implement recommended cross section		•		
C-11	Implement recommended cross section		•		Intersection improvements currently underway

intersection upgrading and signalization, or frontage road or other localized reconstruction to accommodate planned development. The short-term recommendations along Illinois 22 include the signalization and/or channelization of the intersections at Old Barrington Road, the Mall Access Drive, Buesching Road, the Adlai Stevenson High School East Drive, Old Half Day Road (east), and Berkshire Lane. Realignment of South Krueger Road with Kemper Drive and additional channelization also is proposed as a short-term recommendation. The total cost of this short-term plan is estimated to be $540,000 in 1991 dollars.

Basic SRA Plan Recommendations

Basic SRA plan recommendations represent those elements or projects to be constructed within the normal course of prioritization for any SRA project. These recommendations generally will include most plan elements not designated as short term, with the only other notable exceptions specified as post-2010 recommendations. The total cost of the basic SRA plan is estimated to be $112.4 million in 1991 dollars.

Post-2010 Plan Recommendations

Post-2010 plan recommendations represent elements of the SRA plan that are considered lower priority for a number of reasons. They may include high-cost elements (such as new interchanges, river crossings, etc.) for which operational needs may not occur for many years. They also include plan elements that should await implementation of other improvements whose timing is unknown or long term in nature. A small portion of the Illinois 22 SRA plan represents such long-term needs.

The primary post-2010 recommendation (see Table 27) shown on the plan is the widening of the I-94 bridge from five to seven lanes to allow for dual left-turn lanes to the ramps. The total cost for this widening is estimated to be $1.1 million in 1991 dollars.

The possible post-2010 items (see Table 27) include an interchange at U.S. 12 and the relocation of the Prairie Road intersection to the east (if the land to the east is redeveloped). The total cost of these two items is estimated to be $8.9 million in 1991 dollars.

Illinois 22 SRA

Chapter V

Public Involvement

Chapter V
Public Involvement

The Public Involvement Process

The public involvement process includes three elements: the SRA Advisory Panel Meetings, the bimonthly newsletters, and the Public Hearing.

An Advisory Panel was established to assist/comment on the study of Illinois 22 from U.S. 14 to U.S. 41. The panel included officials from McHenry County, Lake County, Fox River Grove, Lake Barrington, North Barrington, Lake Zurich, Kildeer, Long Grove, Buffalo Grove, Lincolnshire, Bannockburn, and Highland Park. Three Advisory Panel Meetings were held at key junctures throughout the study. At the first Advisory Panel Meeting on October 17, 1991, the existing conditions and concerns along the Illinois 22 corridor were presented. The second Advisory Panel Meeting was held February 19, 1992. At this meeting, the overall long-range alternatives for Illinois 22 were discussed and written comments were requested. The third Advisory Panel Meeting was held on September 17, 1992. At this meeting, the draft final report was reviewed with panel members.

In addition, bimonthly newsletters were published and distributed to panel coordinators, panel members, and local community officials. These newsletters were intended to update the local units of government on the study progress and issues.

Finally, a Public Hearing was held on October 21, 1992. This hearing was held prior to the publishing of this Illinois 22 SRA corridor final report to allow the public to comment on the recommended plan. Responses to a summary of written and verbal comments received at the Public Hearing and in the 30-day comment period are enclosed in this section.

In the 30-day comment period following the Public Hearing, IDOT received nearly 700 letters and six petitions from citizens, businesses, and public and private agencies.

The following is a summary of the input received after the third panel meeting and the Public Hearing:

- IDOT received 485 letters, and two petitions with 1,131 signatures, in opposition to the plan. In general, opponents cited concerns with air and noise pollution, aesthetics, loss of vegetation, loss of property and its value, and pedestrian safety. Opponents also questioned the need for an Illinois 22 expansion given other planned highway improvements such as the completion of the Lake Cook Road/I-94 interchange and the possible extension of Deerfield Road to the west.

- IDOT received 207 letters, and form petitions with 402 signatures, in favor of the plan. Advocates noted that the plan would improve access, reduce travel times and congestion, serve existing and proposed traffic more effectively, reduce air pollution, and alleviate the effects of slow-moving trucks.

- The Transportation Management Association of Lake Cook surveyed commuters who use Illinois 22 and received 530 responses—9 in opposition and 521 in favor of the Illinois 22 SRA plan.

Copies of the meeting minutes for each Illinois 22 Advisory Panel Meeting, the second panel meeting correspondence, the newsletters, and the Public Hearing comment responses are contained in this chapter. Each section is separated by a single title sheet.

Advisory Panel Meeting Minutes

MEETING MINUTES

CH2M HILL

SUBJECT: Strategic Regional Arterial System
Advisory Panel Meeting No. 1
Illinois 22, Lake and McHenry Counties
Corridor Limits-U.S. 14 to U.S. 41

LOCATION: Lake County Div. of Transportation-Libertyville

DATE: October 17, 1991

TIME: 1:30 PM

ATTENDANCE: See Attached Roster

PROJECT: CHI31495.05.A5

The SRA Advisory Panel Meeting for the Illinois 22 corridor in Lake and McHenry counties was attended by representatives of the Illinois Department of Transportation (IDOT), Chicago Area Transportation Study (CATS), Northern Illinois Planning Commission (NIPC), CH2M Hill and the Study Advisory Panel members on October 17, 1991. Attendees were given a handout describing the following: limits of the corridor, a list of involved communities and panel membership, a schedule of subsequent panel meetings and public hearings, SRA planning objectives, desired typical cross sections, planning focus areas, and SRA alternatives development concepts. Specific items discussed are noted below.

1. John Reilly (CATS) opened the meeting with an introduction of the CATS 2010 transportation plan and emphasized:

   a) The major expressway and transit systems would not be able to carry the 2010 forecast travel demand. Hence, the SRA system was developed to assist in serving the high volume / long haul trips.

   b) The SRA corridors are existing roads serving local needs. Therefore, the SRA system must serve a dual role.

   c) The current study is part of the 5-year program to help make decisions about the ultimate configuration of the SRA corridor. This study will serve as a framework within which long range planning will take place.

2. Rich Starr (IDOT) commented on the status of current SRA studies, noting that this was the second SRA study to get started. He noted that each corridor would have a public hearing, and that the Illinois 21 corridor in the first SRA study was having its second public hearing today. The third set of corridors to be studied is just getting underway.

3. Tim Neuman (CH2M Hill) presented an overview of the study process noting the following:

   a) SRA studies are done ahead of normal IDOT Phase 1 studies. The objective is to identify long range needs and develop a tool for preservation of right-of-way.

   b) An important roll of the panel is the coordination of future land use with SRA corridor improvement goals.

   Lastly, Tim asked if we had identified all of the people who should be on the panel. He urged all members to forward other names that should be included on the panel member list.

   This caused a discussion about who should be allowed as panel members, and if the panel would be voting on items in the plan. Tim indicated that the panel was only advisory and no voting would take place.

   The Lake County representative, Dusty Powell, indicated that the county philosophy was that only elected officials should be members of the panel, and that they should have the ultimate say over the changes that occur in their communities.

   Nancy Smith (Lake Barrington) suggested that if private sector members were to be allowed, Good Shepherd Hospital should be a prime candidate.

   Tim asked what the panel members felt about allowing non-municipality members on the panel, and it was decided that only municipalities should be represented on the panel, and that any private sector representatives be listed as invited advisors. It was also decided that Bill Baltutis (Exec. Dir TMA of Lake-Cook) will be one of the invited advisors, and Bill requested that Al Pickett,(Co-chairman, TMA of Lake-Cook) be removed from the list.

4. Keith Knapp (CH2M Hill) presented "Planning Focus Areas" for the Illinois 22 corridor. Keith noted that these areas represented places where constraints to developing the desirable SRA corridor typical cross section existed. The points raised during the presentation are discussed in the questions / answers / comments section below.

5. Tim Neuman completed the presentation by reviewing various improvement strategies which would be considered. This was followed by a question / answers / comments period.

Questions/Answers/Comments

Bill Baltutis (TMA of Lake-Cook) mentioned that the TMA of Lake-Cook Corridor was now called the TMA of Lake-Cook because the association actually represents more than the Lake-Cook Road corridor.

Don Shea (Fox River Grove) mentioned that Gardner Terrace Subdivision located immediately east of Gardner Road had been approved, and that it reserved additional land for the Illinois 22 right-of-way.

Cal Doughty (Long Grove) asked whether IDOT was taking the SRA concept into account when improving intersections. Rich indicated that they were trying to take SRA into account so that the signals etc. would not need to be completely redone when Illinois 22 is built to SRA recommendations. Cal wondered if that meant that the intersection would have three lanes in each direction etc. Tim said that lane continuity was important, and that the number of lanes warranted at the time of construction would be built, but the option to add lanes later would be kept open.

George Welch (Kildeer) asked what the right-of-way was near Fox River Grove, and by Good Shepherd Hospital. Keith indicated 60 to 70 feet in both cases.

Walter Clarke (North Barrington) mentioned that their new village hall is being planned at the corner of Old Barrington Road and Illinois 22, and that we failed to label some subdivisions along Illinois 22. He provided Keith with a map indicating the names of two additional subdivisions, and that a signal was needed a Old Barrington Road, and at Honey Lake Court or Hewes Drive. (The signal locations are mentioned in a North Barrington correspondence only.)

George Welch (Kildeer) asked about the right-of-way near Illinois 59 and by Bell's Apple Orchard, and Keith indicated 60 to 80 feet at both locations.

Cal Doughty (Long Grove) asked if an overpass or compressed interchange might be considered at Illinois 22 and U.S. 12. He used U.S. 41 as an example. Tim indicated that a overpass or interchange may be considered, and that sometimes an expanded intersection can take up as much, or more land area than a compressed interchange.

George Welch (Kildeer) asked what the right-of-way was between Buesching Road and Old Mill Grove Road. Keith said 60 to 70 feet.

George then inquired about the right-of-way in the area of the possible FAP 342 interchange. Keith said it was currently 66 feet in this area. George asked whether the right-of-way would need to be increased along Illinois 22 for that interchange. Tim said that

it would probably require at least 150 feet of right-of-way on Illinois 22 in order to accommodate any channelization, and that the FAP 342 right-of-way would also need to flare out for the interchange.

George also mentioned that CATS had recently done additional alternative route analysis of FAP 342. Tim indicated that if the data were made available to us we would look at it.

When Keith indicated that Old McHenry Road was to be signalized next year, a panel member indicated that construction had begun. (IDOT has this project in their 1992 budget.)

Cal Doughty (Long Grove) noted that there is a 100 foot right-of-way by the Royal Melbourne PUD along Illinois 22, and that Illinois 83 will be constructed to a four lane road with a 30 foot landscaped median next year. Illinois 83 will have dual left turn lanes at Illinois 22.

Cal also indicated that a landscaped median may be desirable in some locations because it gives the effect from the side of the road of a three lane road rather than six lanes and a paved median. This design also furthers the rural character that most communities want in the Illinois 22 area. However, he did say a completely urban cross section with no median and underground storm drainage is wanted along Illinois 22 through the Long Grove Woods.

Sidney Mathias (Buffalo Grove) said that a school and park are to be built in the southeast corner of the Buffalo Grove Road/Illinois 22 intersection.

David Limardi (Lincolnshire) asked where the data for the historical buildings was obtained. Tim said the list was received from IDOT. David then indicated that the village hall will be located in the northwest quadrant of the Old Half Day Road (East) intersection with Illinois 22, and that the Village owns five acres of land just south of Illinois 22 at the same location. There is also a Wisconsin to Florida hiking trail (Tecumseh Trail) that has an 100 foot right-of-way through the Captain Daniel Wright Forest Preserve just east of Old Half Day Road (East) intersection.

David also mentioned that the Riverwoods Road intersection had recently been improved, and there has been a noticeable change in its operation.

Tim asked the panel their opinion on landscaped and paved medians. The panel believed that acceptance of a roadway (parkway) with a landscaped median was more easily gained then one with a paved median. They believed that the landscaped median was compatible with the intended rural character of the communities along Illinois 22. Cal Doughty (Long Grove) also said that if the roadway has a landscaped median, the only people who normally continue to oppose the project are the homeowners living adjacent to the roadway. With a

paved median, there is a greater possibility that everyone in the community will dislike the improvement.

These minutes were prepared by Keith Knapp, CH2M HILL. Please forward any additions or corrections.

SHEET ____ OF ____

CH2M HILL

ATTENDANCE ROSTER

SUBJECT: Corridor Advisory Panel Meeting #1 – Illinois 22

MEETING DATE: Oct. 17, 1991 LOCATION: Lake County Div. of Transportation – Libertyville

NAME	REPRESENTING	ADDRESS & PHONE
Tim Neuman	CH2M Hill	1033 University Pl. Evanston, IL 708 866 9490
George L. Welch	Village of Kildeer	22049 Chestnut Ridge Kildeer, IL 60047 438-6000
Jim Kay	Lake Zurich	70 E Main 438-5141
John Reilly	CATS	300 W Adams Chi, IL 60606 312 793-3464
Dan Shea	Fox River Grove	408 NW Hwy 60021
James Smith	Lake Barrington	23555 W. Old Barrington Rd Barrington Hills 381-6010
Kevin Starr	IDOT	2011 Center ~~735-4095~~
Cal Doughty	Long Grove	634-9440
Sidney Mathias	Buffalo Grove	459-2500
Bill Baltutis	TMA - Lake Cook	One Baxter Parkway Deerfield, Ill 60015 948-4023
Gary Mayerhofer	Highland Park	1707 St. Johns Ave. Highland Park, IL
DAVID LINARDI	LINCOLNSHIRE	175 Olde Half Day Rd Lincolnshire 60069
Howard Killian	Lincolnshire	175 Olde Half Day Rd Lincolnshire 60069 634-5500
Keith Knapp	CH2M HILL	—
Walter Clarke	North Barrington	708-381-3573 [illegible] N. Barrington
Mark Schmidt	Panel Coordinator	Lake County DOT 708-362-3950
Dusty Powell	Lake County	" "
Phil Peters	NIPC	400 W Madison Chicago, IL 60606 (312) 454-0400

MEETING MINUTES

CH2M HILL

SUBJECT: Strategic Regional Arterial System
Advisory Panel Meeting No. 2
Illinois 22, Lake and McHenry Counties
Corridor Limits - US 14 to US 41

LOCATION: Lake County Div. of Transportation-Libertyville

DATE: February 19, 1992

TIME: 1:00 PM

ATTENDANCE: See Attached Roster

PROJECT: CHI31495.05.A5

Tim Neuman (CH2M HILL) opened the meeting by asking everyone to introduce themselves. Tim then summarized the content of the first panel meeting, and indicated that the minutes from the first meeting were included in the handout for this meeting. Tim also summarized the purpose of this meeting:

- The discussion of ILL 22 from a regional perspective; and
- The discussion of basic system design decisions including:
  - the basic number of through lanes
  - solutions for special locations of interest (i.e., off-alignment solutions, etc.)

Tim added that the third panel meeting would show more detailed plans, based in part on the discussion today, of ILL 22 at a 1"=400' scale. Tim proceeded by describing the three exhibits to be presented, and introduced Keith Knapp (CH2M HILL) for a detailed corridor presentation.

Keith Knapp (CH2M HILL) presented the "Existing Conditions" and "Planning Framework" exhibits for the ILL 22 corridor. Keith said ILL 22 is basically 2-lane roadway, and that the "Planning Framework" exhibit was based on the information gathered from all the communities.

Dan Shea (Fox River Grove) asked why North Barrington was not shown in the lower part of the "Planning Framework" exhibit.

Keith Knapp (CH2M HILL) indicated that the village or city names in the lower part of the "Planning Framework" exhibit were intended for reference to the notes on the exhibit. Therefore, the village or city would not be shown unless a plan for ILL 22 was specifically mentioned in their comprehensive plan.

Tim Neuman and Keith Knapp (CH2M HILL) also emphasized that the names of the segments along ILL 22 were labeled only as a point of reference, and were not intended to indicate any bias.

Keith Knapp (CH2M HILL) then presented what each of the colors on the "Planning Framework" exhibit represented, and mentioned that the residential indications were not based on density.

Cal Doughty (Long Grove) raised the issue that normally the level of density is related to the amount of use, and ultimately the size or type of highway needed.

Tim Neuman (CH2M HILL) said the "Planning Framework" exhibit was not intended to be the equivalent of a land use plan, and would not be used to estimate future traffic on ILL 22. The exhibit is only intended to show the type of land use around the corridor, not to size the proposed SRA.

When presenting the "Existing Conditions" exhibit Keith Knapp (CH2M HILL) had indicated that the closest continuous parallel routes were Lake-Cook Road, and ILL 60. He also indicated that each were about three miles south and north, respectively, and that ILL 60 did not extend all the way from US 41 to US 14.

Gregory Boysen (Buffalo Grove) mentioned Aptakisic Road and Deerfield Road as other routes that parallel ILL 22, and asked whether the study was minimizing these other possible parallel routes. He did not believe that it should.

Keith Knapp (CH2M HILL) stated that these smaller roads did not parallel ILL 22 for its entire length, and that they are discontinuous. Tim Neuman (CH2M HILL) said that the parallel routes mentioned (Lake-Cook Road and ILL 60) were the nearest parallel SRA routes.

Tim Neuman (CH2M HILL) continued the presentation with a general description of the "Alternatives Being Considered" exhibit. Tim said that it had been determined that four rather than six lanes are more reasonable from US 14 to US 12. Two reasons were stated that support this determination. One, US 14 is not expected to be widened near ILL 22, and two, ILL 22 basically feeds traffic onto US 14. Also, from a system perspective, it was judged that US 12 was a more reasonable terminus of the four lane segment, rather than ILL 59. A logical terminus for a cross section change is a major roadway crossing such as a SRA.

Tim indicated that a SRA should not go from four lanes to six lanes and then back to four whenever there was a constraint. He said that we will be investigating a widening on both

sides of the roadway.

Cal Doughty (Long Grove) asked why I-94 was not considered a logical terminus for the proposed six lane cross section segment?

Tim Neuman (CH2M HILL) said all major crossings, including other SRAs and I-94, were recognized and studied as a logical termini, but a judgement was made that US 12 and ILL 21/US 45 were the most reasonable.

Cal Doughty (Long Grove) then asked if Tim felt any one of the SRAs or I-94 were logical termini.

Tim Neuman (CH2M HILL) said we considered all major crossings but not minor collector roads. Tim added that we could discuss other options.

Tim then suggested that the panel have a general discussion about the proposed number of lanes, grade-separation locations, etc.

Dan Shea (Fox River Grove) said he does not see any advantages to a grade-separation at US 14 and ILL 22. He specifically mentioned the high construction cost when in his opinion an at-grade intersection may be adequate. The only advantage of a grade-separation at US 14 seems to be for accommodating left turns onto ILL 22.

Tim Neuman (CH2M HILL) said we have focused our SRA study on intersections, and that we considered two intersecting SRA corridors adequate reason to consider a grade-separation as a possible alternative.

Cal Doughty (Long Grove) asked whether we would investigate partial grade-separation possibilities.

Tim Neuman (CH2M HILL) said we would, and that our definition of a grade separation included everything from complete interchanges to just one movement of separation.

Dan Shea (Fox River Grove) said that his experience is that a large amount of the traffic on ILL 22 is only using it as a leg to go north and northwest.

Nancy Smith (Lake Barrington) agreed that the local roads were not designed for that movement, and that ILL 22 and US 12 are an integrated part of the traffic system moving people north and northwest.

Dan Shea (Fox River Grove) repeated that he just felt that there is large amount of traffic

turning north at US 12, and that the bulk of the ILL 22 traffic does not make to Fox River Grove.

Martin Buehler (Lake County) stated that Old McHenry Road was currently being used by some drivers going north and northwest as a bypass around the Lake Zurich CBD.

Gregory Boysen (Buffalo Grove) said that the village had a consultant study the Buffalo Grove Road and ILL 22 intersection, and they concluded that two lanes in each direction on ILL 22 was adequate.

Cal Doughty (Long Grove) said that with FAP 342 there is no sense considering any major improvements to ILL 22. But, if we assume the FAP 342 doesn't occur, we will have to consider other options.

Walter Clarke's (North Barrington) opinion was that ILL 22 was not that congested, and one could avoid it if they knew the area. He felt ILL 59 was much more congested.

Nancy Smith (Lake Zurich) disagreed and said that ILL 22 has heavy traffic in the morning and evening peak hours.

Tim Neuman (CH2M HILL) said that every suburban SRA did not have to be six lanes wide. He added that upgrading the intersection operation and access management of a SRA could improve its operation, but that there is a big difference between the operation of a four and two lane roadway. Therefore, as a minimum, a SRA should be at least four lanes (two lanes in each direction) wide.

Nancy Smith (Lake Barrington) asked Walter Clarke (North Barrington) whether he was suggesting leaving ILL 22 as only a two lane roadway.

Walter Clarke (North Barrington) said he was not suggesting anything, and was just stating his opinion on the ILL 22 situation.

Nancy Smith (Lake Barrington) stated that if US 14 remains four lanes, and traffic increases, the cars will shift to the feeder roads to avoid US 14. She believes we don't have four lanes on ILL 22, there will be a congestion problem.

George Welch (Kildeer) asked if any one is promoting just a two lane roadway. There was no response.

Walter Clarke (North Barrington) said he does not buy Nancy Smith's argument, and he asked where all the traffic would be originating.

George Welch (Kildeer) said the traffic will come from Crystal Lake.

Cal Doughty (Long Grove) said that the current growth corridors in the area were along US 12 and US 14 and that the problem was with US 12 and US 14. He suggested that some sections of US 12 and US 14 be limited-access highways. He added that density of development must be considered. He also said this discussion can be reduced to the question of the general direction people are traveling. In addition, development and growth will be to the north and northwest of Long Grove, not to the east.

George Welch (Kildeer) asked what the basis was for choosing four or six lanes.

Tim Neuman (CH2M HILL) said we were not approaching this study with a classical planning method (i.e., travel forecasting, sizing, etc.). We are trying to think in a "top down", systematic, long term, regional trip context by starting with six lanes and reducing the proposed plan to four lanes only for good system reasons or serious feasibility problems. Where it is possible, feasible, and reasonable from a system point of view we proposed the designated SRA suburban concept design of six lanes. We also proposed what we felt was best for the whole corridor within the SRA system.

Bill Baltutis (TMA of Lake-Cook) asked how we would decide whether a grade-separation was needed at an intersection.

Tim Neuman (CH2M HILL) said we would look at adjacent land use, and that not all grade-separations would be a full interchange.

Bill Baltutis (TMA of Lake-Cook) asked if the possibility of an interchange would be based on a particular level of service (LOS), such as LOS D.

Tim Neuman (CH2M HILL) said we would evaluate the proposed lane arrangements at the intersections, and determine the level of traffic at which the recommended design would begin to "breakdown" operationally.

Martin Buehler (Lake County) suggested we discuss Lake Zurich and the bypass idea.

Tim Neuman (CH2M HILL) mentioned the 1980 ILL 22 bypass study done by the Illinois Department of Transportation. This study considered several different bypass alternatives, including a new alignment along the EJ & E Railroad. That alternative, along with several others, was eliminated from consideration, and a bypass further to the south was chosen. The chosen alternative is no longer feasible because the proposed right-of-way was not protected.

Cal Doughty (Long Grove) added that ILL 22 bypass study goes back as far as 20 years.

Tim Neuman (CH2M HILL) said that there were several options to achieve SRA continuity through Lake Zurich. One option was not allowing parking or turning in the Lake Zurich CBD, and using the existing alignment, another is widening along the existing alignment by displacing the structures on one side of the roadway. Neither of these two options was considered a reasonable alternative. A second alternative is a four or six lane bypass along the EJ & E Railroad. Tim also mentioned that there was currently an additional study of the Lake Zurich area being done.

Victor Ramirez (Lake Zurich) verified that there is a downtown redevelopment study being done by a group of consultants, and that Beling Consultants was the transportation consultant. Because the study was of the downtown area, ILL 22 and its impact on the downtown would obviously be studied. Mitigation to improve the ILL 22 impact on the downtown area will be recommended.

Dave Zavattero of Beling Consultants introduced himself as part of the consultant team working for Lake Zurich, and said that they are investigating several alternatives for a bypass of four or six lanes. A bypass along the railroad right-of-way is one of those alternatives. The time frame for Beling's feasibility study is approximately six months.

Tim Neuman (CH2M HILL) indicated that Beling and CH2M HILL would be coordinating ideas and information throughout the time span of both projects.

Martin Buehler (Lake County) asked whether a one way couple using the existing alignment and a bypass alignment was considered.

Tim Neuman (CH2M HILL) said we had considered this matter and judged that it would create some local circulation and access problems for the properties located between the one way pair. We therefore did not carry it further.

Martin Buehler (Lake County) suggested that the village's consultant (Beling) could also investigate the one way couple alternative.

Dave Zavattero (Beling Consultants) said they will be investigating the one way couple idea, and its potential circulation problems.

Tim Neuman (CH2M HILL) suggested that the Lake Zurich representatives work together with their consultant, Beling Consultants, and suggest a solution to us that meets both their requirements and the SRA concept.

Tim Neuman (CH2M HILL) asked if their were any other points of discussion.

Dan Shea (Fox River Grove) asked about the time frame for the ILL 22 SRA study.

Tim Neuman (CH2M HILL) said that we expected a draft report to be finished some time in the summer around July or August. The draft report, along with the proposed plan for ILL 22, would be the subject of discussion at the third panel meeting.

Walter Clarke (North Barrington) suggested that Old McHenry Road might be improved and ILL 22 should be left alone.

Cal Doughty (Long Grove) said existing Old McHenry Road is a "good" road and traffic flow on it was fine.

However, Cal Doughty (Long Grove) also said that westbound traffic on Old McHenry Road does get congested. He added that he does not see the need for six lanes on ILL 22 and suggested that US 12 and Milwaukee Avenue (ILL 21/US 45) be improved for vehicles traveling in the southeast and northwest directions. He added that without FAP 342 there would be a need to improve US 12.

George Welch (Kildeer) said he did not agree.

Tim Neuman (CH2M HILL) asked Cal Doughty (Long Grove) to summarize his points.

Cal Doughty (Long Grove) said:

1) He sees no need for six lane sections on ILL 22 because he does not see six lanes on the east, so why have six lanes in the middle.

2) He suggested SRA improvements on US 12 and Milwaukee Avenue (ILL 21/ US 45) instead of on ILL 22. He believes this will ease ILL 22 traffic.

Tim Neuman (CH2M HILL) continued his presentation on the "Alternatives Being Considered" exhibit. He emphasized that the 30' median width was needed only at major intersections to accommodate double left turns and an 18' median was usually adequate elsewhere.

Tim also said that we have done about 1/3 of our study, and requested that the panel members return to their offices, collect their thoughts on what was discussed here, and then send their written suggestions to Mark Schmidt, their panel coordinator.

Dan Shea (Fox River Grove) asked why closed drainage was proposed between US 14 and ILL 59.

Tim Neuman (CH2M HILL) referred to the design concept of a suburban SRA, and also indicated that open drainage required more right-of-way.

Walter Clarke (North Barrington) asked about the proposed right-of-way in this area.

Tim Neuman (CH2M HILL) said it was 120'-150'.

Keith Knapp (CH2M HILL) added that existing right-of-way averages 60' to 70'.

Dan Shea (Fox River Grove) said that because of the current drainage system in Fox River Grove an open drainage recommendation in this area might make more sense.

Tim Neuman (CH2M HILL) said we would look more closely into comparing closed and open drainage.

Cal Doughty (Long Grove) said that Long Grove encourages closed drainage between Old McHenry Road and ILL 83 (the Long Grove Woods area). Cal called it a curbed, closed drainage without any shoulder, clearing, or open drainage grading. He said closed drainage is meaningless if a shoulder, clearing and additional drainage grading is allowed. He said the village wants a curbed, closed, urban-type drainage system without a sidewalk.

Martin Buehler (Lake County) said improvements to ILL 22 have been talked about for many years, and asked the representative from Lincolnshire his opinion on what had been presented today.

Howard Killian (Lincolnshire) said he could not speak for the village board, and that the village had no comment on the first meeting, but was still undecided about what to do with ILL 22. The village may take this issue to referendum. The main concern of the village is to the east of the Des Plaines River through the residential area.

Cal Doughty (Long Grove) indicated that he would like to know how much additional right-of-way would be needed for our proposed plan.

Rich Starr (IDOT) said we would show that in the cross sections shown at the third panel meeting.

Gregory Boysen (Buffalo Grove) talked about the width of sidewalks in Buffalo Grove and that the village would most likely prefer four through lanes with wide sidewalks to six

through lanes.

Martin Buehler (Lake County) said it may be better to recommend four lanes for the length of ILL 22, instead of waiting another 20 years trying to achieve six lanes between US 12 and US 45/ILL 21.

Nancy Smith (Lake Barrington) said that if we do not improve ILL 22, Old McHenry Road and Kelsey roads will be the next SRAs.

Cal Doughty (Long Grove) said the congestion on ILL 22 is not caused by the people living near it, but by people traveling back and forth between Chicago and the north/northwest suburbs. He also suggested that a copy of the draft report be sent to panel members at least two weeks before the third meeting.

Tim Neuman (CH2M HILL) agreed to the suggestion and closed the meeting by thanking everyone and asked them to send their written input to Mark Schmidt.

Bill Baltutis (TMA of Lake-Cook) asked Keith Knapp (CH2M HILL) that he be listed in the next newsletter as an Invited Advisor.

These minutes were prepared by Keith Knapp, CH2M HILL. Please forward any additions or corrections.

ATTENDANCE ROSTER

SUBJECT: Corridor Advisory Panel Meeting #2 – Illinois 22

MEETING DATE: Feb. 19, 1992 LOCATION: Lake County Div. of Transportation – Libertyville

NAME	REPRESENTING	ADDRESS & PHONE
Rich Starr	IDOT	201 Center Ct. Schaum. 705-4095
Victor Ramirez	Lake Zurich	70 E. Main St. Lake Zurich, IL 60047
Marty Buehler	Lake County	600 W Winchester Rd Libertyville IL 362-3950
Walt Clarke	Village of North Barrington	[illegible] Indian Trail N Barrington, Illinois
Dan Shea	Fox River Grove	408 Northwest Hwy 708 639-3170
Cal Doughty	Long Grove	3110 RFD. L-G. 60047
Howard Killian	Lincolnshire	175 Olde Half Day Road Lincolnshire 634-5800
[illegible]	Highland Park	1150 Half Day Rd Highland Park 926-[illegible]
Bill Baltutis	TMA Lake-Cook	One Baxter Parkway Deerfield 708-948-4023
Gregory P. Boysen	Village of Buffalo Grove	51 Raupp Blvd. Buffalo Grove, IL. 60089
[illegible]	CATS	300 West [illegible] 312 Chicago IL [illegible] [illegible]
Mike H. Lee	CH2M Hill	
Joy Schaad	CRS Sirrine	8700 W. Bryn Mawr Ave Chicago 60631- 693-1030
Mark Schmidt	Panel Coordinator	600 W. Winchester Rd. Libertyville, IL 60048
Nancy Baker	McH. Co. Hwy	P.O. Box 369 Woodstock 60098 815-338-3630
Les Swieca	IDOT Program Development	201 West Center Ct. Schaumburg, IL 60196-1096 708-705-4082
Phil Peters	NIPC	400 W Madison St Chicago IL 60606 312/454-0400
David Zavattero	Belina Consultants	Hillcrest Center [illegible] Rd. [illegible] IL [illegible] 815/[illegible]-[illegible]500
Nancy Smith	Lake Barrington	368 Shoreline Rd. Lake Barrington
[illegible] from Kildeer [illegible] attended		

MEETING MINUTES

CH2M HILL

SUBJECT: Strategic Regional Arterial System
Advisory Panel Meeting No. 3
Illinois 22, Lake and McHenry Counties
Corridor Limits - US 14 to US 41

LOCATION: Lake County Div. of Transportation-Libertyville

DATE: September 17, 1992

TIME: 1:30 PM

ATTENDANCE: See Attached Roster

PROJECT: CHI31495.05.A5

Tim Neuman (CH2M HILL) opened the meeting by asking everyone to introduce themselves. Tim then summarized the content of the first and second panel meetings, and explained the background of the SRA study. Tim also summarized the purpose of this meeting, and presented the history and reasoning behind the draft recommended plan given in the report that mailed to all the panel members. Tim presented the following points:

- The overall physical description of the route; and,
- The fact that the number of through lanes in each direction has been reduced from three to two on some segments of the corridor due to the comments received after panel meeting two; and,
- The planning framework exhibit.

Tim introduced Keith Knapp (CH2M HILL) for a detailed corridor presentation of the recommended plan.

Keith Knapp asked everyone to follow along in their reports as he described each sheet of the recommended plan (Exhibits C-1 to C-11 in the text). After each sheet Keith requested comments or questions.

After a description of Exhibit C-1 Keith indicated that Dan Shea of Fox River Grove had forwarded his comments about the median type and Doyle Road, and the area in general.

On Exhibit C-2 Keith noted that Kelsey Road would have a single left turn lane, and an 18-foot median. Therefore, the cross section shown on the exhibit and the text were incorrect, and would be amended in the final report.

Exhibit C-3 drew no comments or questions.

Exhibit C-4 consists of the Lake Zurich bypass area. Keith presented this exhibit, along with a copy of the Beling alternatives (also included in the draft report). Tim Neuman indicated that in past meetings the possibility of a SRA through the downtown area was not considered feasible. Therefore, a bypass was presented as the preferred alternative. It was also indicated that the preferred bypass alignment from the Lake Zurich Study would be incorporated into the final report as long as it met minimum SRA requirements, and was the equivalent of four lanes in each direction with median turn lane protection.

The Lake Zurich representatives indicated that the village had authorized their consultant to further study the viability of the preferred Alternative 4 (a bypass along Genesee Street) to determine feasibility and design criteria. The village anticipates that this study would be done in advance of the publication of the Illinois 22 SRA Final Report.

There were no comments or questions on Exhibits C-5 to C-7.

On Exhibit C-8 the Lincolnshire representative indicated that the new connection between Barclay Boulevard and Schelter Road conflicts with a building under review. This roadway can be moved about 1/8 mile south to connect with Barclay Boulevard. Tim Neuman indicated that it would be corrected.

The Lincolnshire representative also mentioned the Tecumsah Trail at Old Half Day Road. He asked how the users of this trail would be accommodated. Keith said that he knew of the possibility of this trail, and that they would either have to cross at the signalized Old Half Day Road intersection, or some type of underpass would need to be constructed.

There were no comments or questions on Exhibits C-9.

Comments on Exhibit C-10 included the fact that Lakeside Drive currently had a double left turn lane from the south, and that the double left turn lanes at Telegraph Road may not really be necessary because Telegraph Road is only a 20-foot residential roadway. Tim Neuman indicated we would look at this again.

There were no comments or questions on Exhibit C-11.

Some general questions were than asked.

Will we address where the compensatory drainage storage area will be, and how much will be needed. Tim Neuman indicated that we had looked at how much may be needed, but the scope of the project did not include locating the storage areas.

There was some confusion on the prioritization of segments within the project. Tim

Neuman stated that the prioritization table presented in the report would not be divided into specific route segments unless IDOT requested it.

There were also questions about funding of the project. Rich Starr indicated that there was no state money for the SRA system at this point, but that when a SRA was given priority money would most likely be available from state and federal sources.

Martin Buehler (Lake County) mentioned two issues. First, that one major point of the SRA study was to protect right-of-way, and second, that saving space for compensatory drainage areas is very important because of the Lake County Storm Water Ordinance.

"Cal" Doughty of Long Grove asked if it were possible to separate the comments received at the public hearing in villages, and forward those comments to the village representative. It was agreed that this should and would be done.

Tim Neuman (CH2M HILL) closed the meeting by thanking everyone and asked them to send their written input to Mark Schmidt.

Lake Zurich indicated that they would send us information on their schedule and comments.

Mark Schmidt requested that Keith send Exhibits C-4 and C-5, the Quentin Road intersection detail, Beling bypass exhibit, and any relevant text to Jim Tarbot, 1195 Cedar Creek Drive, Lake Zurich, Illinois 60047. (A concerned citizen.)

The Lincolnshire representative provided a letter from the village with its comments.

These minutes were prepared by Keith Knapp, CH2M HILL. Please forward any additions or corrections.

SHEET ____ OF ____

CH2MHILL ATTENDANCE ROSTER

SUBJECT: Corridor Advisory Panel Meeting #3 - Illinois 22

MEETING DATE: Sept. 17, 1992 LOCATION: Lake County Div. of Transportation - Libertyville

NAME	REPRESENTING	ADDRESS & PHONE
RICH STARR	IDOT	201 CENTER CT 705-4095
D.M. DOUGHTY	LONG GROVE	634-9440
HOWARD KILLIAN	LINCOLNSHIRE	634-5800
Laurie Schreiber	Kildeer	22049 Chestnut Ridge 438-6000
Bill Baltuta	TMA Lake Cook	One Baxter Parkway 945 Deerfield, Ill. 60015
Nick Clarke	Village of North Barrington	24734 Indian Trail 381 North Barrington IL 60010 3393
VICTOR RAMIREZ	Village of Lake Zurich	70 E MAIN LZ. 60047 540-1694
JAMES W. KAY	VILLAGE OF LAKE ZURICH	70 E. MAIN
MARTY BUEHLER	LAKE COUNTY DOT	600 W WINCHESTER RD LIBERTYVILLE IL 60048
Mark Schmidt	Panel Coordinator	" "
KATHLEEN ROOI	CATS	300 W. ADAMS (312) CHICAGO IL 60606 793-3464
DICK KUENKLER	VILLAGE OF BUFFALO GROVE	51 RAND BLVD 60089 459 2523
DAVE GEWALT	VILLAGE - BANNOCKBURN	3100 PUNDERSON 272-7775 NORTHBROOK IL 60062
JAN TARBET	LAKE ZURICH Rt 22 resident	1195 Cedar Creek Dr Lake Zurich 438-2837
Andy Trees	CT Courier reporter	200 Jones St, Barr 381-5200 x194
Marjorie Lipsey	Daily Herald	VERNON HILLS 680-5800
RON KROOP	CITY OF HIGHLAND PARK	1150 HALF DAY RD HIGHLAND PARK 60035 926-1141

Second Advisory Panel Meeting Correspondence

VILLAGE OF NORTH BARRINGTON

24734 INDIAN TRAIL ROAD | NORTH BARRINGTON, ILLINOIS 60010 (708) 381-3393

Walter R. Clarke Jr., President
Estelle Girard, Village Clerk
Roberta A. Svacha, Treasurer

Trustees
Norma Ann Behrend
E. Peter Boland
Richard G. Fisk
George E. Larrain
Thomas J. McJoynt
Karl H. Schulz

March 11, 1992

Mr. Timothy R. Neuman, P.E.
SRA Project Manager
CH2M Hill
1890 Maple Ave., Suite 200
Evanston, IL 60201

RE: SRA - U.S. Rt. 22

Dear Mr. Neuman:

At our last meeting you did ask for some comments. I would only comment on the four lane proposal between U.S. 14 and U.S. 12, most of which is in the Village of North Barrington. As stated originally, I feel that signalization at Old Barrington Rd. and Rt. 22 as well as Honey Lake Rd. and Rt. 22 are essential to keep the highway from splitting the Village. After the last meeting, I believe it would be essential to make this portion of the highway the "urban" type (less than 120 ft.) so as to have the minimum impact as to the amount of right-a-way required. I did report on our meeting to my Village Board and they are generally in agreement to this.

Thanks for your consideration.

Sincerely,

Walt Clarke

Walter R. Clarke, Jr.
Village President

WRC/jj
cc: Trustees
F. DeVita, Supt. of Roads

ENGINEERING DEPARTMENT

(708) 438-5141

VILLAGE OF LAKE ZURICH

70 EAST MAIN STREET
LAKE ZURICH, ILLINOIS 60047

May 26, 1992

Illinois Department of Transportation
201 West Center Court
Schaumburg, Illinois 60196-1096

Subject: SRA ROUTE 22, LAKE ZURICH RESPONSE UPDATE

Dear Mr. Slifer:

On March 11, 1992 I wrote a letter (see attached) to you advising you of the Village's schedule with regard to providing a concise response for the Advisory Panel per CH2MHill's request. This letter serves to further update you as to the progress made with regard to this very important issue.

The Business Improvement Committee for the Village of Lake Zurich has met to discuss Trkla, Pettigrew, Allen and Payne's findings and proposals that they were contracted with the Village to do. These proposals and recommendations are laying the groundwork to establish the Village's formal response with regard to the Route 22 SRA.

On June 2, 1992 at the Lake Zurich High School at 7:30 P.M. the Village is conducting a Public Meeting to discuss the TPAP Proposals. Hopefully, by the end of June the Village can formalize its position based on this meeting and provide you the necessary information.

The Village has committed a large amount of funds and time to this issue. Please allow us some additional time to provide you the information you have requested.

If you have any questions please feel free to contact me.

Sincerely,

Victor C. Ramirez, P. E.
Village Engineer

Enclosure
cc: Robert Buechner, Village Administrator
Mr. Terry Wendt, Trkla, Pettigrew, Allen and Payne
Mr. Tim Neuman, CH2MHill
Ms. Nancy Magnus, Illinois Department of Transportation
VCR/dv

BUILDING and ZONING
DEPARTMENT

(708) 540-5040
FAX: 438-7278

VILLAGE OF LAKE ZURICH

70 EAST MAIN STREET
LAKE ZURICH, ILLINOIS 60047

March 11, 1992

IDOT
Attention: Mr. Slifer
201 West Center
Schaumburg, Illinois 60196-1096

Re: SRA Route 22, Lake Zurich Comments

Dear Mr. Slifer,

On March 9, 1992 the Community Development Committee was presented the Strategic Regional Arterial Study Concepts for Route 22. The Village Administrator, Robert Buechner, and I had forwarded the material that CH2MHill had given us at the February 19, 1992 Advisory Panel Meeting. We advised the Committee that CH2MHill and IDOT were anxious to receive any Village comments regarding the current concepts and that you would like to receive them by mid-March.

The Village is contracted with Trkla, Pettigrew, Allen and Payne to perform a Downtown Redevelopment Plan which would involve analysis and potential rerouting of the Route 22.

In order to appropriately provide the most comprehensive response to the CH2MHill concepts, the Village Board of Trustees will need some preliminary input from TPAP as well as the Business Improvement Committee, Village Staff, and Plan Commission. We think it will take from 4 to 8 weeks to provide the appropriate response.

This letter serves to notify you of the time frame necessary for the Village to adequately respond to such an important issue. We hope this does not unnecessarily cause any significant delays in your schedule. If you have any questions please feel free to contact me.

Sincerely,

Victor C. Ramirez

cc: Robert Buechner/Village Administrator
Terry Wendt/TPAP
Tim Neuman/CH2Mhill
Nancy Magnus/IDOT

D.M. "CAL" DOUGHTY
VILLAGE MANAGER

VILLAGE OF LONG GROVE

February 21, 1992

Mark Schmidt
Lake Urbanized Council of Mayors
600 West Winchester Road
Libertyville, IL 60048

RE: IL ROUTE 22
STRATEGIC REGIONAL ARTERIAL (SRA)
ADVISORY PANEL

Dear Mark:

At the meeting of the Advisory Panel on February 19th., it was suggested that we should put our comments and community goals for Illinois Route 22 in writing; thus, the following.

After review of the methods used and the information provided at the meeting, Long Grove would only support a four lane Route 22 SRA system. There were no overriding factors provided for any section of the roadway to be six lanes.

There are serious environmental and historic factors involving the portion of Route 22 from Old McHenry Road to Route 83. Long Grove will only support construction design methods which provide no further clearing for the installation of the four lane section in this area. This can be accomplished by using a very strict urban curbed section, storm sewers, narrow or no median and no clear area behind the curb section. All existing overhead utilities shall remain as they are and any underground facilities be allowed within the road section. Other sections of Route 22 in Long Grove would be encouraged to use 30 foot landscape median designs.

Overall consideration of this SRA system should include variations of grade separated intersections as submitted at the meeting Feb. 19th. A specific presentation should be made to a community such as Lincolnshire to assure them that a four lane system can be provided with limited or no further disturbance to adjacent property owners. The SRA system should look at the special value Route 12 plays in the system and not only making it six lanes, but providing limited access throughout from Lake Cook Road to Wisconsin.

Thank you for this opportunity to comment.

Yours,

D.M. "Cal" Doughty
Village Manager

LG22MS

VILLAGE OF BUFFALO GROVE

Fifty Raupp Blvd. Buffalo Grove, IL 60089-2196

SIDNEY H. MATHIAS
Village President

708-459-2506
708-634-9435
Fax 708-459-7906

March 6, 1992

Mr. Mark Schmidt
IL.22 SRA Study Panel Coordinator
LAKE COUNTY DEPARTMENT OF TRANSPORTATION
600 West Winchester
Libertyville, IL 60048

Subject: Illinois Route 22 Strategic Regional Arterial Study

Dear Mr. Schmidt:

I am writing in follow-up to the February 19th Illinois Route 22 Strategic Regional Arterial Study Advisory Panel meeting at which municipalities were requested to provide written comments concerning the packet which was handed out at the meeting entitled "Strategic Regional Arterial Study - Illinois 22/U.S. 14 to U.S. 41, Lake and McHenry Counties - Advisory Panel Meeting No.2" dated February 19, 1992. The later provided sheet, entitled "Alternatives Being Considered - IL.22 Strategic Regional Arterial Planning Study" dated 2/5/92, has also been reviewed.

I would, therefore, submit the following comments:

1. A review of the report, entitled "Village of Buffalo Grove - 1991 Transportation Plan Update - Preliminary Report" dated July, 1991 prepared by James J. Benes & Assoc., Inc., indicates that the portion of Illinois Route 22 running through the Village of Buffalo Grove in the area east of Illinois Route 83 and west of Milwaukee Avenue requires only two through lanes in each direction in order to accommodate traffic which is projected to occur following the ultimate build-out of the Buffalo Grove Comprehensive Plan. This conclusion was essentially the same as that which resulted from the engineering study which established Buffalo Grove's 1987 Transportation Plan. The planning for development along Il.Rt.22 in Buffalo Grove has relied upon these previous traffic engineering recommendations and the right-of-way dedications and the adjacent development improvements which have been established cannot reasonably accommodate three through lanes in each direction. Therefore, only two through lanes can be implemented in this area.

2. Eight-foot wide bikeways should be incorporated into the SRA plans for Il.Rt.22 in those areas where the attached "Village of Buffalo Grove 1990 Bicycle Path System" denotes that they currently exist or are currently planned. Additional sections of bike path might also be desirable along Il.Rt. 22 to more fully interconnect Buffalo Grove's bike path system with existing or proposed bike path systems in neighboring villages.

3. Five-foot wide sidewalks should be planned along any Buffalo Grove frontage along Il.Rt.22 where an eight-foot bikeway is not planned.

4. Landscaped medians similar to those on Il.Rt.68 should be planned for Il.Rt.22 in the Buffalo Grove area. Sixteen-foot wide medians have worked well on other major streets in Buffalo Grove to provide for left-turn lanes where needed and landscaped medians in areas between turn bays.

5. Parkways with a minimum desirable width of 10½ feet and parkway trees would be desirable and should be provided for in the plan for Il.Rt.22.

6. Drainage ditches should be eliminated and an underground storm sewer system should be provided in the plan for Il.Rt.22.

7. It is very important that IDOT and Lake County implement a four-lane improvement on Deerfield Road east of Milwaukee Avenue as soon as possible to help relieve traffic congestion on Il.Rt.22 and other area roads which cannot be reasonably expanded beyond four or five lanes.

8. The widening of Aptakisic Road between Il.Rt.83 and Milwaukee Avenue is also very important to implement as soon as possible to help avoid congestion on Il.Rt.22.

If you have any questions concerning these comments, please let me know.

Very truly yours,

VILLAGE OF BUFFALO GROVE

Sidney H. Mathias
Village President

cc: Martin Buehler, County Superintendent of Hwys.
Richard Starr, Illinois Dept. of Transportation

G92A65

STATE OF ILLINOIS)
) SS.
COUNTY OF LAKE)

CLERK'S CERTIFICATE

I, BARBARA MASTANDREA, do hereby certify that I am the duly appointed and qualified Village Clerk for the Village of Lincolnshire, Lake County, Illinois.

I do further certify that the above and attached is a true and correct copy of a Resolution entitled:

Resolution in Opposition of the Strategic Regional Arterial Study Initial Concept Plan for Illinois State Route 22 Through the Village of Lincolnshire, Illinois

passed by the Board of Trustees of the Village of Lincolnshire at a Regular Meeting of said Board of Trustees on the **9th day of March, 1992**, and said Resolution was duly approved by the Mayor of the Village of Lincolnshire on the **9th day of March, 1992.**

I do further certify that the aforesaid Resolution was entrusted to my care and custody, that the same is duly spread upon the record of proceedings of said Village, and that I am the custodian of all Village records, including the journal of proceedings, ordinances, and resolutions of said Village.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this **12th day of March, 1992.**

Barbara Mastandrea

Barbara Mastandrea
Village Clerk
Village of Lincolnshire

RESOLUTION 457

A RESOLUTION IN OPPOSITION OF THE STRATEGIC REGIONAL ARTERIAL STUDY INITIAL CONCEPT PLAN FOR ILLINOIS STATE ROUTE 22 THROUGH THE VILLAGE OF LINCOLNSHIRE, ILLINOIS

WHEREAS, the proposed expansion of Route 22 in excess of two lanes as proposed in the Strategic Regional Arterial Study Initial Concept Plan for Illinois State Route 22 through the Village of Lincolnshire would endanger the public health, safety and welfare of the residents of said area; and

WHEREAS, the proposed expansion would create an adverse economic impact on residents along the roadway; and

WHEREAS, the proposed expansion could adversely impact the uses of the surrounding land; and,

WHEREAS, the proposed expansion would adversely impact the pastoral character of the Village of Lincolnshire; and,

WHEREAS, the proposed expansion does not adequately consider alternatives to traffic such as van pooling, ride-sharing, staggered work hours, and other forms of public transportation to reduce traffic; and,

WHEREAS, the proposed expansion would endanger the children who must cross or use the roadway to and from school or other activities; and,

WHEREAS, traffic in the area is expected to improve upon completion of the four-way I-94 tollway interchange at Lake-Cook Road;

NOW, THEREFORE, BE IT RESOLVED by the Mayor and Board of Trustees of the Village of Lincolnshire, Lake County, Illinois as follows:

SECTION 1: That the Village of Lincolnshire adamantly opposes expansion of Illinois State Route 22 through the Village of Lincolnshire that would expand that roadway to more than two lanes; and,

SECTION 2: That the Village of Lincolnshire urges the Strategic Regional Arterial Study Committee and the Illinois Department of Transportation to work with municipal, community and commercial leaders to find creative, innovative methods of solving traffic problems in the Village of Lincolnshire other than expanding Illinois Route 22 beyond two lanes; and

SECTION 3: That the Village Clerk of the Village of Lincolnshire is directed to forward a certified copy of this Resolution to the Strategic Regional Arterial Study Committee, and the Illinois Department of Transportation; and,

SECTION 4: That this Resolution shall be in full force and effect from and after its adoption and approval as required by law.

ADOPTED THIS 9th day of March, 1992 by a Roll Call Vote of the Corporate Authorities of the Village of Lincolnshire as follows:

AYES Trustees Angonese, Forres, Hansen, Saltiel Serauskas

NAYS None

ABSENT None

APPROVED THIS 9th day of March, 1992 by the Mayor of the Village of Lincolnshire.

Barbara Lahiana
Mayor

ATTEST:

Barbara Mastandrea
Village Clerk

Bimonthly Newsletters

NO. 1 JULY 1991

SRA SPOTLIGHT

ILLINOIS ROUTE 22 CORRIDOR ADVISORY PANEL

THE SRA PROJECT

Introduction

The 2010 Transportation System Development Plan adopted by the Chicago Area Transportation Study (CATS) and the Northeastern Illinois Planning Commission (NIPC) recognizes that not all long-distance highway travel can be handled by the expressway system. Realizing that the arterial system will have to carry some long-distance trips, the 2010 Plan designated a system of Strategic Regional Arterials (SRAs) to supplement the expressway system.

The SRA system is a 1,340-mile network of existing roads in the Northeastern Illinois region. They create a network of 66 routes intended to serve as a second tier to the expressway system. The regional highway system, consisting of existing and planned expressways and strategic regional arterials is shown on the map to the right.

Spacing of routes that comprise the SRA system was determined based upon the projected levels of future travel demand within different parts of the region, ranging from about 3 miles apart in the most densely developed areas to about 8 miles apart in predominantly rural areas. CATS estimates travel in the year 2010 will be 23 percent more than for 1980.

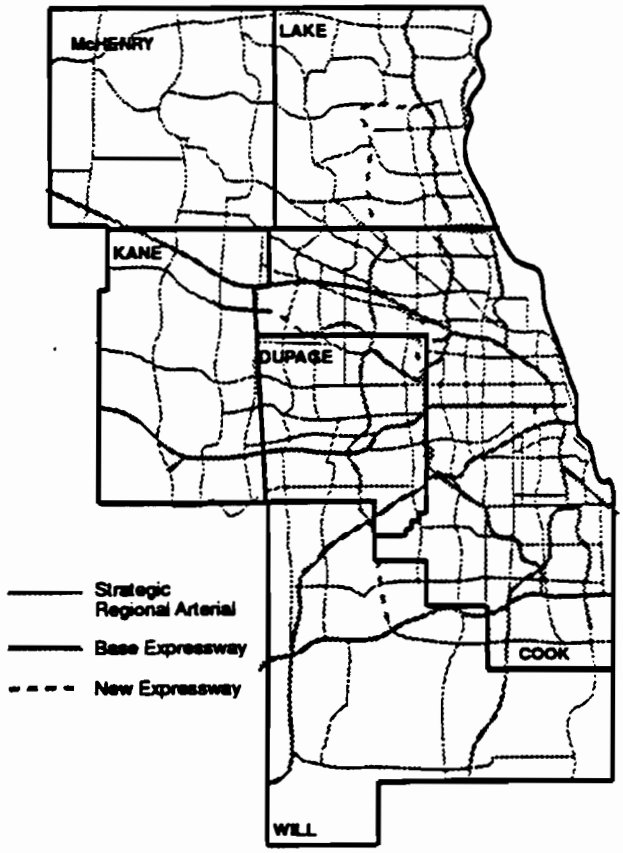
Design Concepts

A report on design concepts for the SRA system, prepared by Harland Bartholomew & Associates, Inc., was endorsed by the CATS Policy Committee on January 31, 1991, for use as a guide but not policy in the planning of the SRA system. Some of the design techniques and concepts recommended for use in implementing the objectives of the SRA system are:

- Signalization—Including provision of new signals, interconnection of signals, and signal timing;
- Intersection Improvements—Consisting of provision of turn lanes, channelization, and restriction of certain movements;
- Adding Lanes—To achieve a desirable cross section for urban, suburban, and rural areas;
- Bus Service Improvements—Including bus stops and traffic signal preemption;

(Continued on Page 4)

2010 STRATEGIC REGIONAL ARTERIAL SYSTEM



SRA–ONE PART OF OPERATION GREEN LIGHT

SRA is one part of a much larger project to address traffic congestion: Operation Green Light. Other activities are outlined below.

Develop Major Transit/Highway Facilities

This element will contribute to freeway and transit projects in the 2010 Plan. Also, it will begin engineering studies and preserve right-of-way for future routes.

Improve Other Key Arterial Roadways

If the SRA network is to carry regional traffic, the remaining roadways must play a more important role in carrying local traffic. This element will address improvements that will make them more efficient.

Identify Strategic Transit Improvements

There are two goals for this element: (1) to make transit more convenient and swift and (2) to encourage more pedestrian and bicycle routes.

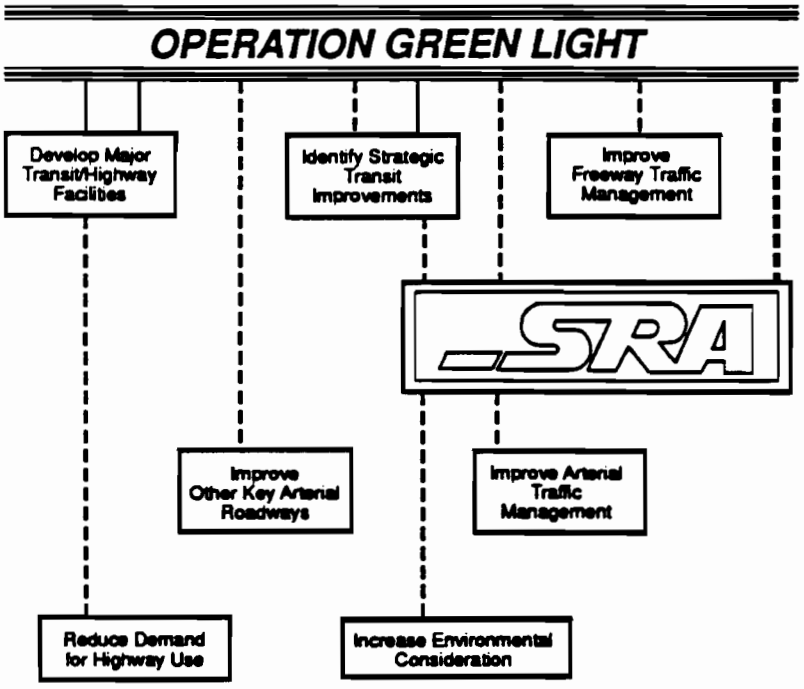
Improve Freeway Traffic Management

Information about accidents and blocked lanes is available almost immediately. This element will develop ways to provide this information to other drivers and to emergency personnel more quickly. Other priorities are controlling the rate at which vehicles enter the freeway and continuing the installation of new toll collection equipment.

Improve Arterial Traffic Management

Like freeways, better information systems for these routes will reduce congestion. Providing this information to individual drivers will require sophisticated systems. New equipment for private cars is being tested. Traffic signal networks are also very important.

SRA will address these same topics.



Reduce Demand for Highway Use

This element examines ways to reduce the number of vehicles on the road, particularly at rush hours. Increasing the number of people in each vehicle is the purpose of most strategies. Ride-sharing and mass transit offer ways that commuters can help. Businesses could offer preferred parking to people sharing rides and support the costs of sharing rides. This element also encourages shifting work schedules.

Increase Environmental Consideration

Studies of ways to reduce noise and air pollution, to improve the appearance of roads, and to increase cooperation among local governments are all part of this element.

STRATEGIC REGIONAL ARTERIALS AND THE ROADWAY HIERARCHY

As shown in the illustration below, the two most important factors that define the classification of a street are its access function and movement function. Street classifications range from the freeway, which has complete access control and carries mostly through traffic, to local streets with unrestricted access and no through traffic.

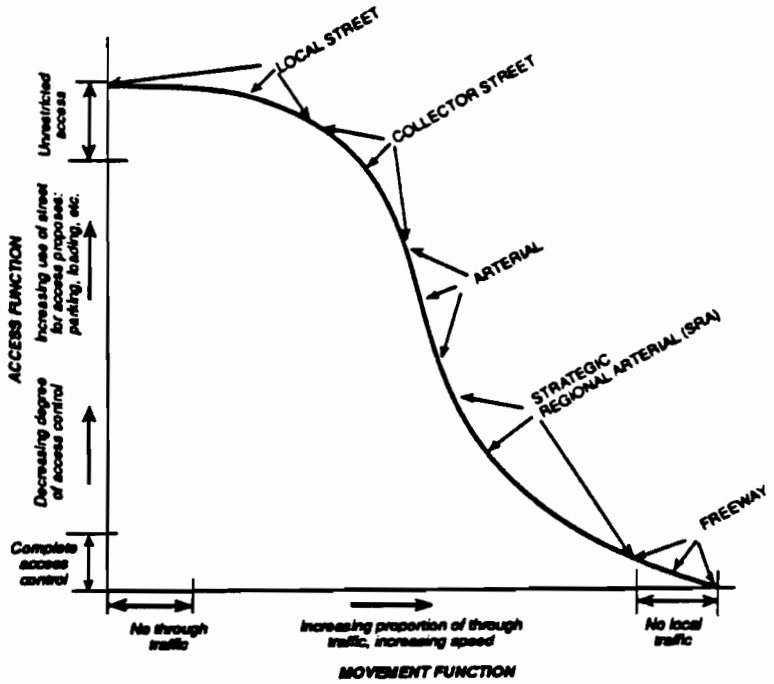
Freeway—The function of a freeway is to provide regional transportation for large volumes of traffic over long distances. There is no parking on a freeway. Access is controlled by on- and off-ramps that are generally spaced at least a mile apart. Distance or height often separate the freeway from the land around it. Expressway, superhighway, parkway, and tollway are all terms used to describe freeway-like roads.

Strategic Regional Arterial (SRA)—A second tier to the freeway system. These routes were selected because they carry, or are projected to carry, large volumes of long-distance traffic. As a group, they form a network that can carry such traffic to and from locations the freeway system cannot. They can also handle some of the overflow from the freeway system. Because of their strategic importance to regional travelers, IDOT and CATS are working to ensure they receive needed improvements. Recommendations concerning parking, access, traffic control, transit, lane additions, and intersection widening are examples of typical improvements.

Arterial—An arterial has two functions: (1) the primary purpose of an arterial road is to carry traffic within the region; and (2) it serves the homes and businesses along it. Parking is sometimes allowed, especially in older commercial centers. Other streets and the properties along it are connected directly. Usually, the roadway is not separate from the land around it.

Collector—The collector street directs traffic from local streets to arterials or local destinations such as shopping, schools, and office developments. The collector looks like the arterial, but it covers less distance, so it carries less regional traffic.

Local—A local street provides access to property. Moving traffic is a secondary function. Local streets route traffic onto a collector or arterial street as quickly as possible. Parking is usually allowed.



MOVEMENT ACCESS FUNCTION OF ROADWAY TYPE

Reference: Institute of Traffic Engineers. *System Considerations for Urban Arterial Streets*. October 1988. (Modified by CH2M HILL)

THE SRA PROJECT (Continued from Page 1)

- Access Management—To reduce conflicts and improve safety;
- Median Control—To provide for left-turning vehicles, direct turning movements to desired locations, and reduce centerline conflicts;
- Structural Clearance Improvements—Both vertical and horizontal clearances;
- Traffic Operational Improvements—Such as signing and pavement markings; and
- Drainage Problem Correction—Whenever required.

The design concepts also address criteria and conditions from removal of curb parking and implementation of high-occupancy vehicle (HOV) lanes.

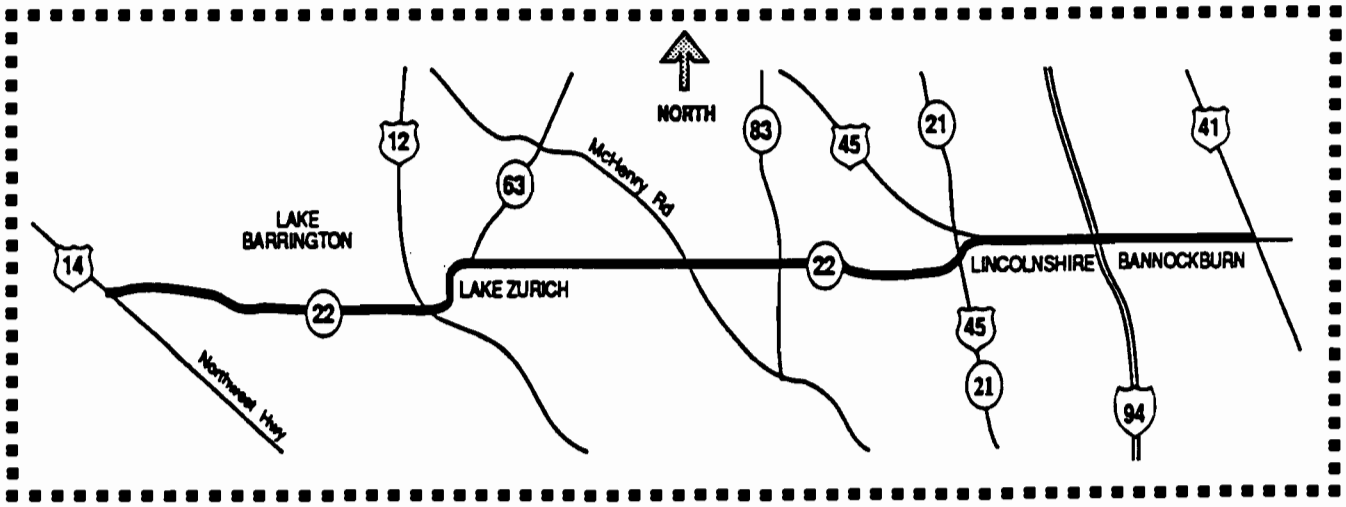
Studies of SRA Routes

The concepts and standard developed thus far and modified or enlarged upon as work progresses will be applied to the entire 1,340 miles of SRA routes in five consecutive studies. This study, being accomplished by the consulting firm of CH2M HILL, Inc., is concerned with a total of 305 miles of SRA routes in 12 corridors. The routes selected for this phase of the SRA study process reflect a variety of area types—from rural U.S. 14 in McHenry County to suburban settings such as Barrington Road in Cook County or County Farm Road in Du Page County, and urban Pershing Road and Archer Avenue in the City of Chicago. The resultant plans for each of these routes will include both short- and long-term improvements. Studies will be made of additional sets of roadways each year beginning in 1992 until the entire SRA system has been completed.

A second part of this project consists of identifying and evaluating performance parameters to be used for increasing the effectiveness of various improvements along the SRA routes. This work will be carried on concurrently with the individual SRA corridor analyses.

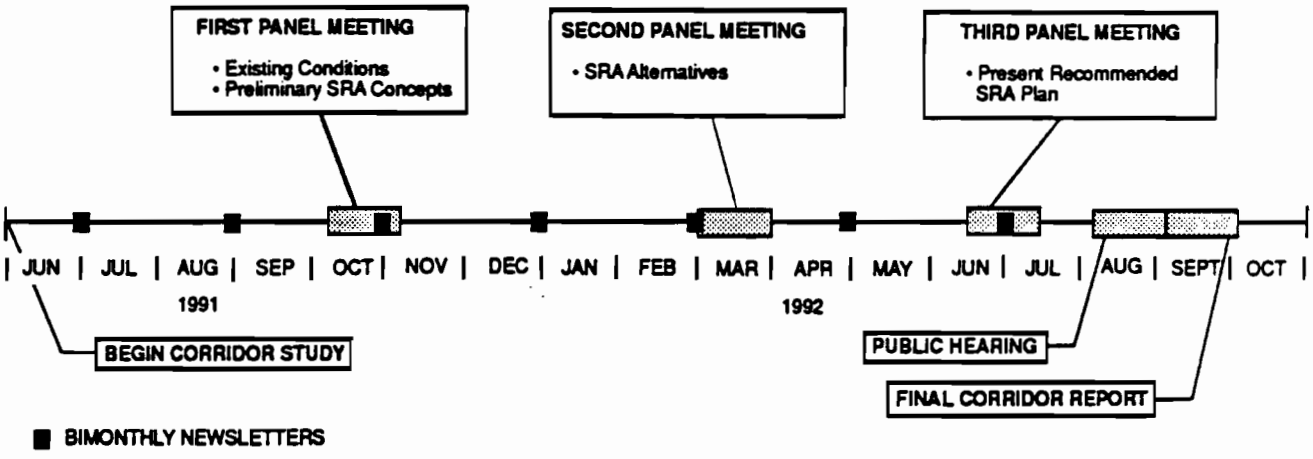
The Illinois Route 22 Corridor

The map below shows the extent of the Illinois Route 22 SRA Corridor that is the concern of this Advisory Panel. The corridor, which traverses Lake and McHenry Counties, extends west from U.S. 41 to U.S. 14. The total length of this corridor is approximately 20 miles.



STUDY PROCESS AND SCHEDULE

CORRIDOR 5–ILLINOIS ROUTE 22 FROM U.S. 41 TO U.S. 14



ROLE OF THE ADVISORY PANEL

Who should be on the Panel?

The panel is composed of government representatives of jurisdictions along this corridor. The panel may also wish to add representatives from business and community organizations along the route.

What are the duties of the Panel?

The panel is responsible for reviewing and commenting on the study recommendations and conclusions. Panel members also assist the consultant team by identifying and assembling specific data and information about land use, transportation, and development within their respective jurisdiction. During July and August, the Chicago Area Transportation Study (CATS) will be contacting the advisory panels on behalf of the consultant team to gather corridor-specific data.

How often will the Panel meet?

There are three planned Panel meetings involving the consultant, the Illinois Department of Transportation, and CATS. The Advisory Panel may also elect to meet at other times. It would be the responsibility of the coordinator of the Panel to inform members of topics and arrange the program.

Will the consultants be available to meet separately with representatives of all the communities along the route?

No. The Advisory Panels are the only formal community contact included within the contract for consultant services. However, the consultant team does plan to meet informally with community officials, as needed, to gather information and identify local concerns.

SPOTLIGHT ON THE SPOTLIGHT

What to Expect in Future Editions. . .

The SRA Spotlight will be issued about every 2 months during the course of the study. Future issues will be designed to keep you abreast of study progress and answer your questions. Some features of future Spotlights will be:

- Reports on project developments such as panel meetings, public hearings, and other forums;
- A regular section presenting answers to questions raised at corridor meetings for this corridor, or in other corridors if the information would be universally useful;
- A status report to keep you up-to-date on study findings, and recommendations; and
- Announcements of forthcoming activities that will involve panel members and others in the corridor.

There is also a form on the facing page that you are encouraged to use to give us your views and ideas regarding future issues of the Spotlight.

SRA SPOTLIGHT

Publisher:
The Illinois Department of Transportation

Editor:
CH2MHILL

For:
The Strategic Regional Arterials Plan

Advisory Panel

Coordinator:

Mark Schmidt
Lake County Division of Transportation

Panel Members:

Bannockburn
Buffalo Grove
Fox River Grove
Highland Park
Kildeer
Lake Barrington
Lake Zurich
Lincolnshire
Long Grove
North Barrington
PrairieView

For More Information, Please Contact:

Mark Schmidt
Planning & Program
Lake County Division of Transportation
P.O. Box 220, Winchester Road
Libertyville, Illinois 60048

NO. 2 SEPTEMBER 1991

SRA SPOTLIGHT
ILLINOIS ROUTE 22 CORRIDOR ADVISORY PANEL

SRA ROUTE TYPES

The extent of the Strategic Regional Arterial (SRA) network was described in Newsletter Number One. It consists of 1340 miles of existing roads in Northeastern Illinois, encompassing 146 route segments in the six-county area. Within this network there are significant differences in the roadway environment which determine how various types of routes may function in the system. Three different types of SRA routes have been designated, corresponding to three different types of roadway environment

- **Urban Routes**
- **Suburban Routes**
- **Rural Routes**

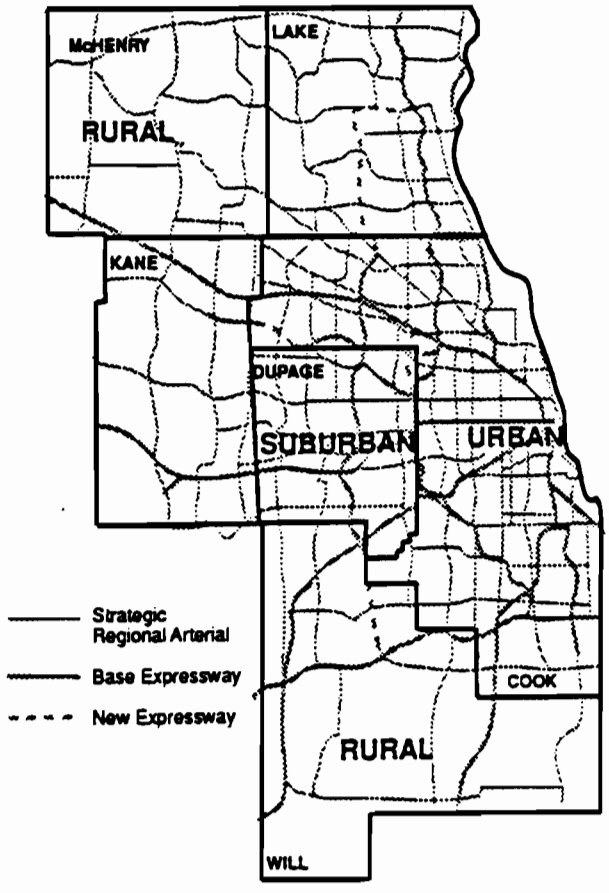
The designation of route types within the overall SRA system reflects the density of development within the different portions of the region. The projected density of households for the year 2010 was used as the criterion for defining density of development for the route types. Densities which correspond to each of these route types are:

- **Urban routes: Densities over 5.0 households per acre by 2010.**
- **Suburban routes: Densities between 0.5 and 5.0 households per acre by 2010.**
- **Rural routes: Densities less than 0.5 households per acre by 2010.**

The areas for each route type are shown in the accompanying map. Urban routes are located in the City of Chicago and adjacent portions of more densely developed suburbs such as Oak Park. Suburban route designations encompass most of suburban Cook and Lake Counties, all of DuPage County, and the more developed portions of McHenry, Kane and Will Counties. Within each of the three areas, continuity of route type is maintained based upon the overall density of 2010 development.

The *Design Concept Report*, prepared in 1990 and endorsed by the Policy Committee of the Chicago Area

2010 STRATEGIC REGIONAL ARTERIAL SYSTEM



ROADWAY FEATURES RELATED TO TYPE OF FACILITY

Transportation Study (CATS) earlier this year, set out desirable characteristics for each type of SRA route in year 2010.

Urban Routes

The desirable cross-section for SRA routes in urban areas is shown below. It consists of two traffic lanes in each direction, preferably with a median to separate the traffic flows and provide protection for turning vehicles. An additional curb lane may be provided in some circumstances for use by buses or other high-occupancy vehicles (HOV's). Curb parking is not recommended; it should be replaced in offstreet facilities wherever possible.

All major intersections on urban SRA routes would be signalized and interconnected into signal networks or signal systems with pedestrian actuation where needed. Intersections would also provide left- and right-turn lanes where right-of-way is available.

Transit service enhancements would be considered on urban SRA routes which accommodate bus routes. Actions would also be taken to manage access thereby improving traffic operations and enhancing safety.

Suburban Routes

The desirable cross-section for SRA routes in suburban areas is shown below. Recommended features are three through lanes in each direction, a raised median and turn lanes at intersections. Capacity increasing measures also include signal synchronization, transit and pedestrian amenities, and policies related to access and parking.

Major intersections and interchanges with other SRA routes are of prime concern in the suburban areas (and in rural areas, discussed next). Left- and right-turn lanes would be provided at all major signalized intersections. At many suburban intersections, turning movements are very high and may warrant double left turn lanes. A grade-separated interchange would be considered, at intersections between two SRA routes, if right-of-way is available and if conditions warrant.

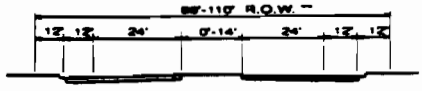
Access management is another key consideration in suburban areas. It is recommended that access to abutting properties be limited to right-in, right-out traffic movements. In suburban areas where there are numerous curb cut access points to properties, these may be combined into a single point.

Rural Routes

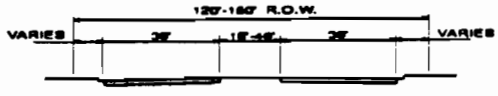
Desirable cross-sections for SRA routes in rural areas are shown below for facilities with and without frontage roads. The rural SRA route would consist of two travel lanes in each direction with left-turn lanes at all intersections and a wide median. As with suburban routes, all major intersection would be signalized and a grade-separated interchange would be considered wherever two SRA routes intersect.

Frontage roads would be considered on rural SRA routes if there are a number of closely spaced driveways and/or groupings of potentially dangerous intersections. Particular attention would be paid to the treatment of frontage road intersections at cross streets that access the SRA systems.

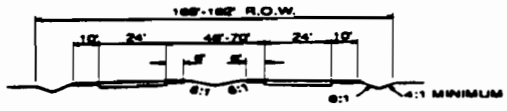
CROSS SECTIONS



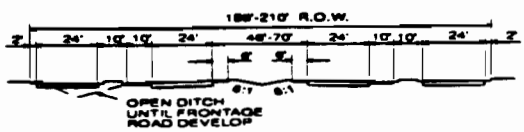
URBAN



SUBURBAN



RURAL

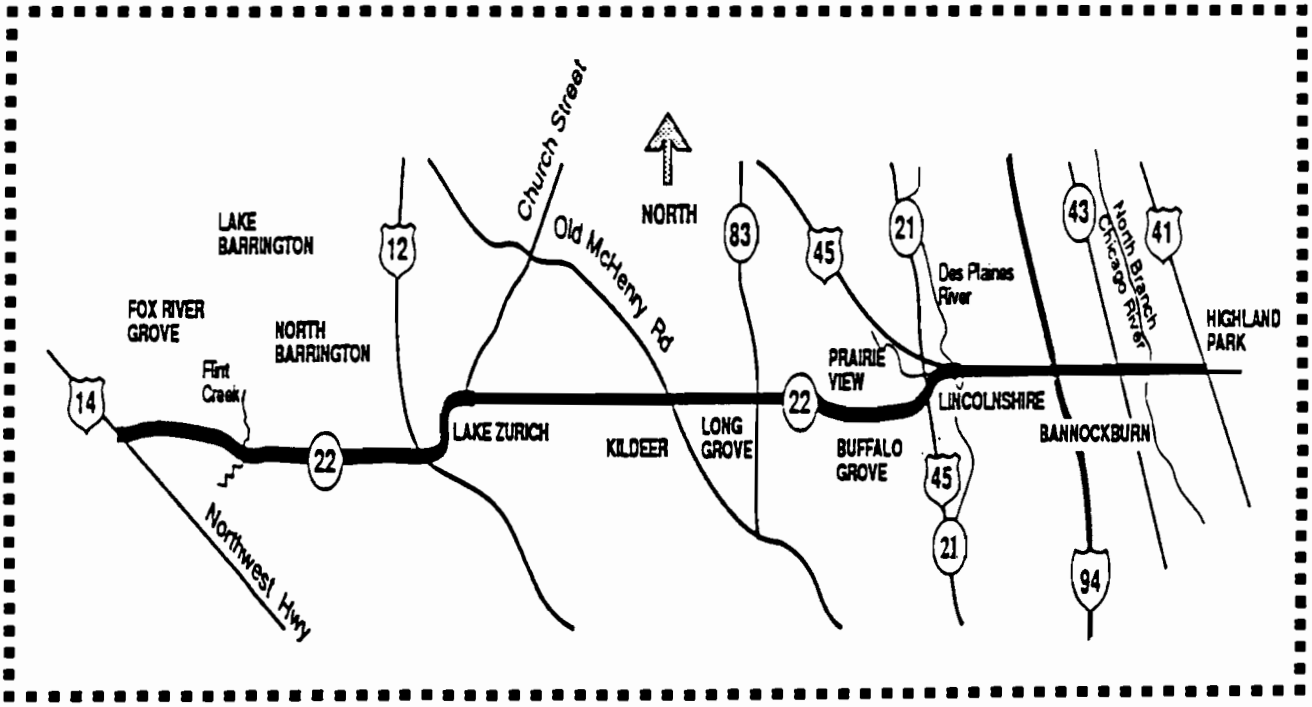


RURAL WITH FRONTAGE ROADS

ROUTE TYPE CONSIDERATION IN THE ILLINOIS ROUTE 22 CORRIDOR

The Illinois Route 22 Corridor

Illinois Route 22 has been designated an SRA corridor from U.S. 14 (Northwest Highway) to U.S. 41 (Skokie Highway). The corridor, along with the municipalities through which it travels, are shown on the accompanying map. The Illinois Route 22 SRA has been classified as suburban along its entire length. The ultimate 2010 desirable characteristics of a suburban SRA could include a six-lane cross section with a raised median and 120 to 150 feet of right-of-way. Several segments along Illinois Route 22 are considered to offer special circumstances. The segment within the commercial district of Lake Zurich offers the most obvious example. This segment is characterized by narrow right-of-way, proximate buildings, sharp curves, parks, a lake, an at-grade rail crossing, and a historical building. Other areas for consideration along Illinois Route 22 include a narrow right-of-way (less than 120 feet) developed residential areas, wetlands, nature and forest preserves, five other SRA crossing routes, an interstate crossing, and three at-grade railroad crossings.



YOU CAN HELP

There are a number of ways that you, as a panelist for this SRA route segment, can assist in producing the best and most acceptable plan for this corridor.

- A call has gone out earlier for copies of background data, reports, and other information pertaining to the SRA route. It is extremely important that the project engineers and planners have access to previous as well as ongoing work. If you have not yet responded please provide copies to the panel coordinator as soon as possible. Also, if there are any additional areas of concern that you feel should be considered in this process, your panel coordinator should be made aware of this information.

- Please plan to attend panel meetings. These are important sessions that can set the tone for the remainder of the planning study.

SRA SPOTLIGHT

Publisher:
The Illinois Department of Transportation

Editor:
CH2MHILL

For:
The Strategic Regional Arterials Plan

Advisory Panel

Coordinator:

Mark Schmidt
Lake County Division of Transportation

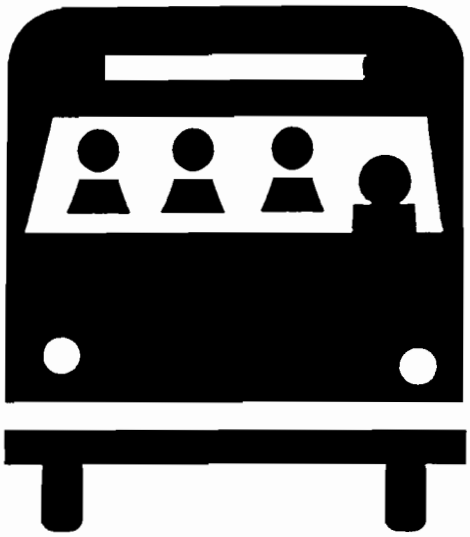
Panel Members:

Bannockburn - William S. Trukenbrod
Buffalo Grove - Sidney H. Mathias
Fox River Grove - Daniel J. Shea
Highland Park - Daniel M. Pierce
Kildeer - George L. Welch
Lake Barrington - Nancy K. Smith
Lake Zurich - James W. Kay
Lincolnshire - Barbara LaPiana
Long Grove - George C. Dickson
North Barrington - Walter R. Clarke, Jr.
Prairie View - (Unicorporated)
Lake County - Martin G Buehler
McHenry County - James R. Rakow
William J. Baltutis
Al Pickett

NO. 3 JANUARY 1992

SRA SPOTLIGHT
ILLINOIS ROUTE 22 CORRIDOR ADVISORY PANEL

PUBLIC TRANSIT



The success of today's transportation system and the viability of its future depend on a "balanced" system, one that provides a mixture of modes and optimizes mobility in terms of convenience, comfort, safety, and economy. A key element of this balanced system has long been to give preferential treatment to public transit and other high-occupancy vehicles (HOV).

The Strategic Regional Arterial (SRA) system is intended to accomplish certain specific objectives within the overall transportation system, one of which is to enhance public transportation and personal mobility. This may be accomplished by:

- Improving access to rail transit stations
- Improving operating conditions for buses and other vehicles
- Identifying opportunities for future transit facilities
- Maintaining pedestrian accessibility

These strategies are being investigated for application in plans for each of the SRA routes under study.

Improved Transit Station Accessibility

Existing transit stations along SRA routes will be evaluated for potential improvements to increase accessibility from the SRA. Increased accessibility may motivate more people to make regional trips utilizing transit, thereby reducing the number of vehicles on the SRA. Accessibility could be improved by one or more of the following techniques.

- **Actuated Traffic Signals**—Transit station usage is extremely intensive during peak periods. Incorporating traffic signals with phasing and timing that responds to varying daily traffic levels will make transit stations more accessible and reduce delays. If new traffic signals are proposed at transit stations, they should meet the established traffic warrants and spacing of signals criteria.
- **Turn Lanes**—To maximize through traffic movements for vehicles not wishing to access transit stations, channelized right- and left-turn lanes could be constructed for vehicles turning into transit stations. If demand is high enough, dual left- and/or right-turn lanes might be constructed. Appropriate storage bays for turning vehicles must also be implemented.
- **Parking Improvements**—Parking lot expansion for commuters will be investigated. Preferential parking stalls nearest to transit stations could be designated for HOV. Secure bicycle parking also should be provided at most suburban transit stations.
- **Pedestrian Grade Separations**—If substantial parking for a transit station is located on the opposite side of a SRA, grade separation for the pedestrian movement could be considered. This would tend to reduce delays on the SRA caused by at-grade pedestrian flow, and would also improve safety and convenience for the pedestrians.

Improved Operating Conditions for Buses

A number of transit enhancements will be considered both to relieve traffic congestion and improve operating conditions for buses.

Bus Service on Rural SRAs

Bus services operating on rural SRAs should, if possible, be limited to express service. The buses should have signal preemption capability that can be deployed when they are running behind schedule. Because of the high-speed characteristics of these facilities, flag stops are not considered appropriate. Wherever possible, bus stops on these routes should be planned as public-private cooperative ventures in conjunction with activity centers. These off-the-road sheltered stops would also serve connecting routes and incorporate park-and-ride facilities. They would be located at 2- to 5-mile intervals. Bus stops should be located on the actual SRA routes when there are no opportunities for off-road facilities, and/or to serve riders transferring from connecting services.

Bus Service on Suburban SRAs

Similar to bus services for rural SRAs, bus services on suburban SRAs should be express buses. Where possible or feasible express bus service should be equipped with priority signal preemption capability that can be deployed when they are running behind schedule. Bus stop locations should occur every one-half to 1 mile. Variable factors to consider in locating the stops are:

- Whether there are intersecting bus routes with a corresponding potential for transferring riders; and
- Whether there are significant residential, commercial/retail, or office developments to be served along the route.

The stops would be designed as turnouts and would accommodate connecting services. Walkways to stops of intersecting services would facilitate transfers and promote safety. Near-side and far-side bus stop configurations would be planned to minimize distance between connecting lines.

Bus Service on Urban SRAs

On urban SRA routes that accommodate bus service, a number of transit service enhancements will be reviewed to determine their potential for relieving traffic congestion. One basic technique would be to remove parking from the bus travel lanes, and strictly enforce parking restrictions. Signal system modification represents another potential area for enhancement.

Bus stop turnouts are not considered practical on urban SRAs. On a route-specific basis, however, both the locations and spacing of bus stops will be reviewed. Major objectives would be to eliminate stops in excess of one per block, and to eliminate conflicts with right turns. Where the blocks are short, as in the central area, stops could be located at every second block.

Exclusive Bus Lanes

Another strategy to improve travel times is to establish exclusive lanes for buses and HOV during the morning and evening peak travel periods. This approach would be reserved for SRAs with at least three traffic lanes in each direction (see Figure1, which illustrates the "diamond lane" concept). A companion measure essential to the effectiveness of exclusive lanes is minimizing access points to the roadway by eliminating curb cuts wherever possible.

Figure 2 illustrates median bus lane treatment on an urban SRA route. If this treatment is adopted, automobile left turns from the urban SRA route should be permitted only at other SRA routes.

Lanes on urban SRA routes could also be dedicated to buses that travel in the reverse direction from the normal traffic flow. Figure 3 gives an example of a typical transit contra-flow lane. Contra-flow lanes have been used in downtown Chicago, and have been very effective in reducing both bus travel times and bus operating expenses. However, because of accident potential, transit contra-flow lanes are generally only recommended when additional lanes cannot be added easily because of space limitations and where reserve capacity is available in the non-peak direction.

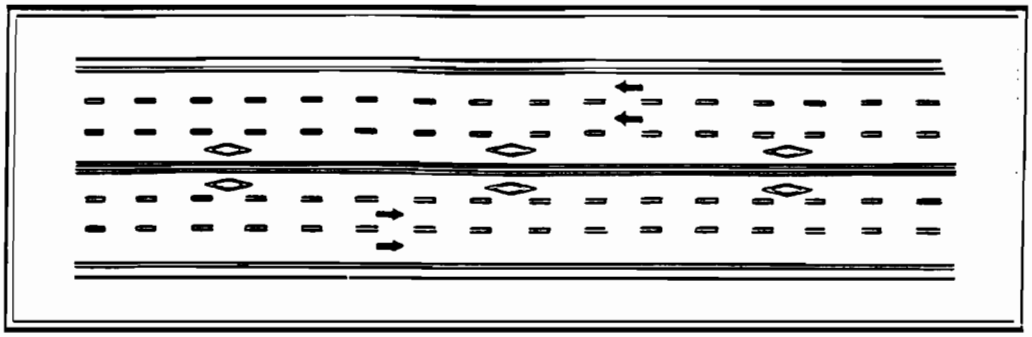


Figure 1 "Diamond Lanes"

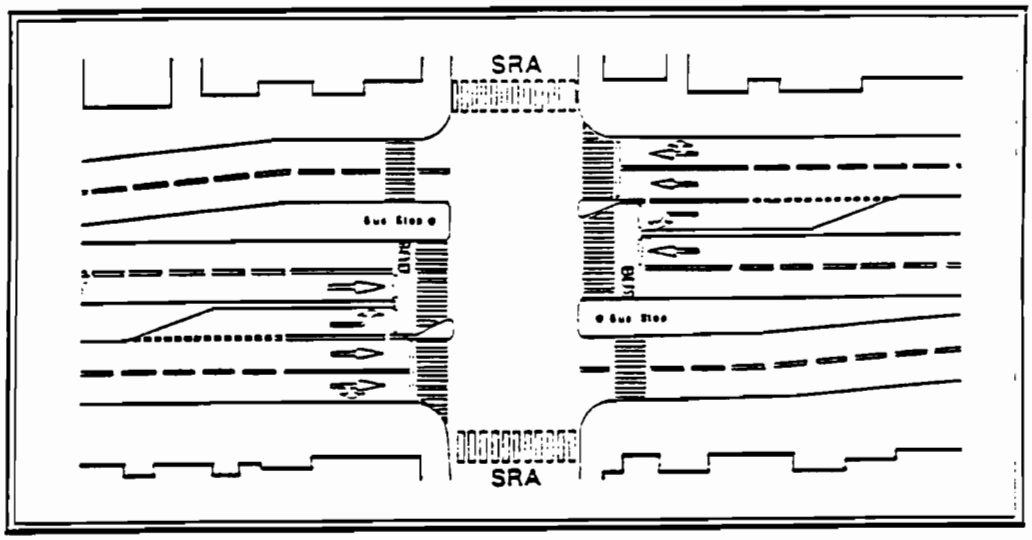


Figure 2 Center Bus Lane Treatment - Urban SRA

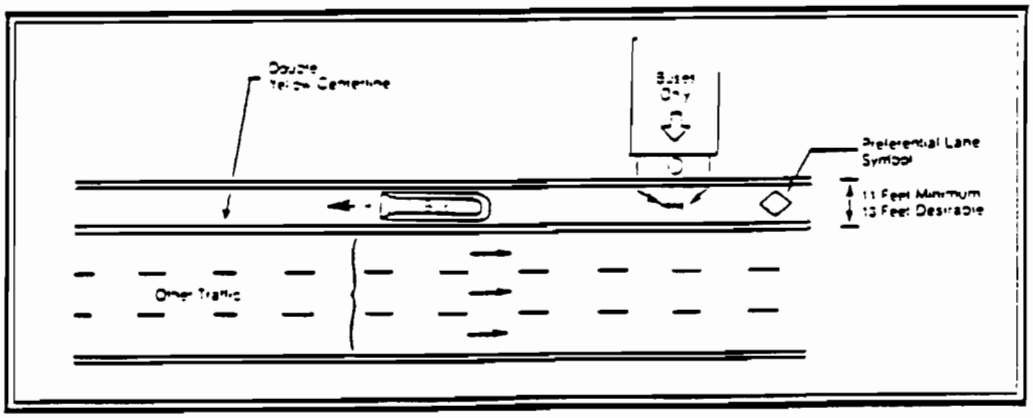


Figure 3 Typical Transit Contra-Flow Lane

Identifying Opportunities for Future Transit Facilities

Plans for SRA routes will consider opportunities to incorporate future transit and associated facilities such as:

- Busways
- High-Occupancy Vehicle (HOV) Lanes
- Ridesharing Facilities

Furthermore, SRA routes will consider incorporating future light - rail systems or circulator and shuttle systems where future plans already exist.

Maintaining Pedestrian Accessibility

Safe movement and accessibility are key issues for bicycles and pedestrians. The urban SRA corridors are likely to experience the greatest concentration of pedestrians and cyclists. The density of developments coupled with shorter trip-making encourage these travel modes. Additionally, the urban SRA routes experience heavy traffic volumes. In these urban areas, close parallel routes are usually present and continuous. These parallel facilities should be identified as bicycle routes so that the SRA routes can focus on their primary responsibility—carrying regional traffic. The design of most urban SRA routes already includes sidewalks for pedestrians and should continue to do so under maximum design. Handicapped access ramps for pedestrians also will be considered at intersections and curb cut locations.

On rural and suburban SRA routes, more options are available for handling pedestrian and bicycle access. For example, while right-of-way availability is still a critical issue, dense development immediately adjacent to the roadway may not be as common an occurrence as in urban areas. In certain cases provisions for bicycles and pedestrians may be accommodated within the SRA right-of-way itself. In these situations, alternative parallel routes may not always be available. The choice of how to provide access within the SRA corridor will be based on each unique situation. Where an existing bicycle and pedestrian facility already exists, the goal is to have a continuous system of bicycle and pedestrian facilities.

Illinois Route 22 Project Status

To date, about 30 percent of the study of Illinois Route 22 (IL 22) is complete. In October, IDOT and the consultant team held the first Advisory Panel Meeting. At this meeting, the existing conditions of the IL 22 corridor were reviewed with panel members. The second Advisory Panel Meeting is scheduled for early February. Advisory Panel members will be contacted in the near future to set the date, time, and location. At this second meeting, the panel will discuss long-range alternatives for improvements to the IL 22 corridor. The third Advisory Panel Meeting is scheduled to take place in the summer of 1992, and a Public Hearing is scheduled tentatively for the fall of 1992.

SRA SPOTLIGHT

Publisher:
The Illinois Department of Transportation

Editor:
CH2MHILL

For:
The Strategic Regional Arterials Plan
Advisory Panel

Coordinator:

Mark Schmidt
Lake County Division of Transportation

Panel Members:

Bannockburn - William S. Trukenbrod, President
Buffalo Grove - Sidney H. Mathias, President
Fox River Grove - Daniel J. Shea, President
Highland Park - Daniel M. Pierce, Mayor
Kildeer - George L. Welch, President
Lake Barrington - Nancy K. Smith, President
Lake Zurich - James W. Kay, Mayor
Lincolnshire - Barbara LaPiana, Mayor
Long Grove - George G. Dickson, President
North Barrington - Walter R. Clarke, Jr., President
Prairie View - (Unicorporated)
Lake County - Martin G. Buehler, Director of Transportation
McHenry County - James R. Rakow, Superintendent of Highways

NO. 4 MARCH / APRIL 1992

SRA SPOTLIGHT

ILLINOIS ROUTE 22 CORRIDOR ADVISORY PANEL

Relationship of Transportation Planning to Land Use and Development

Land Use and the SRA Plan

The success of today's transportation system and the viability of its future depend upon integrating arterial improvements with future development plans. Road improvements have the potential to stimulate land use changes, which in turn, can impact the efficiency of the transportation system. Improved accessibility, a common component of transportation system improvement plans, can influence land development, particularly when combined with other contributing factors such as land availability, market trends, local zoning and land use policies, water and sewer extension policies, and proximity to population centers.

The Strategic Regional Arterial (SRA) network, which consists of 1,340 miles of existing roads, encompasses 146 routes in Cook, DuPage, Kane, Lake, McHenry, and Will Counties. Within this network there are significant differences in the roadway environment that determine how various types of routes may function in the system. Land use impacts also will vary, depending upon whether the route traverses an urban, suburban, or rural area. In rural or suburban areas, there may be large tracts of vacant land that may undergo development, requiring coordinated access; in urban areas, maintaining or improving access and parking to existing developments are primary issues.

In high-demand areas, consideration of access management and design improvements are necessary to ensure maintenance of a good level of service. A key element of the SRA plan is to balance the goals of an arterial's function, to carry high volumes of long-distance traffic, with existing and future land use access needs. This may be accomplished by:

- Understanding future regional growth trends; and
- Understanding and accommodating local planning efforts.

Understanding Future Regional Growth Trends

By the year 2010, substantial increases in population, number of households, and employment are projected for the Chicago metropolitan region. Total population is projected to grow by 17.2 percent—from 7.1 million in 1980 to over 8.3 million by 2010. Population growth will be most significant outside of Cook County (which contains the city of Chicago) in the suburban counties. Each of the six counties, with the exception of Cook County, is projected to grow by nearly 50 percent over the 30-year period (1980 to 2010). The following table details population growth and percent change over the 30-year period.

Projected Population Change, 1980-2010

County	1980	2010	Population Increase	Percent Change
Cook	5,253,700	5,567,400	313,700	6.0
DuPage	658,800	985,600	326,800	50.0
Kane	278,400	426,100	147,700	53.1
Lake	440,400	640,700	200,300	45.5
McHenry	147,900	235,800	87,900	59.4
Will	324,500	472,400	147,900	45.6
Region	7,103,600	8,327,900	1,224,300	17.2

Source: Northeastern Illinois Planning Commission

Changing demographics have altered household structure, bringing a dramatic increase in the number of single-person and single-parent-headed households, a factor that will continue to shape markets in the coming years. In the region, the number of households is projected to increase by 31.1 percent (774,000 new house-

holds) between 1980 and 2010—reaching over 3.2 million. Nearly half of the new households will be in Cook County, which will add close to 350,000 households. Lake, Kane, McHenry, Will, and DuPage Counties will see the greatest percent change—with households increasing by well over 50 percent of 1980 levels.

Projected Household Change, 1980-2010

County	1980	2010	Household Increase	Percent Change
Cook	1,879,400	2,228,000	348,600	18.5
DuPage	222,000	368,500	146,500	67.0
Kane	93,700	160,100	66,400	70.9
Lake	139,700	240,200	100,500	72.0
McHenry	49,100	87,800	38,700	78.8
Will	103,100	170,900	67,800	65.7
Region	2,486,700	3,260,700	774,000	31.1

Source: Northeastern Illinois Planning Commission

The region's employment is projected to increase by 34.6 percent by 2010—to over 4.5 million jobs. Cook, DuPage, and Lake Counties will continue to be the major employment centers in the region. Employment in DuPage County is projected to more than double over the 30-year time period—from 284,700 to 641,500 jobs. In Lake County, the number of jobs will increase from 162,000 to 306,700 between 1980 and 2010.

Projected Employment Change, 1980-2010

County	1980	2010	Employment Increase	Percent Change
Cook	2,697,000	3,249,100	551,100	20.5
DuPage	284,700	641,500	356,800	125.3
Kane	119,100	174,400	55,300	46.4
Lake	162,000	306,700	144,700	89.3
McHenry	47,000	73,200	26,200	55.7
Will	91,700	134,100	42,400	46.2
Region	3,401,400	4,579,100	1,777,700	34.6

Source: Northeastern Illinois Planning Commission

Understanding and Accommodating Local Land Use Plans

To provide an SRA corridor plan that addresses future development, comprehensive land use plans requested from each community have been integrated into the SRA transportation planning effort. From these land use plans, it is possible to make a better determination of:

- Potential future access locations
- Need for frontage roads, collector roads, etc.
- Optimal future traffic signal locations
- Potential for development of transit plans

In existing or future areas of intense commercial development, SRA corridor planning can focus on:

- Consolidating driveways, coordinating closely-spaced access points
- Mitigating impacts to on-street parking
- Optimal median types and dimensions (such as raised versus flush medians)

In residential areas, or near parks and schools, the corridor plan can focus on:

- Accommodating pedestrian activities
- Addressing aesthetic issues to minimize adverse visual impacts of corridor improvements

It is important to note that local units of government control land use and development. The SRA corridor plan attempts to coordinate future transportation needs based on community plans, but if land use policy changes, or if a land use plan is not implemented, the transportation system will be affected. Thus, a good transportation system depends upon implementation of effective land use controls and enforcement of land use plans.

Land Use Considerations in the Illinois Route 22 Corridor

This SRA extends from U.S. 14 to U.S. 41. The corridor is shown on the accompanying map. The corridor is classified "suburban" over its entire length. Notable areas where land use is changing, or where trends imply future potential access concerns, are:

- The adjacent land uses west of U.S. 12 generally will be residential, with the exception of the Good Shepherd Hospital area.

- Adjacent land uses in Lake Zurich and Lincolnshire, and near U.S. 14, Illinois Route 43, and U.S. 41, will remain commercial.
- The predominant land use near the I-94 interchange will continue to be office.
- Generally, the predominant land use along Illinois Route 22 is, and will continue to be, low-density residential.

Considerations for mitigating potential adverse impacts of future development could include providing access control, requiring additional right-of-way reservation for frontage roads, or providing enhanced access to the development or site.

Illinois Route 22 Corridor Project Status

The second Advisory Panel Meeting for the Illinois Route 22 Corridor was held February 19, 1992. At this meeting, alternative improvements under consideration were presented and discussed, and input was solicited from the panel members. The project team will consider the comments from the panel, and a detailed plan will be presented and discussed at the third panel meeting in the late summer of 1992.

Illinois Route 22 Corridor Concept Plan

The following map illustrates the proposed SRA corridor concept plan for the Illinois Route 22 Corridor, as presented at the second Advisory Panel Meeting.

SRA SPOTLIGHT

Publisher:
The Illinois Department of Transportation

Editor:
CH2MHILL

For:
The Strategic Regional Arterials Plan

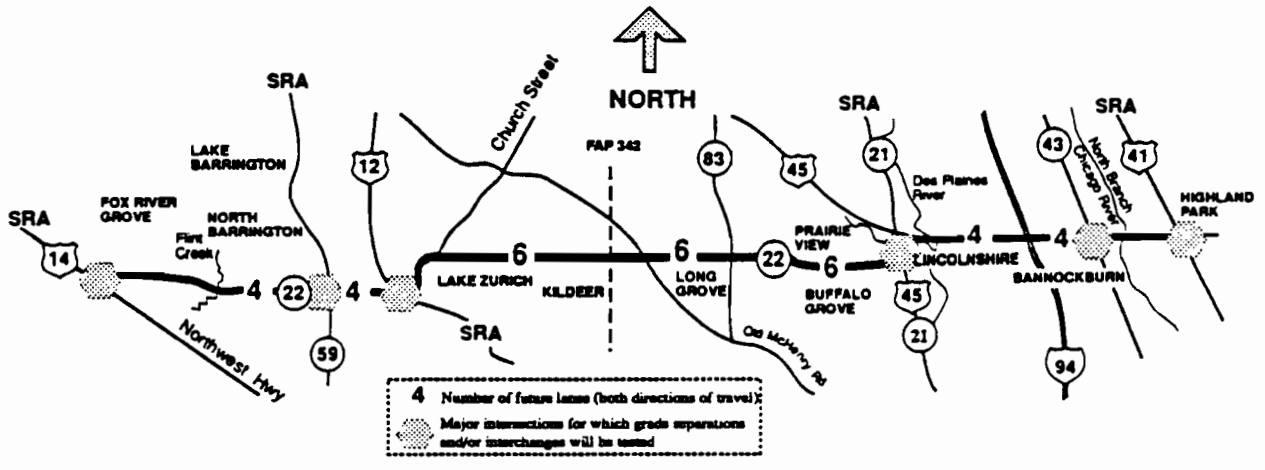
Advisory Panel

Coordinator:
Mark Schmidt
Lake County Division of Transportation

Panel Members:
Bannockburn - William S. Trukenbrod, President
Buffalo Grove - Sidney H. Mathias, President
Fox River Grove - Daniel J. Shea, President
Highland Park - Daniel M. Pierce, Mayor
Kildeer - George L. Welch, President
Lake Barrington - Nancy K. Smith, President
Lake Zurich - James W. Kay, Mayor
Lincolnshire - Barbara LaPiana, Mayor
Long Grove - George G. Dickson, President
North Barrington - Walter R. Clarke, Jr., President
Prairie View - (Unincorporated)
Lake County - Martin G. Buehler, Director of Transportation
McHenry County - James R. Rakow, Superintendent of Highways

Invited Advisor:
TMA of Lake Cook - William J. Baltutis, Executive Director

ILLINOIS ROUTE 22 CORRIDOR CONCEPT PLAN



NO. 5 JULY 1992

SRA SPOTLIGHT
ILLINOIS ROUTE 22 CORRIDOR ADVISORY PANEL

The Function of a Strategic Regional Arterial

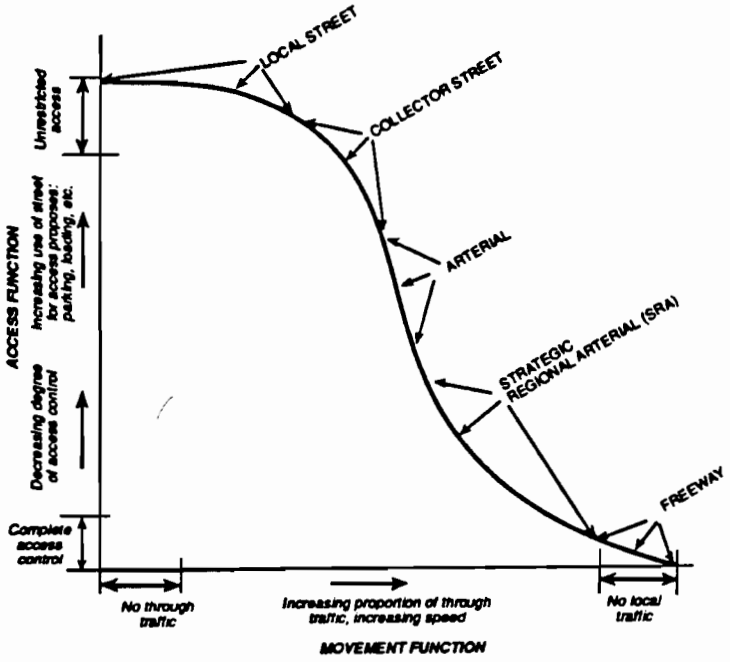
For streets and highways in metropolitan areas to operate efficiently, the functions they are to perform must be classified, and the types of facilities that best accommodate these functions must be identified. Facilities designed specifically for a given type of movement suit that purpose best; matching use and design helps to ensure consistent, uniform flow, which contributes to operational efficiency and safety.[1] An area's street and highway system can be classified schematically by relating the proportion of *movement* function to *access* function. This concept is illustrated graphically in the accompanying chart. At its functional extreme, a local access or residential street is devoted almost entirely to providing access to abutting properties; the freeway, on the other hand, serves only the movement function.

The Illinois Department of Transportation (IDOT) has designated 1,340 miles of existing roadways in northeastern Illinois as *Strategic Regional Arterials* (SRAs). This functional classification falls between the general "arterial" category and "freeway" class.

SRAs are intended to provide more of the movement function, and less access to abutting land uses, than "arterial" roadways. Also, on SRAs trip lengths will be longer and movement will be faster than on other arterial or collector streets. However, despite the focus on accommodating the movement function, considering the access function also is vital because SRA routes pass through numerous villages and cities.

SRA Benefits

Communities affected by SRAs often ask: "What is achieved by the SRA system?" or "How will SRA improvements benefit my community?" The remainder



MOVEMENT ACCESS FUNCTION OF ROADWAY TYPE

Reference: Institute of Traffic Engineers. *System Considerations for Urban Arterial Streets.* October 1969. (Modified by CH2M HILL)

[1]Gruen Associates. *Traffic Circulation Planning for Communities.* 1974.

of this newsletter addresses and provides answers to these questions.

Local communities benefit from SRA designation and planning by realizing the following improvements:

- Enhanced traffic safety
- Improved traffic operations
- Reduced environmental impacts
- Reduced neighborhood impacts
- Increased local land use and transportation planning

These benefits may result from physical improvement of SRA routes and/or the overall planning process leading to implementation of the SRA concept.

Improvement Benefits

Benefits in safety, traffic operations, and the environment result directly from SRA improvements to the number and arrangement of driving lanes, traffic and access controls, and lane arrangements at intersections.

Safety

Driver and pedestrian safety on SRAs may be enhanced by improving intersections and medians, by controlling access, and, in some instances, by restricting or prohibiting parking.

Intersection Improvements

Research shows that adding a channelized left-turn lane at an intersection reduces accidents significantly. Although adding turning lanes is the most obvious example of a physical intersection improvement, coordinating traffic signal timing between several intersections or revising signal phasing, which are less obvious, also are important improvement considerations. Separate signal phases for pedestrians and cyclists also may be implemented to enhance safety on a SRA.

Median Improvements

Providing a raised or a painted median for a SRA separates opposing traffic flows and affords a "refuge" for pedestrians crossing the street. Two-way left-turn lanes that allow left turns at all locations along the SRA have been shown to result in accident reductions of 25 percent or more.

For higher-speed rural facilities, dramatic safety improvements result when a four-lane divided highway can be implemented (versus a two- or four-lane undivided roadway).

Access Management

Frequent access drives along a SRA—with consequent turns into and out of roadside development—are another source of accidents. Research shows that restricting the frequency of driveways, or restricting left turns at driveways at a minimum, will result in a lower accident rate. Improved access management, which goes along with development of the SRA system, also can enhance driver and pedestrian safety.

Parking Regulation

Eliminating or restricting curb parking on some portions of the SRA system will not only promote better traffic flow, but will eliminate accidents that may be attributed to parking and "un-parking" maneuvers. In order to support local activity and to satisfy parking demand, parking spaces that are removed from the curb usually will need to be replaced in off-street facilities, where parking can be managed easily and accessed safely.

Traffic Operations

Along with safety enhancements, physical improvements to the street system such as adding lanes, providing a median, or controlling access also promote better traffic operations. Drivers will be able to complete their journey on a SRA with fewer starts and stops, and at consistent, acceptable, and safe speeds.

Environmental Impacts

Good traffic operations produce an important benefit: reduced fuel consumption and a resultant air quality improvement. Vehicles travelling smoothly emit less pollutants than vehicles under congested flow conditions. In the Chicago metropolitan area, which has been designated a "severe non-attainment area" for air quality, maintaining smooth, efficient traffic operations is critical. Motor vehicles contribute as

much as 60 percent of ozone-forming pollutants—a significant component of the smog that occurs on hot days. Pollutant emissions are a particular problem in areas of congestion; high emissions result from frequent stops, long periods of vehicle idling, and very low speeds. More efficient traffic flow on the SRA network, therefore, will help the Chicago area to meet its clean air objectives.

System Benefits

Along with direct safety, operations, and environmental benefits that will result from SRA improvements, there also are several important systemwide advantages to be gained from the SRA program.

Neighborhood Impacts

Ultimately, the objective of designating functional classifications for the street and highway system is to ensure that the specific roadway category is used by the type of driver for which it is intended. When "through" traffic intrudes into residential neighborhoods, the blame almost always can be placed on inadequacies in the arterial system (which the drivers should have used for those trips instead). A key objective of planning and providing an effective SRA system is to afford and to promote a viable travel alternative and, consequently, to rid local streets of unnecessary and unwanted through traffic. The result will be safer, quieter, cleaner, and generally more pleasant residential neighborhoods.

Business District Impacts

Many SRAs pass through local business districts. Optimizing traffic flow into and through the business district at safe speeds can help the district to retain its vitality and to reinforce consumer attraction. It is important to strike a balance between the needs of shoppers and pedestrians, and the needs of drivers approaching and passing through the business district. Relocation of on-street parking, special attention to transit stops, and selected intersection improvements all serve to maintain and to enhance both accessibility to the business district (and improve SRA operations).

Land Use and Transportation Planning

The present, ongoing SRA studies fall under the category of feasibility studies or advance planning. The various improvements to the SRA system that are proposed in these plans will be implemented in increments over a relatively long time span. The plans take on added importance, therefore, as the framework for a comprehensive long-range transportation program.

Once the number of traffic lanes and access controls for a particular SRA have been determined, local communities along the route will be able to implement plans and regulations to preserve the required right-of-way, to plan for access to future development, to provide adequate setbacks, and to support appropriate zoning. Because each SRA route penetrates numerous communities, a long-range comprehensive plan also affords local agencies an opportunity to cooperate and coordinate their land use and transportation planning efforts, which will facilitate implementation.

SRA Benefits for Illinois 22

The SRA plan for Illinois 22 should produce a range of benefits to the public and local communities. West of Illinois 59, two-lane sections of Illinois 22 currently experience accident rates higher than would be expected on a four-lane, divided facility. Through Lake Zurich, implementation of a bypass tied to the existing roadway should enable the downtown to remain intact, with through traffic (including commercial vehicles) diverted from the central business district.

Further east, serious congestion exists on portions of Illinois 22, particularly near the office developments in the vicinity of Illinois 21/U.S. 45 and I-94. SRA improvements would relieve this congestion, and improve safety and air quality.

Corridor Planning Status

The Illinois 22 Advisory Panel last met on February 19, 1992. Since that meeting, the consultant and IDOT staff have worked toward developing and

refining the SRA Plan. The figure below illustrates the basic SRA plan that will be presented to the Advisory Panel this summer or fall. Illinois 22 is being planned as a four-lane suburban arterial with various cross-section treatments designed to accommodate local constraints and needs. This plan represents a change from the plan presented in the second panel meeting. Through Lake Zurich, it is the intent of the plan to adopt the central business district bypass alternative selected by the Village of Lake Zurich in their separate study, providing that the bypass meets SRA design criteria.

The consultant has completed a first draft of the SRA report, which is being reviewed by IDOT staff. The third panel meeting will be scheduled for the near future.

SRA SPOTLIGHT

Publisher:
The Illinois Department of Transportation

Editor:
CH2MHILL

For:
The Strategic Regional Arterials Plan

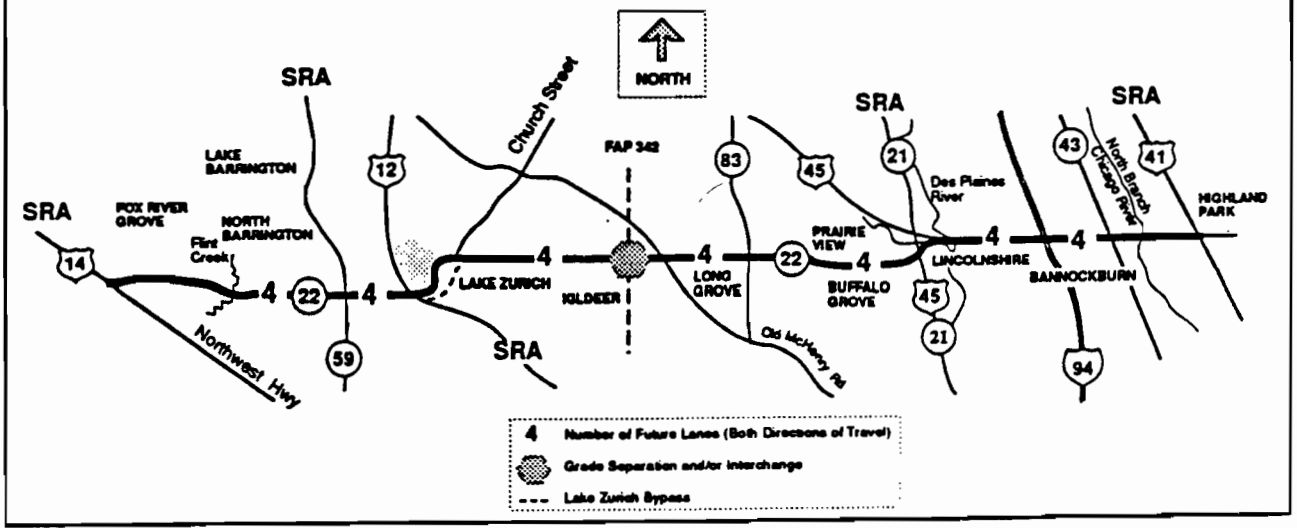
Advisory Panel

Coordinator:
Mark Schmidt
Lake County Division of Transportation

Panel Members:
Barnockburn - William S. Trukenbrod, President
Buffalo Grove - Sidney H. Mathias, President
Fox River Grove - Daniel J. Shea, President
Highland Park - Daniel M. Pierce, Mayor
Kildeer - George L. Welch, President
Lake Barrington - Nancy K. Smith, President
Lake Zurich - James W. Kay, Mayor
Lincolnshire - Barbara LaPiana, Mayor
Long Grove - George G. Dickson, President
North Barrington - Walter R. Clarke, Jr., President
Prairie View - (Unincorporated)
Lake County - Martin G. Buehler, Director of Transportation
McHenry County - James R. Rakow, Superintendent of Highways

Invited Advisor:
TMA of Lake Cook - William J. Baltutis, Executive Director

ILLINOIS ROUTE 22 CORRIDOR CONCEPT PLAN



NO. 6 SEPTEMBER/OCTOBER 1992

SRA SPOTLIGHT

ILLINOIS ROUTE 22 CORRIDOR ADVISORY PANEL

Environmental Considerations in SRA Transportation Improvement Planning

Discussion of Issues

In planning and implementation of roadway design projects, engineers and officials frequently face environmental considerations that complicate the projects' standard engineering aspects. Environmental considerations play a significant part in engineering design decisions, as highway designers and planners deal with the stringent requirements of various environmental regulatory agencies, and state and local governments (see table on page 2). Typical roadway design environmental issues include air quality, wetlands, and impacts to both sensitive land uses and to publicly-owned land (socioeconomic impact and potential land use change to the area also are considered, as discussed in Newsletter No. 4). Plans to avoid, minimize, or mitigate such impacts are integral to the design of a project and, ultimately, affect engineering solutions.

As part of the SRA project, an environmental analysis component has been conducted to inventory existing conditions and to identify environmental and land use characteristics that may conflict with, or be affected by, proposed roadway improvements. This initial inventory and identification would be supplemented by detailed analysis of these environmental effects as individual projects proceed to more advanced design. This newsletter reviews notable environmental and land use issues typically encountered in transportation projects, and discusses how they impact design decisions.

Wetlands

Wetlands are areas that are inundated or saturated by surface or groundwater, and support a variety of plant and animal species adapted to these conditions. Wetlands generally include swamps, marshes, bogs, and similar areas, and:

- Filter pollutants naturally;
- Enhance water quality;
- Provide natural watershed storage;
- Control flooding;
- Reduce erosion;
- Provide habitat for bird and animal life; and
- Provide aesthetic, recreational, educational, and socioeconomic benefits.

Because of these values, wetlands are protected by a variety of regulations at the local, state, and federal levels. Provisions for wetland protection, restoration, or replacement often are required before a project can proceed.

The presence of wetlands in the vicinity of road improvements influences location and design decisions. If possible, the project must *avoid* damage to wetlands. If avoidance is impractical, the project then must attempt to *minimize* adverse environmental impacts. Lastly, if wetland losses are unavoidable, the project's owner must arrange to *compensate* for destroyed or degraded wetlands through a process of restoring damaged wetlands or creating new ones.

Parkland

Public parkland is protected by federal regulatory provisions, and special effort must be made to preserve and protect such lands. These provisions apply to public recreation areas, including forest preserves; conservation districts; publicly-owned golf courses; state, county, or local parks; and sites and structures listed in the National Register of Historic Places.

Projects that would acquire or adversely affect public recreation land require additional federal

. . . continued on page 3

Federal Legislation for Resource Protection

Legislation	Resource Affected	Responsible Agency	Summary
Section 4(f) Evaluation	Public park and recreation land; historic resources	Federal Highway Administration	Requires consideration, consultation, and alternative studies to determine that there are no feasible and prudent alternatives to the use of land from a publicly-owned park, recreation area, or wildlife and waterfowl refuge of significance, as determined by the official officer having jurisdiction. Also must address measures to minimize harm. Applies to properties eligible for the National Register of Historic Places.
Section 6(f) of the Land and Water Conservation (LAWCON) Act	Public recreation land developed with LAWCON funding	Federal Highway Administration	Recreation land purchased or improved under the LAWCON Act cannot be used unless replacement land of equal value, use, and size can be supplied. Precedes completion of the Section 4(f) Evaluation.
Section 106 of the Historic Preservation Act	Cultural resources	Advisory Council on Historic Preservation	Requires evaluation of the proposed project's effect on properties included, or eligible for inclusion, in the National Register of Historic Places, and allows the Advisory Council a reasonable opportunity to comment prior to project approval. Requires documentation of special effort to avoid or to minimize harm to any landmark that may be affected adversely. Precedes completion of the Section 4(f) Evaluation.
Section 404 of the Clean Water Act	Waterways and wetlands	U.S. Army Corps of Engineers and U.S. EPA	Requires permit for discharge of dredged or fill materials into jurisdictional waters of the United States, including wetlands. These waters include navigable waters and their tributaries, interstate waters, lakes, and intermittent streams.
Wetlands Executive Order 11990	Wetlands	Federal Highway Administration	Directs federal agencies to avoid unnecessary alteration or destruction of wetlands, and requires implementation of actions to minimize the loss or degradation of wetlands affected by a federal project, or by any project that receives federal funding.

continued from page 1 . . .

regulatory review and approval, and must include all possible measures to minimize harm. These measures might include replacement of lands, replacement of facilities impacted by the project, restoration of disturbed areas, incorporation of design features to minimize or avoid impact, or monetary compensation.

Sensitive Land Uses

Sensitive land uses also are a factor in road improvement and design decisions. Typical sensitive land uses include hospitals, schools, cemeteries, police and fire departments, and other community facilities. Emergency access is one consideration; roadway changes can impact access to and from facilities such as hospitals and police and fire departments. Noise standards (moving a roadway closer to buildings may exceed acceptable noise levels) and business and residential relocation issues are other factors to be considered. Finally, effort should be made to avoid impact to these sensitive facilities because they are integral to the physical and social fabric of the community. Whenever possible, adjustments in road design should be made to avoid disrupting such facilities.

Air Quality

Improved traffic operations produce an important benefit: reduced fuel consumption and a resultant air quality improvement. Vehicles traveling smoothly emit less pollutants than vehicles under congested flow conditions. In the Chicago metropolitan area, which has been designated a "severe non-attainment area" for air quality, maintaining smooth, efficient traffic operations is critical. Motor vehicles contribute as much as 60 percent of ozone-forming pollutants—a significant component of the smog that occurs on hot days. Pollutant emissions pose a particular problem in areas of congestion; high emissions result from frequent stops, long periods of vehicle idling, and very low speeds. More efficient traffic flow on the SRA network, therefore, will help the Chicago area to meet its clean air objectives.

How Do These Environmental Considerations Affect Roadway Design?

Each of these environmental considerations contributes to the basic SRA improvement concept and affects design solutions. Engineering design is tailored to avoid or minimize effects by:

- Adjusting the alignment (e.g., focus widening to one side of the facility or the other; realign the roadway to avoid an impact)
- Incorporating retaining walls to minimize the amount of right-of-way needed
- Adjusting cross-sectional features, such as median width, to minimize the right-of-way needed
- Implementing curb-and-gutter and closed drainage systems to minimize right-of-way taking

In some cases, the presence and location of sensitive or protected land uses affect the basic SRA corridor concept. In keeping with overall planning objectives, the ability to implement a full, desirable SRA cross section must be balanced against the environmental impacts that could result. Decisions to "downsize" a corridor segment because of environmental concerns have been made on many SRA corridors.

Environmental Concerns and SRA Planning for Illinois 22

The study to determine recommended improvements for Illinois 22 has considered numerous environmental issues, including wetlands, forest preserve, a nature preserve, and a historic site.

Wetlands predominate west of U.S.12 and near Old McHenry Road, and are adjacent to the corridor—sometimes along both sides of the roadway—at many locations. Where possible, wetlands were avoided by a slight shift of the recommended roadway alignment. As individual portions of the recommended plan are implemented, specific wetland delineation would be done and more definitive plans would be prepared to minimize and avoid wetlands.

A possible encroachment of Lafferty Park between Illinois 59 and U.S. 12 was avoided by a slight alignment shift, and other parks along the recommended corridor were avoided. The existing Illinois 22 roadway area features two forest preserves and one nature preserve—none of which would be affected by the Illinois 22 plan. In addition, a special concern for aesthetics along Illinois 22 has prompted the recommendation of a raised median that could possibly be landscaped. The recommended plan also minimizes right-of-way impacts within the Long Grove Woods area by using a flush median and, possibly, retaining wall.

The Lake Zurich commercial district along Illinois 22 was given special consideration. This highly-developed area has restricted right-of-way, does not meet SRA geometric standards, and has a lake, a park, and a historic site. Because meeting minimum SRA cross section requirements through the Lake Zurich commercial district was considered infeasible, a bypass of the commercial district has been recommended to meet SRA requirements and to allow Lake Zurich to continue to benefit from its use of Illinois 22.

Corridor Status

The Illinois 22 Draft Final Report was submitted to the Chicago Area Transportation Study (CATS) on August 21, 1992, and has been distributed to the panel members. The Draft Final Report describes the recommended plan to improve the Illinois 22 SRA to two continuous lanes in each direction of travel over the entire corridor. In general, the plan also specifies implementation of a raised median that could be landscaped; some segments would require flush medians to minimize right-of-way.

The third panel meeting was held on September 17, 1992, at the Lake County Highway Department. At this meeting, the Draft Final Report and the recommended plan were discussed in detail. The Illinois 22 public hearing will be held on October 21, 1992, at the Kemper Lakes Golf Club.

SRA SPOTLIGHT

Publisher:
The Illinois Department of Transportation

Editor:
CH2M HILL

For:
The Strategic Regional Arterials Plan

Advisory Panel

Coordinator:

Mark Schmidt
Lake County Division of Transportation

Panel Members:

Bannockburn - William S. Trukenbrod, President
Buffalo Grove - Sidney H. Mathias, President
Fox River Grove - Daniel J. Shea, President
Highland Park - Daniel M. Pierce, Mayor
Kildeer - George L. Welch, President
Lake Barrington - Nancy K. Smith, President
Lake Zurich - James W. Kay, Mayor
Lincolnshire - Barbara LaPiana, Mayor
Long Grove - George G. Dickson, President
North Barrington - Walter R. Clarke, Jr., President
Prairie View - (Unincorporated)
Lake County - Martin G. Buehler, Director of Transportation
McHenry County - James R. Rakow, Superintendent of Highways

Invited Advisor:

TMA of Lake Cook - William J. Baltutis, Executive Director

NO. 7 JANUARY 1993

SRA SPOTLIGHT
ILLINOIS ROUTE 22 CORRIDOR ADVISORY PANEL

SRA Project Implementation

Throughout the Strategic Regional Arterial (SRA) planning process, many questions have arisen about the timing of improvements, the need for and scope of further work, and opportunities for continued public involvement. This newsletter is intended to address the process by which SRA plans are translated to actual transportation projects.

Background

The planning process actually began over 5 years ago with the study and designation of the 1,300-mile SRA system. The Chicago Area Transportation Study (CATS), Illinois Department of Transportation (IDOT), and Northeastern Illinois Planning Commission (NIPC) were involved in this effort. Local governmental input and public hearings were an important aspect of the SRA system designation.

SRA Corridor Planning Studies— "Pre-Phase I"

Following the designation of the system, IDOT proceeded with corridor-specific planning work. This work is the subject of the ongoing SRA study.

The work is referred to as "Pre-Phase I" because of its unusual nature. Projects typically proceed from a needs identification directly to Phase I studies (described below). In the case of SRA planning work, IDOT is developing longer-range plans for the SRAs to serve as a framework for future Phase I efforts. This approach has a significant advantage—it establishes an overall plan (including right-of-way, access control, and other features) well in advance of Phase I work and actual construction, which may be 10 years or more in the future. This early activity enables local communities to conduct land use and transportation planning with knowledge about the eventual future of the SRA. The SRA studies, once completed for the entire SRA system, also will provide valuable information on programming needs.

The SRA corridor studies include: data collection, development and testing of alternatives, coordination with local agencies, environmental screening, improvement recommendations, and a public hearing. Issuance of a final corridor report by IDOT completes this effort. Once issued, the SRA plan represents a statement of intent regarding the ultimate cross section, right-of-way needs, intersection and interchange options, and access features.

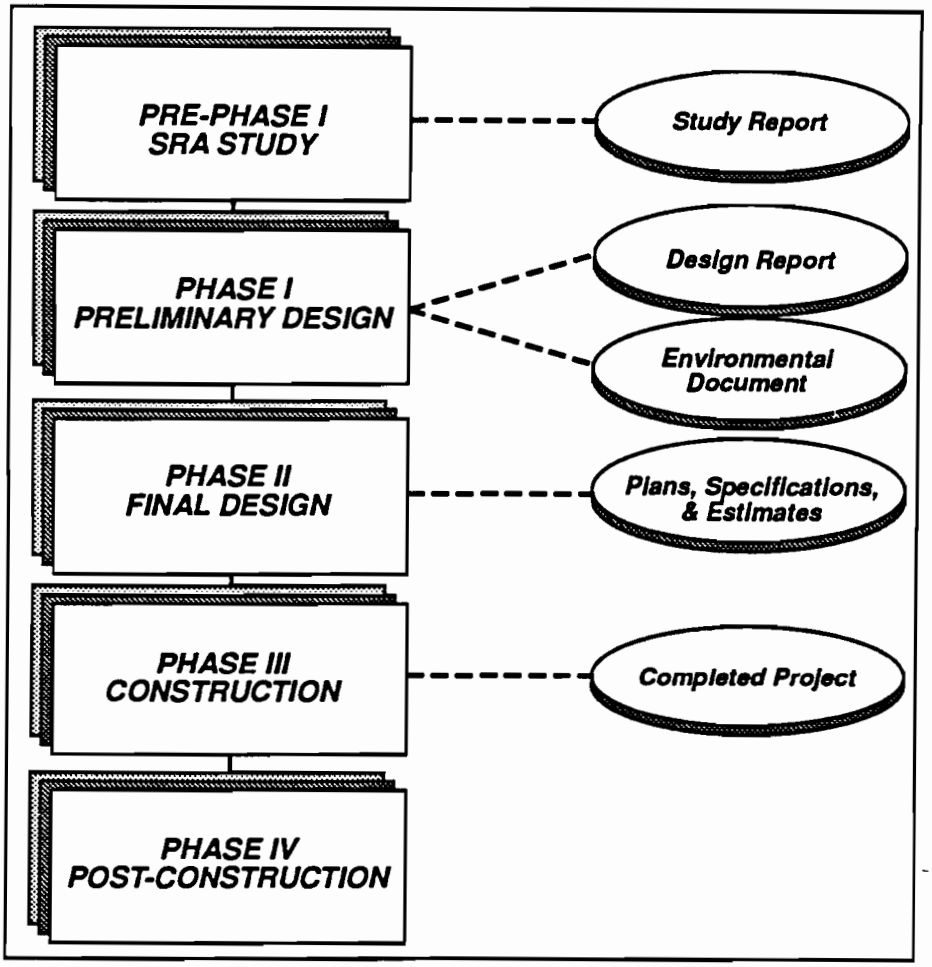
Programming SRA Improvements

Although each SRA report identifies project priorities in general terms, the SRA "Pre-Phase I" effort does not develop a specific timeframe for SRA projects. IDOT, with input from local units of government, continually develops and executes a 5-year program of transportation projects. It is anticipated that segments of SRA corridors will be placed on the program as specific needs arise and funds are made available.

For state routes, once an SRA improvement is included in IDOT's 5-year program, the ensuing implementation steps follow the process illustrated in the accompanying figure (see following page). For SRAs that are not state routes, a similar process would be followed under the appropriate county or municipal jurisdiction.

Phase I Studies

Phase I, or the Preliminary Design phase, is the next step in the implementation process following this SRA study. The engineering and environmental analyses begun in the Pre-Phase I study would be carried one step further. The recommended improvement plan would be developed in more detail, with major design features



specified, and a Design Report would be prepared. An environmental report (fulfilling the Illinois and National Environmental Policy Act requirements), also would be prepared. This report would include detailed studies of air and noise impacts, identification of specific wetland and other environmental impacts, and development of mitigation plans to accommodate the impacts.

A program of public involvement represents an important aspect of Phase I studies. This program typically would include public information meetings, newsletters, press releases, and meetings with communities and interest groups. Prior to final project approval, Public Hearing(s) also would be held.

Phase I studies entail comprehensive and detailed engineering and environmental studies. For most projects, a 2- to 3-year time period is required to perform all Phase I work.

Phase II Studies—Final Design

Phase II, the Final Design phase, would commence upon approval of the engineering and environmental products of Phase I. Final plans, specifications, and estimates would be prepared for the proposed improvements, community coordination would continue, and methods would be developed to mitigate any environmental impacts. Identification and acquisition of right-of-way also occurs in this phase of work. Depending on the size and complexity of a project, Phase II can take from 1 to 3 years to complete.

Phases III and IV—Construction and Post-Construction

Phase III and Phase IV, construction and post-construction activities, follow the design phase. Monitoring of environmental effects and traffic operations is an important element of the post-construction program.

The question is often asked, "How long will all of this take?" Unfortunately, there is no clear answer. The time between the end of any phase and the beginning of the next phase depends on the availability of funds, and the perceived importance of the project relative to other projects. The timing of programming a project and moving it through the various phases is also a function of the extent of local governmental support for the project.

Considering the total length of routes comprising the SRA system (over 1,300 miles) and the magnitude of improvements that are being recommended, it is a virtual certainty that the implementation period would cover a fairly long timespan after completion of the SRA study.

In any event, it is clear that once a specific project is identified by IDOT or others, it is generally a minimum of 5 years, and often as many as 8 years, before the project is completed and operational.

SRA Planning Activities for Illinois Route 22

Since the last newsletter, there has been substantial activity on the study of Illinois 22. A Draft Final Report was produced and reviewed by the Advisory Panel. On September 17, 1992, the third and final meeting of the panel was held to discuss the Draft Final Report conclusions.

A Public Hearing was held on October 21, 1992, at the Kemper Lakes Golf Course Clubhouse. The hearing was attended by over 200 persons. In the 30-day comment period following the hearing, IDOT received nearly 700 letters and six petitions regarding the SRA plan and Draft Report from citizens, businesses, and public and private agencies.

IDOT received several responses in opposition to the Illinois 22 SRA plan: 485 letters, two petitions with 1,131 signatures, and the results of a Transportation Management Association (TMA) of Lake Cook survey that included nine signatures. Opponents of the plan cited concerns with air and noise pollution, aesthetics, loss of vegetation, loss of property and its value, and pedestrian safety. Opposing parties also questioned the need for the expansion of Illinois 22 given other planned highway improvements, such as the completion of the Lake Cook Road/I-94 interchange and the possible extension of Deerfield Road to the west.

Numerous responses in favor of the Illinois 22 SRA plan were received: 207 letters, four petitions with 402 signatures, and 521 signatures from the TMA of Lake Cook survey. Advocates noted that the plan would improve access, reduce travel times and congestion, serve existing and proposed traffic more effectively, reduce air pollution, and alleviate the effects of slow-moving trucks.

Representatives of the following units of government have written letters in support of the four-lane Illinois 22 plan (with the addition of local considerations): Long Grove, Buffalo Grove, and Bannockburn. In addition, Fox River Grove, North Barrington, and Lake Zurich have provided suggestions for local improvements to the Illinois 22 plan, and Lake County passed a resolution in favor of the plan. Lincolnshire is the only community along Illinois 22 to take a stand against the entire plan.

CH2M HILL staff currently are working on refinements and revisions to the SRA plan and report. Many of the changes reflect comments and concerns raised by the community representatives on the Advisory Panel. Other changes are being considered based on questions and comments from the Public Hearing itself. It is anticipated that the Final Report for the Illinois 22 SRA corridor would be completed and issued by early spring of 1993.

SRA SPOTLIGHT

Publisher:
The Illinois Department of Transportation

Editor:
CH2M HILL

For:
The Strategic Regional Arterials Plan

Advisory Panel

Coordinator:

Mark Schmidt
Lake County Division of Transportation

Panel Members:

Bannockburn - William S. Trukenbrod, President
Buffalo Grove - Sidney H. Mathias, President
Fox River Grove - Daniel J. Shea, President
Highland Park - Daniel M. Pierce, Mayor
Kildeer - George L. Welch, President
Lake Barrington - Nancy K. Smith, President
Lake Zurich - James W. Kay, Mayor
Lincolnshire - Barbara LaPiana, Mayor
Long Grove - George G. Dickson, President
North Barrington - Walter R. Clarke, Jr., President
Prairie View - (Unincorporated)
Lake County - Martin G. Buehler, Director of Transportation
McHenry County - James R. Rakow, Superintendent of Highways

Invited Advisor:

TMA of Lake Cook - William J. Baltutis, Executive Director

Public Hearing Comments, Questions, and Responses

MEMORANDUM CH2MHILL

TO: Illinois Department of Transportation

COPIES: File
Tim Neuman

FROM: Keith Knapp/CH2M HILL

DATE: January 20, 1993

SUBJECT: IL 22 SRA Public Hearing Comments

PROJECT: CHI31495.05.A5

This memorandum summarizes the written and oral comments taken by IDOT, the CH2M HILL staff, or the court reporter at the public hearing for the IL 22 SRA held on October 21, 1992. Responses are delineated in bold type following the comments.

Village of Lincolnshire - Barbara LaPiana

The mayor of Lincolnshire repeated the resolution passed by the Lincolnshire Trustees on October 12, 1992 in opposition of the proposed IL 22 plan. She also expressed her concern that the IDOT policy on local municipal approval of state highway improvements continue to be enforced.

> **The issues discussed in the Lincolnshire resolution have all been addressed in this transcript and by the recommended plan. Discussion of the IDOT policy issue is not within the scope of this study.**

The League of Women Voters of Lake County - Beryl From

The League of Women Voters of Lake County is in favor of the proposed widening.

> **No response.**

Village of Lake Zurich Business Improvement Committee - Michael Carlino

The Lake Zurich Business Improvement Committee thanked IDOT for being responsive to the Village of Lake Zurich bypass study, and it was suggested that IDOT move quickly to acquire the needed right-of-way.

> **No response.**

The TMA of Lake-Cook - William Baltutis

The Executive Director of the TMA of Lake-Cook commented in favor of the IL 22 recommended plan and suggested the Lincolnshire area (Willow Parkway to I-94) be a priority for improvements. The TMA also recommended that IDOT adopt specific SRA policies, and because of the regional significance of the SRAs IDOT should not allow local opposition to stop or veto SRA improvements. The TMA also recommended that IDOT identify funding sources for the SRA recommendations, and that it would support an increase in gasoline taxes.

No response.

The TMA of Lake Cook also commented that the Telegraph Road intersection should be decreased in size.

This recommendation has been included in the revised plan (Exhibit C-10).

Village of Long Grove - D.M. "Cal" Doughty

The Village Manager of Long Grove stated that the Village of Long Grove has included the expansion of IL 22 into its comprehensive plan, and that the village expresses its full and complete support of this improvement as soon as possible.

No response.

A previous letter sent by the Long Grove Village Manager had the following comments: 1) add a note to the plan indicating that any utilities moved in the Long Grove Woods area be located immediately adjacent to the roadway for minimum impact, 2) add a note to the plan referring to the FAP 342 interchange location in less narrow terms (i.e. "Accommodation of planned interchange with FAP 342 between U.S. 12 and Old McHenry Road). With the above changes the plan meets the approval of Long Grove.

The note in Long Grove Woods will be added to the plan. The location of the interchange between FAP 342 and IL 22, and the FAP 342 alignment is from the January 1, 1992 recorded centerline. This location was assumed for the SRA plan, and is the most up to date information available. Final recommendations for FAP 342 still need to be developed. The IL 22 SRA plan and the its traffic volume forecasts assumed that the interchange would be in place in the year 2010.

Village of Buffalo Grove - Gregory P. Boysen, P.E.

The Public Works Director of the Village of Buffalo Grove sent a letter that included various subdivision plats and roadway construction plans to be used for right-of-way updates. The letter also requested that because Buffalo Grove's bikeways and sidewalks can be accommodated within the recommended plan that fact should be provided in the narrative of the SRA report. Mr. Boysen also indicated that any widening at IL 22 and Main Street should be to the north, and that there was some conflict in the report about the lane configuration at IL 22 and Buffalo Grove Road. He also stated that the impact on the surrounding developments of any improvements at the Buffalo Grove Road intersection will need to be considered in Phase I. Other items included in the letter were the new 1992 Buffalo Grove Comprehensive Plan (Table 14), and the fact that the Arboretum Golf Course is owned by Buffalo Grove. The Village Board approved the SRA plan, with the above stipulations, on November 2, 1992. They also suggested that IDOT rapidly proceed with improvements to IL 22 from Buffalo Grove to I-94.

The items listed above: right-of-way, bikeway/sidewalk narrative, lane configurations, reference documents, and golf course ownership will be revised in the report and/or plan.

Village of Lake Zurich - James W. Kay

The Mayor of Lake Zurich sent a letter indicating that they prefer the Alternative 4 bypass option, and that they would like the bypass to be constructed as soon as possible.

No response.

Village of Lake Zurich - Victor C. Ramirez

The Village Engineer of Lake Zurich had the following comments: 1) he questioned the "feasibility" of the parallel access route between Quentin Road and Buesching Road, 2) he questioned the "reality" of Fern Road accessing to the north because of a drainageway at that location, 3) he questioned the need for dual left turn lanes at Buesching Road, 4) he questioned the realignment of the western Northlake Commons driveway because of the presence of ADID wetlands, 5) he requested that the plans include the high likelihood of a grade separation at U.S. 12 and IL 22 as shown in Exhibit D-6.

The feasibility of the parallel access route, and the reality of Fern Road extending north, will be considered in more detail in the Phase I study of this area. The lane configuration at Buesching Road (Exhibit C-4 and C-5) has been revised, however, the exact number of lanes will be decided in a Phase I study of this intersection. The ADID wetland issue is currently being discussed. The exact boundaries of these wetlands will be delineated in Phase I. If the Northlake Commons driveway can not be realigned it will have to be closed or its access will have to be limited to right turns. The plan includes the grade separation of IL 22 and U.S. 12 as a possible Post-2010 improvement.

Village of Bannockburn - Michael W. Grutza

The Road Commissioner of the Village of Bannockburn sent a letter indicating village support for the IL 22 SRA plan with a preference for landscaping where the median is raised. However, he had the following comments: 1) the south leg of Lakeside Drive and IL 22 currently has dual left turn lanes, 2) the north leg should be planned for dual left turn lanes, 3) he questioned the need for dual left turn lanes at Telegraph Road.

All of these corrections will be included in the revised plan (Exhibit C-9 and C-10).

Village of Fox River Grove - Daniel J. Shea

The Village President of Fox River Grove sent a letter with the following comments: 1) the recommendation of a raised median from U.S. 14 to Ski Hill Road is unacceptable to the village because of its impact on adjacent businesses, 2) the required right-of-way to the north in this area will severely impact the parking and businesses on the east end of the Stonehill Center, 3) a request for a flush median

west of Ski Hill Road, and open ditch drainage, 4) a comparison of traffic volumes in the U.S. 14 and IL 22 reports indicated a discrepancy, 5) a justification for the difference in traffic control at Doyle Road/IL 22, and Doyle Road/U.S. 14.

An access point to the Stonehill Center between Ski Hill Road and U.S. 14 has been added to the plan. The access drive just east of U.S. 14 would need to be restricted or rerouted further from that intersection. Access to the businesses south of IL 22 would be via Doyle Road. In addition, the plan has been revised to show all right-of-way acquisition to the south in this area, and to include a note indicating that the plan assumes that these land parcels will be redeveloped before, or in conjunction with, the implementation of the IL 22 SRA plan. The exact amount and nature of the right-of-way acquisitions (one side or both sides) will be made in detailed Phase I studies of IL 22. A cross section with closed drainage (i.e. curb and gutter) is recommended to minimize the amount of right-of-way needed, and to meet the desirable suburban SRA characteristics presented in the SRA Design Concept Report.

The traffic volumes in the two reports (IL 22 and U.S. 14) have been reconciled. Both Doyle Road intersections will be recommended as signal locations.

<u>Village of North Barrington - Walter R. Clarke, Jr.</u>

The Village President of North Barrington sent a letter requesting signalization of Old Barrington Road and Honey Lake Road at IL 22. He indicated that the roadway be "urban" in nature to minimize right-of-way takings. He also reported that the Village Board is generally in agreement with these ideas.

A signal at Old Barrington Road is included in the recommended plan. Honey Lake Road does meet the minimum quarter-mile SRA signal spacing requirement along IL 22. However, Honey Lake Road residents will be able to access IL 22 via the proposed signal at the recommended extension of Rainbow Road, or via IL 59 (by traveling north to Signal Hill Road and then west). Therefore, the plan has not been revised to show a signal at Honey Lake Road. This may be reconsidered in the Phase I study of this area.

The recommended cross section through North Barrington will include a raised median with curb and gutter within 120 feet of right-of-way. The 120 foot right-of-way width is recommended to allow for parkways and any grading that may be necessary with the widening IL 22. The right-of-way width of 120 feet is actually the minimum desirable (according to the SRA

Design Concept report) for a suburban SRA. Right-of-way is only reduced below 120 feet in severely constrained areas.

Other Comments from the General Public

Numerous comments stated that a wider roadway would change the quiet character of Lincolnshire, and further bisect the community.

The amount of traffic on IL 22 is expected to increase over the next 20 years. The intent of the recommended plan is to improve both local and through traffic flow along IL 22. The improved flow is expected to reduce noise and pollution impacts by minimizing braking and accelerating, and the plan provides for numerous signals along the corridor at which both vehicles and pedestrians can cross (see below).

Numerous comments were made about the schools and the bike path on Riverwoods Road, and that an already dangerous situation of children crossing IL 22 will exacerbated. It was also suggested several times that sidewalks/bikeways be included in the plan.

A review of accident records at this intersection shows one bicycle involved, and no pedestrian accidents from 1987 to 1989. It is acknowledged that the safety of school children will be an important concern as the plan evolves. To alleviate these concerns the plan has been revised (Exhibit C-9) to note two options that should be considered in the detailed Phase I studies of this area. The two options noted include a grade separated pedestrian and bicycle walkway (over or under), and a large raised median in the intersection area that allows pedestrians and bicycles to cross in two stages. Whether sidewalks/bikeways are included along IL 22 will be decided by the affected community in later studies.

A comment was made against a pedestrian tunnel at Riverwoods Road due to safety concerns.

No response.

A comment was made in favor of a pedestrian tunnel at Riverwoods Road for the children of Lincolnshire.

No response.

The owners of the Stonegate Tavern at Ela Road and IL 22 expressed concern about losing both parking and land due to the increase in the size of the intersection. The schedule of roadway improvements were also very important to them.

> **The exact amount of right-of-way taken due to the improvement of the Ela Road intersection will be decided in Phase I studies of IL 22, or the current bypass study by the Village of Lake Zurich. While the plan should not require the taking of the building, it will impact the restaurant parking, or the building north of IL 22.**
>
> **The schedule of improvements along IL 22 has not been established.**

A number of comments were made concerning the aesthetic nature of the roadway in Lincolnshire, especially for people living along it.

> **The plan for Lincolnshire west of the Des Plaines River includes a raised median that could be landscaped. East of the Des Plaines River, a flush paved median is recommended to reduce the amount of right-of-way needed, and allow full residential access in a very constrained area. A reconstructed IL 22 would include closed drainage, which would also minimize right-of-way and tree impacts.**

Two comments were made in favor of a landscaped median east of the Des Plaines River for aesthetic reasons.

> **As stated above, a flush median was chosen to allow access to the residents along IL 22 in this area, and to reduce the amount of right-of-way necessary. A raised, landscaped median would require more right-of-way, and would restrict access. This recommendation could be reviewed during Phase I studies.**

A number of comments were made that IDOT should consider alternative routes to IL 22 such as IL 60, Lake Cook Road, and extending IL 53.

> **These roadways were considered in the study. In fact, IL 60 and Lake Cook Road are also SRA routes, and will undergo the same type of planning process as IL 22. All three routes are essential elements of the east-west arterial system in Lake County. As such, none are considered "alternatives" to the other two in terms of substituting arterial capacity. Note also that both roadways are approximately 3 miles away, and neither roadway connects**

U.S. 41 with U.S. 14. The IL 53 extension was taken into account with the traffic forecasts and the recommended plan.

It was suggested that IL 60 be used as part of the IL 22 SRA and that traffic can be routed south when IL 22 is in the undeveloped western areas.

As indicated in the preceding response, IL 60 is three miles to the north and is already designated an SRA. A substitution of IL 60 for a portion of IL 22 would not serve the objective of a SRA as a continuous regional roadway. Through traffic would be required to turn at two separate intersections, and it is unlikely that not designating IL 22 as a SRA in the Lincolnshire area would reduce traffic in that area.

In addition, IL 22 serves many trips that are less than 10 miles in length which can not be diverted.

Four comments were made to lower the speed limit through Lincolnshire.

The existing speed limit in Lincolnshire is currently posted at 40 mph. The final recommended posted speed limit will be based on more detailed studies (i.e. Phase I) of this area , and on the suburban definition of IL 22.

It was stated several times that the completion of the Lake Cook Road interchange, and improvements to Deerfield Road and its interchange would decrease traffic on IL 22. It was also suggested that Deerfield Road be considered as an alternative route, and that it be widened and extended west from Milwaukee Avenue.

The completion of the Lake Cook Road interchange is expected to decrease the traffic volumes on IL 22 near the I-94 interchange by 8% to 13% (2,000 to 4,300 vehicles per day). Due to minimum SRA system requirements, and the magnitude of the projected volumes, this reduction would not affect the recommended plan for IL 22.

Deerfield Road was not considered an adequate alternative for the continuity of IL 22 from U.S. 41 to U.S. 14. One objective of the SRA network is to provide alternative routes for regional traffic. Defining Deerfield Road as a SRA from I-94 west to Milwaukee Avenue as a substitution to IL 22 would not serve that objective. The Village of Buffalo Grove has proposed a four lane extension of Deerfield Road from Milwaukee Avenue (IL 21) to Wieland Road

(along the Deerfield Parkway and Busch Parkway/Road alignments) in their village plan.

Several comments were made that IDOT should look at carpooling and ridesharing techniques, staggered work hours, and increased transit service.

Park n' ride lots are shown where feasible along IL 22, and transit was considered. It was assumed that there would be commuter service along the Wisconsin Central Railroad in Lincolnshire, and possibly on the EJ & E Railroad in Lake Zurich. Travel demand techniques (ridesharing and staggered work hours) must be considered by large employers due to the new Clean Air Act.

While such measures are considered important, in the case of IL 22 they can not be expected to reduce traffic volumes to a level where the recommended improvements are not required.

Numerous comments were made concerning the devaluation of property along IL 22.

No response.

A comment was also made about the fact that turning left or right on IL 22 in Lincolnshire is dangerous.

The intent of the recommended median, access control, and signal coordination is to improve the access situation along IL 22.

A comment was made that traffic volumes along IL 22 would increase, or double, with double the number of lanes.

Traffic volumes will change as land use along the IL 22 corridor changes.

The travel forecasts used in the SRA study were based on an areawide model that included improvements to the entire SRA network. Traffic is not expected to double in Lincolnshire by 2010, but traffic is expected to increase. The recommended number of lanes is not solely based on these forecasts, but rather on minimum SRA system requirements.

Numerous comments were made in favor of the IL 22 widening for improved safety and faster travel times.

No response.

A homeowner between Rainbow Road and Cortland Drive suggested IDOT acquire land north of IL 22 in this area, and construct a noise barrier fence to replace the trees acquired to the south.

Right-of-way acquisition is currently shown to the south of IL 22 in the Rainbow Road area to avoid Lafferty Park and an existing home. If it is found in Phase I studies of this area that acquiring portions of Lafferty Park (which is designated park land, but currently undeveloped) does not violate any Village plans or federal regulations then the right-of-way acquisition may be on both sides of the roadway. East of Rainbow Road area there are designated wetlands on both sides of the roadway. It is currently recommended that right-of-way acquisition be equal on both sides of the roadway in this area. Whether noise barrier is needed will be addressed in future Phase I studies of IL 22.

A comment was made in opposition to the Alternative 4 option for the Lake Zurich bypass.

IDOT will accept the recommended plan for this part of IL 22 from the Village of Lake Zurich as long as it meets minimum SRA requirements. The Village is following their own public participation procedure for their study.

A comment was made that the right-of-way acquisition east of Elm Road should be to the south instead of the north.

The recommended plan currently shows right-of-way acquisition to the north due to the number of homes on each side of the roadway. It is arguable that some of the homes on the south side IL 22 are further away, and that the acquisition should be completely to the south. The exact nature of the right-of-way acquisitions (one side or both sides) will be made in the detailed Phase I study of this area.

Several comments were made about the possible increase in air and noise pollution along IL 22. It was also commented that noise fence or berms should be considered.

> **The intent of the plan is to alleviate congestion and improve signal operation and coordination. These improvements are expected to decrease the amount of braking and accelerating necessary along IL 22, and thus the amount of air pollution produced by the forecasted traffic volumes. Whether noise barriers are necessary will be decided in Phase I studies. Berms would require more right-of-way takings than are shown on the current plan.**

A comment was made that no matter what option is chosen through Lake Zurich that homes would be taken. The state should inform the people when their homes would be taken (i.e. five years from now, ten years from now?).

> **IDOT has a procedure for negotiations with homeowners about takings. No schedule for the recommended IL 22 improvements has been established.**

A request was made for a stop sign or traffic light along IL 22 between Riverwoods Road and I-94 due to the problems entering and exiting the roadway.

> **Traffic control devices must be limited to public street intersections with IL 22. Stop signs for IL 22 are contrary to SRA requirements, and no traffic signals were recommended in this area on the plan presented at the public hearing. One possible intersection that meets the quarter-mile SRA signal spacing requirements is Berkshire Lane, and the plan has been revised to include it as a possible signal location (see Exhibit C-9).**

A suggestion was made to depress IL 22 in the area of Riverwoods Road.

> **This alternative would be much more disruptive and costly to construct than the recommended plan, and access to land adjacent to IL 22 in this area would be nonexistent. In addition, both right-of-way and aesthetics are major issues in this area.**

A comment was made in favor of the widening, and that the areas with higher traffic volumes be given top construction priority.

> **No response.**

A comment was made in favor of the Alternative 4 option for the Lake Zurich bypass, and that it be done as soon as possible.

No response.

A comment was made that no one from IDOT contacted that residents of Lincolnshire about the widening.

Representatives from Lincolnshire have been involved with this project since mid-1991. Three Advisory Panel (which is composed of community representatives) meetings have been held, and newsletters have been sent to the Village informing staff of the planning progress.

A comment was made in favor of the widening, but that a median was not necessary across the bridges.

The bridges along IL 22, specifically Indian Creek and the Des Plaines, can not be used unless they are wide enough for four lanes (i.e. 48 feet minimum). The Indian Creek bridge meets this requirement, but the Des Plaines bridge does not.

Several comments were made about the environmental impacts of the IL 22 widening.

The environmental consequences of the recommended plan were addressed in general for this SRA project. A more thorough analysis will be required in the Phase I studies of this corridor.

A comment was made that if full access interchanges were made along the tollway the problem on IL 22 would be solved.

A full interchange at Lake Cook Road is expected to divert 8% to 13% of the existing traffic volumes. The east-west travel demands today (and more so in the future) warrant the recommended improvements.

A comment was made that IDOT should work more closely with the Illinois State Toll Highway Authority to improve the conditions at the Deerfield Road interchange, thus reducing IL 22 traffic.

IDOT continually coordinates their planning, design, and construction activities with the Illinois State Toll Highway Authority (ISTHA). The SRA consultants are aware of ISTHA plans for I-94.

Two comments were made that the widening of IL 22 would increase crime.

No response.

It was twice suggested that signals along IL 22 could be coordinated better, and that this should be done before, or instead of, construction.

Better signal coordination is part of the IL 22 SRA plan, and it is a short term recommendation. However, more than just the improved coordination of signals is needed because of the existing and expected traffic volumes along IL 22.

A comment was made that if they widen IL 22 then Riverwoods Road would be next.

Riverwoods Road is not a state designated roadway. Lake County is responsible for the operation and maintenance of Riverwoods Road. As of 1992, the county's long range plan for Riverwoods Road specifies it as a two lane (one lane in each direction) roadway.

A comment was made that the roads crossing Lincolnshire should have left turn lanes. Berkshire Lane was mentioned in particular.

The minimum recommended plan for major roads crossing IL 22 would include left turn lanes. The plan has been revised to include Berkshire Lane as a potential signal location. It is proposed that Berkshire Lane also have separate left and right turn lanes. Whether less substantial cross roads need turn lanes would be decided in later Phase I studies of this corridor on a case by case basis.

The recommended median along IL 22 removes all left turning vehicles from the through traffic lanes.

A comment was made that the widening of IL 22 will attract traffic from the Deerfield Road interchange because of the congestion there.

The forecasted traffic volumes along IL 22 were based on an areawide model that included improvements to all the SRA routes. Deerfield Road is not a SRA, and is not considered an alternative to the continuity of IL 22.

Comments were made that the widening of IL 22 between Milwaukee Avenue and Riverwoods Road would require the taking of trees and/or land, and that the median does not allow access to the homes.

> **The widening would require the acquisition of some right-of-way west of the Des Plaines River (currently recommended to the south in the golf course), and just east of Elm Road. East of Elm Road the plan shows acquisition to the north. The exact amount and location of the right-of-way acquisition will be decided in the Phase I study of this area. The recommended median in the vicinity of the homes on IL 22 is flush and will allow full access to abutting properties.**

A comment was made that the impact of the new federal Clean Air Act on the amount of traffic on IL 22 should be taken into account before we widen it.

> **The new federal Clean Air Act requires employers of one hundred or more people to reduce their single occupant vehicles by 25% during six and ten in the morning. This law, if enforced, could possibly reduce the amount of traffic on IL 22 by a certain amount during the morning peak hour. Even the most optimistic reductions in travel along IL 22 will result in vehicular demand that warrants the recommended improvements.**

A suggestion was made the three lanes be recommended in Lincolnshire with the center lane being reversible for the peak direction.

> **A minimum of two lanes in each direction is required along IL 22 for a 24-hour day. Reversible lanes are not considered an effective or safe application for IL 22.**

A comment was made that the improvement is only for vehicles traveling to and from the suburbs west of Lincolnshire.

> **The SRA network is meant to serve regional trips while improving local travel. One of the reasons IL 22 was chosen as a SRA is due to its continuity. The recommended plan will not only improve through trips, but decrease travel time and improve safety locally and east and west of Lincolnshire.**

Several comments also indicated that the improvement is only for the commercial developers, and that development due to the widening would cause more traffic, and then there would be no alleviation of congestion.

As the response above indicates the recommendation is intended to help both commuters and local residents. Whether development occurs is solely up to the individual communities along IL 22. The recommended plan indicates allowable points of access on IL 22 in undeveloped areas.

A comment was made about a possible bypass of Lincolnshire.

There is no feasible new corridor alternative around Lincolnshire for IL 22. Any bypass would produce environmental and socioeconomic impacts that are orders of magnitude greater than produced by the recommended plan.

A comment was made that all right turns on red be prohibited at Riverwoods Road.

This suggestion will be considered as Phase I studies progress. Suggestions have been made in the revised plan to improve the ability of crossing IL 22 at Riverwoods Road.

A comment was made in opposition to the 100,000 pound truck rating on IL 22.

IL 22 is currently rated as Class 2 truck route west of U.S. 12. The fact that IL 22 is a SRA is not expected to change its truck route designation. Whether IL 22 remains a truck route or not will be decided in Phase I studies of the corridor.

A comment was made that the two lane/four lane issue along IL 22 will be on the April ballot in Lincolnshire. The petition was sponsored by individuals in favor of the widening.

No response.

A comment was made that the Long Grove Woods area would need to be destroyed because of this expansion.

The recommended plan takes the sensitive nature of the Long Grove Woods area into account. In cooperation with a representative of Long Grove we have reduced the width of the roadway, and required a minimum amount of right-of-way in this area. The Long Grove Comprehensive Plan currently

indicates 80 feet of right-of-way in this area. The IL 22 recommended plan will require a total of 90 feet of right-of-way. Thus, the acquisition of an additional five feet of right-of-way, over that recommended in the Long Grove Comprehensive Plan, is required on both sides of IL 22. The plan also notes that a retaining wall may be needed to minimize effects on the woods.

A comment was made that the Lake Zurich bypass plan would affect many residences and make the existing CBD an island.

The recommended plan around the Lake Zurich CBD will be based on what the village provides IDOT, as long as it meets minimum SRA requirements.

A comment was made that the roadway width has been decreased from the previous IL 22 concept, but that the right-of-way width has not. It was suggested that the right-of-way be decreased to 96 feet between Telser Road and Quentin Road.

The 120 foot right-of-way width is recommended to allow for parkways and any grading that may be necessary with the widening IL 22. The right-of-way width of 120 feet is actually the minimum desirable (according to the SRA Design Concept report) for a suburban SRA. Right-of-way is only reduced below 120 feet in severely constrained areas.

It was commented that the plan for the IL 22 intersection with U.S. 12 will not serve the anticipated turning volumes.

The study has considered several alternatives to the at grade intersection shown at the public hearing. Two of these alternatives are shown in the IL 22 SRA draft report. The final decision on what is actually constructed at the IL 22/U.S. 12 intersection will be made in the Phase I study of this area.

A request was made for a signal at the Dominick's west of U.S. 12.

This location does not meet minimum spacing requirements for signals along a SRA. But, based on safety factors, the plan has been revised to include this intersection as a potential signal location (see Exhibit C-4). What eventually occurs at this intersection will be dependent upon what is recommended at the U.S. 12/IL 22 intersection (see preceding response).

It was commented that the recommended plan between U.S. 12 and Ela Road would eliminate a dozen businesses.

> **The plan has been revised to include a flush median in this area, but only beyond the channelization needed for the dual left turn lanes at U.S. 12. This new cross section will require only 90 feet of right-of-way, or the acquisition of an additional 10 feet of right-of-way on each side of IL 22 (see Exhibit C-4). Whether buildings will still be taken will be determined in the Phase I study of this area. Some acquisition of businesses, or effects on parking, are still possible.**

It was commented that the roadway would be diverted by eight feet between Telser Road and Quentin Road to avoid a nursery.

> **It is the intent of the recommended plan to widen the roadway to the north just west of Telser Road. Immediately east of Quentin Road it is the intent of the recommended plan to widen the roadway to the south, which is currently undeveloped. The eight feet referred to in the comment is in the transition area between Telser Road and Quentin Road.**

It was commented that the roadway should be realigned to the open land to the south between the Wisconsin Central Railroad and IL 21/U.S. 45 away from the homes and the high school.

> **The transition lengths required to realign this roadway to the south would affect several businesses, and would require the acquisition of large amounts of right-of-way. This suggestion is not considered feasible. However, the plan has been revised to show acquisition of right-of-way only to the south in this area (see Exhibit C-8).**

A suggestion was made that all the utility poles be buried.

> **No response.**

A suggestion was made for a small partial cloverleaf interchange at Riverwoods Road and IL 22 (with IL 22 under Riverwoods).

> **Not only would this alternative eliminate access to numerous homes along IL 22, it would require large amounts of right-of-way and most likely the taking of homes. The input of the village indicated that all home and right-of-way takings should be minimized and access maximized.**

A comment was made that left turning vehicles out of Old Mill Road currently need a merge area within the median of IL 22 because of large westbound queues.

> **The intent of the plan is to reduce these queues and provide a flush median. This will allow safer egress from Old Mill Road.**

A request was made for a signal at Fern Road in Lake Zurich.

> **Consideration was given to the addition of a signal at this location. However, the plan presented at the public hearing does not recommend a signal at Fern Road because residents can access IL 22 via Quentin Road. An extension of Berkley Road to the east is in the recommended SRA plan. The plan has not been revised to show a signal at Fern Road, but this issue may be reconsidered in the Phase I study of this area.**

A comment was made regarding the 10 feet of right-of-way acquisition south of IL 22 just east of Old Mill Road.

> **Right-of-way acquisition is currently shown equally on both sides of IL 22 in this area. The plan attempts to minimize impacts to the park in the northwest quadrant of the Old Mill Road intersection, and the two identified wetlands north of IL 22 and east of Old Mill Road. The exact nature of the right-of-way acquisitions (one side or both sides) will be made in the detailed Phase I study of this area.**

The Riverside Foundation just east of the Des Plaines River has requested a signal at its driveway.

> **The desirable spacing for signals along a SRA would not be met if a signal were installed at this driveway. Therefore, a signal is not currently recommended at this location. The desirable access point for the Riverside Foundation should be off of Elm Road.**

A partner (Jerry Westwood) of Hewitt Associates (a business located at two locations on IL 22) commented in favor of the IL 22 widening. Hewitt Associates feels that the first improvements should be in the areas with the highest traffic volumes.

> **No response.**

A representative (Walter L. White) from Kemper National Insurance Companies sent a letter with the following comments: 1) the realignment of South Krueger Road with Kemper Drive is beneficial, 2) a request that the right-of-way acquisition shown from South Krueger Road to the proposed FAP 342 interchange be solely to the south. The right-of-way acquisition request is based on the existing development to the north of IL 22, the higher possibility of errant golf balls hitting cars, and the road widening effect on the golf course.

> **The plan presented at the public hearing shows the acquisition of the needed right-of-way equally on both side of IL 22. Upon review the only objections to widening completely to the south would be the impacts on the identified wetland southeast of the existing Kemper Drive intersection, and the existing home near the FAP 342 interchange. The plan has been revised to show right-of-way acquisition to the south (Exhibit C-6). However, the exact nature of the right-of-way acquisitions (one side or both sides) will be made in the detailed Phase I studies for both FAP 342 and IL 22.**

Summarization of Comments received at IDOT

There were many letters/petitions received at IDOT in the month following the IL 22 public hearing.

A total of 1130 letters and signatures were received in favor of the IL 22 SRA plan. Approximately 207 letters were received and the Hewitt Associates (a business at two locations along IL 22) letter contained a petition with 330 signatures. One public petition with 25 signatures, and three corporate petitions (Dana Mills, Inc., Morgan Products Ltd., and Whirlpool Financial Corp.) with a total of 47 signatures, were also received in favor of the plan. In addition, the TMA of Lake Cook surveyed the drivers of passenger cars using IL 22 during peak hours and 521 of the 530 responses received were favor of the proposed plan.

A total of 1625 letters and signatures were received against the proposed IL 22 SRA plan. Approximately 485 letters were received in opposition to the plan. Two public petitions containing 1131 signatures were also received. In addition, the TMA of Lake Cook survey of the drivers of passenger vehicles traveling IL 22 during peak hours showed that 9 of the 530 responses received were against the widening.

The great majority of the opposition letters received originated within the Village of Lincolnshire. The majority of the letters in favor of the project were from corporate support and people living outside the Lincolnshire area.

The following is a summary of the stated reasons for opposition to the IL 22 SRA plan. Each of these points has been addressed in the preceding comments and responses.

- The increase in air pollution
- The increase in noise pollution
- Other environmental concerns (trees, drainage, etc.)
- Loss of property from right-of-way acquisition
- Impact on the "pastoral" quality of Lincolnshire
- The safety of children/pedestrians/bicyclists (an overpass would be costly and an aesthetic blight) at Riverwoods Road
- The plan does not consider transportation alternatives (i.e. vanpooling, ride-sharing, staggered work hours, etc.)
- The plan does not address ways to enhance public transportation or accommodate bike/pedestrian travel
- The completion of a full interchange at Lake Cook Road provides another option for regional travel

The following is a summary of the stated reasons in favor of the IL 22 SRA plan. Most of these points have also been addressed in the preceding comments and responses.

- Improved access to and from IL 22
- Reduced travel times
- Reduced traffic congestion
- The need to service traffic produced from new and existing development along IL 22
- The suburban (i.e. "not pastoral) nature of IL 22
- The belief that the effects of transportation alternatives (i.e. vanpooling, ride-sharing, staggered work hours, etc.) would be small
- The existing crossing guard for school children at Riverwoods Road, and the fact that Lincolnshire provides school children (K-12) with bus service
- The decrease in air pollution
- The reduction in the effect of slow moving trucks

THE RECORD NEVER FORGETS

Transcript available for review at Illinois Department of Transportation—District 1 headquarters.

STENOGRAPHIC REPORT OF PUBLIC COMMENTS

ILLINOIS DEPARTMENT OF TRANSPORTATION
PUBLIC HEARING

STRATEGIC REGIONAL ARTERIAL
OPERATION GREENLIGHT

RE: ILLINOIS ROUTE 22
BETWEEN U.S. ROUTE 14
AND U.S. ROUTE 41

OCTOBER 21, 1992
2:00 - 8:00 P.M.

KEMPER LAKES GOLF CLUB
ROUTE 22 AND KEMPER ROAD
LONG GROVE, ILLINOIS

AAA COURT REPORTING
P.O. BOX 777
PROSPECT HEIGHTS, IL 60070
(708) 398-7666

Illinois 22 SRA

Appendix A

Year 2010 Intersection Planning Capacity Analysis, Arterial Analysis, and Typical Bus Turnout Design

ILL 22
TABLE A-1
Year 2010 Intersection Planning Capacity Analysis

ILL 22 AND:	ILL 22 TWO-WAY ADT	K	D	ROADSIDE FRICTION	% TURNS	LT TURN VOLUME	LANES ON CRITICAL APPROACH	V/C	CROSSROAD TWO-WAY ADT	K	D	ROADSIDE FRICTION	% TURNS	LT TURN VOLUME	LANES ON CRITICAL APPROACH	V/C	TOTAL V/C
US 14*	24000	10%	60	0.99	40%	576	LL-RR	0.29	56000	10%	60	0.99	20%	672	LL-TT	0.82	1.11
SKI HILL RD/ DOYLE RD (1)	24000	10%	60	0.99	10%	144	L-TT-R	0.45	5000	10%	60	0.99	20%	60	L-TR	0.19	0.64
COUNTY LINE RD (1)	24000	10%	60	0.99	10%	144	L-TT-R	0.45	5000	10%	60	0.99	20%	60	L-TR	0.19	0.64
KELSEY RD (1)	24000	10%	60	0.99	10%	144	L-TT-R	0.45	12000	10%	60	0.99	10%	72	L-T-R	0.49	0.94
GOOD SHEPHERD HOSPITAL EAST DR (1)	27000	10%	60	0.99	10%	162	L-TT-R	0.5	5000	10%	60	0.99	30%	90	L-TR	0.19	0.70
HARBOR RD	27000	10%	60	0.99	10%	162	L-TT-R	0.5	5000	10%	60	0.99	30%	90	L-TR	0.18	0.69
OLD BARRINGTON RD (1)	31000	10%	60	0.99	10%	186	L-TT-R	0.58	12000	10%	60	0.99	10%	72	L-T-R	0.49	1.07
ILL 59*	38000	10%	60	0.99	10%	228	LL-TTT-R	0.46	40000	10%	60	0.99	10%	240	LL-TTT-R	0.48	0.94
RAINBOW RD (1)	38000	10%	60	0.99	10%	228	L-TT-R	0.71	5000	10%	60	0.99	20%	60	L-TR	0.19	0.90

NOTE: (*) DENOTES SRA CORRIDOR.

(1) ASSUMED FOR UNAVAILABLE VOLUMES: 20,000 ADT FOR MAJOR ARTERIALS, 12,000 ADT FOR MINOR ARTERIALS, 5,000 ADT FOR LOCAL ROADWAYS

(2) ASSUMED 40% INCREASE OVER EXISTING US45/ILL 21 VOLUMES

ILL 22
TABLE A-1
Year 2010 Intersection Planning Capacity Analysis

ILL 22 AND:	ILL 22 TWO-WAY ADT	K	D	ROADSIDE FRICTION	% TURNS	LT TURN VOLUME	LANES ON CRITICAL APPROACH	V/C	CROSSROAD TWO-WAY ADT	K	D	ROADSIDE FRICTION	% TURNS	LT TURN VOLUME	LANES ON CRITICAL APPROACH	V/C	TOTAL V/C
US 12•	38000	10%	60	0.99	20%	456	LL-TTT-R	0.41	40000	10%	60	0.99	20%	480	LL-TTT-R	0.43	0.83
ELA RD/WHITNEY RD (1)	24000	10%	60	0.99	10%	144	L-TT-R	0.45	12000	10%	60	0.99	10%	72	L-TR	0.47	0.92
BUESCHING RD (1)	26000	10%	60	0.99	10%	156	LL-TT-R	0.45	12000	10%	60	0.99	10%	72	L-T-TR	0.25	0.70
OAKWOOD RD/ OLD MILL GROVE RD (1)	26000	10%	60	0.99	10%	156	L-TT-TR	0.38	12000	10%	60	0.99	10%	72	L-TR	0.47	0.85
QUENTIN RD (1)	37000	10%	60	0.99	10%	222	LL-TT-R	0.64	20000	10%	60	0.99	10%	120	L-T-TR	0.41	1.05
KEMPER DR/ S. KRUEGER RD (1)	37000	10%	50	0.99	10%	185	L-TT-R	0.62	12000	10%	50	0.99	30%	180	L-T-R	0.28	0.90

NOTE: (•) DENOTES SRA CORRIDOR.

(1) ASSUMED FOR UNAVAILABLE VOLUMES: 20,000 ADT FOR MAJOR ARTERIALS, 12,000 ADT FOR MINOR ARTERIALS, 5,000 ADT FOR LOCAL ROADWAYS

(2) ASSUMED 40% INCREASE OVER EXISTING US45/ILL 21 VOLUMES

ILL 22
TABLE A-1
Year 2010 Intersection Planning Capacity Analysis

ILL 22 AND:	ILL 22 TWO-WAY ADT	K	D	ROADSIDE FRICTION	% TURNS	LT TURN VOLUME	LANES ON CRITICAL APPROACH	V/C	CROSSROAD TWO-WAY ADT	K	D	ROADSIDE FRICTION	% TURNS	LT TURN VOLUME	LANES ON CRITICAL APPROACH	V/C	TOTAL V/C
OLD McHENRY ROAD (1)	37000	10%	50	0.99	10%	185	L-TT-R	0.62	20000	10%	50	0.99	20%	200	L-T-TR	0.40	1.02
ILL 83	33000	10%	50	0.99	10%	165	LL-TT-R	0.51	33000	10%	50	0.99	10%	165	LL-TT-R	0.51	1.01
BUFFALO GROVE RD (1)	33000	10%	50	0.99	10%	165	LL-TT-R	0.51	20000	10%	50	0.99	10%	100	L-T-TR	0.37	0.88
ARBORETUM WAY/ ACCESS DR (1)	33000	10%	50	0.99	10%	165	L-TT-R	0.55	5000	10%	50	0.99	10%	25	L-TR	0.17	0.72
MAIN ST/ PRAIRIE RD (1)	33000	10%	50	0.99	10%	165	L-TT-R	0.62	12000	10%	50	0.99	10%	60	L-TT-R	0.22	0.84
PRAIRIE RD (1)	33000	10%	50	0.99	10%	165	L-TT-R	0.62	12000	10%	50	0.99	50%	300	L-R	0.20	0.82
EAST DR (1) (HIGH SCHOOL)	29000	10%	50	0.99	10%	145	L-TT-R	0.48	5000	10%	50	0.99	20%	50	L-TR	0.17	0.65
OLD HALF DAY RD/ BARCLAY BLVD (1)	29000	10%	50	0.99	10%	145	L-TT-R	0.48	12000	10%	50	0.99	10%	60	L-TR	0.41	0.89
US 45/ILL 21* (2)	34000	10%	50	0.99	20%	340	LL-TTT-R	0.34	39000	10%	50	0.99	20%	390	LL-TTT-R	0.39	0.73
OLD HALF DAY RD (1)	34000	10%	50	0.99	10%	170	L-TT	0.63	12000	10%	50	0.99	50%	300	L-R	0.20	0.83
ELM RD/OXFORD DR (1)	34000	10%	50	0.99	10%	170	L-TT-R	0.57	12000	10%	50	0.99	10%	60	L-TR	0.41	0.97
RIVERWOODS RD	34000	10%	50	0.99	10%	170	L-TT-R	0.57	23000	10%	50	0.99	10%	115	L-T-TR	0.43	1.00
HEWIT DR/ WESTMINSTER WAY (1)	33000	10%	50	0.99	10%	165	LL-TT-R	0.51	5000	20%	50	0.99	10%	50	LL-TR	0.10	0.61
I-94 EB RAMPS (1)	33000	10%	50	0.99	20%	330	LL-TT	0.55	20000 (ONE WAY)	10%	-	0.99	50%	1000	LL-RR	0.33	0.88

NOTE: (*) DENOTES SRA CORRIDOR.

(1) ASSUMED FOR UNAVAILABLE VOLUMES: 20,000 ADT FOR MAJOR ARTERIALS, 12,000 ADT FOR MINOR ARTERIALS, 5,000 ADT FOR LOCAL ROADWAYS

(2) ASSUMED 40% INCREASE OVER EXISTING US45/ILL 21 VOLUMES

ILL 22
TABLE A-1
Year 2010 Intersection Planning Capacity Analysis

ILL 22 AND:	ILL 22								CROSSROAD								TOTAL V/C
	TWO-WAY ADT	K	D	ROADSIDE FRICTION	% TURNS	LT TURN VOLUME	LANES ON CRITICAL APPROACH	V/C	TWO-WAY ADT	K	D	ROADSIDE FRICTION	% TURNS	LT TURN VOLUME	LANES ON CRITICAL APPROACH	V/C	
I-94 WB RAMPS (1)	33000	10%	50	0.99	20%	330	LL-TT	0.55	20000 (ONE WAY)	10%	-	0.99	50%	1000	LL-RR	0.33	0.88
LAKESIDE DR (1)	33000	10%	50	0.99	10%	165	L-TT-R	0.55	5000	10%	50	0.99	10%	25	L-TR	0.17	0.72
TELEGRAPH RD (1)	30000	10%	50	0.99	10%	150	LL-TT-R	0.46	12000	10%	50	0.99	10%	60	L-T-TR	0.22	0.68
ILL 43	31000	10%	50	0.99	20%	310	LL-TT-R	0.41	22000	10%	50	0.99	20%	220	LL-TT-R	0.29	0.71
TENNYSON LN/ RIDGE RD (1)	30000	10%	50	0.99	10%	150	L-TT-R	0.5	12000	10%	50	0.99	10%	60	L-T-TR	0.22	0.72

NOTE: (•) DENOTES SRA CORRIDOR.

(1) ASSUMED FOR UNAVAILABLE VOLUMES: 20,000 ADT FOR MAJOR ARTERIALS, 12,000 ADT FOR MINOR ARTERIALS, 5,000 ADT FOR LOCAL ROADWAYS

(2) ASSUMED 40% INCREASE OVER EXISTING US45/ILL 21 VOLUMES

Table A-2
Suburban Arterial Level of Service Analysis Inputs
Illinois 22

Intersection Operations						Assumed Signal Operation					
Intersection	V/C[a]	Left Turn Volume[a]	Number of Left Turn Lanes[a]	G/C for Left Turn[b]	Thru G/C[c]	Capacity[d]	Cycle Length (Seconds)[e]	Arrival Type[f]	Progression Factor[g]	Spacing to Next Intersection	Arterial Type/Class and Speed[h]
U.S. 14	1.11	576	2	0.20	—	—	120	IV	1.00	1,050	I-40
Ski Hill Road/Doyle Road	0.64	144	1	0.10	0.60	1,920	120	IV	0.74	1,750	I-45
County Line Road	0.64	144	1	0.10	0.60	1,920	120	III	1.00	3,700	I-55
Kelsey Road	0.94	144	1	0.10	0.38	1,220	120	III	1.00	4,080	I-50
Good Shepherd Hospital East Drive	0.70	162	1	0.10	0.60	1,920	120	III	1.00	2,750	I-50
Harbor Road	0.69	162	1	0.10	0.60	1,920	120	III	1.00	3,170	I-50
Old Barrington Road	1.07	186	1	0.10	0.44	1,410	120	III	1.00	4,000	I-50
Illinois 59	0.94	228	2	0.10	0.40	1,920	120	III	1.00	3,980	I-50
Rainbow Road	0.90	228	1	0.15	0.65	2,080	120	III	1.00	3,700	I-50
U.S. 12	0.83	456	2	0.15	0.35	1,680	120	IV	0.83	1,500	II-35
Ela Road/Whitney Road	0.92	144	1	0.10	0.40	1,280	120	IV	0.87	4,000	II-30
Old Rand Road	0.62	504	2	0.17	0.48	1,530	120	III	1.00	2,570	I-40
Buesching Road	0.70	156	2	0.10	0.54	1,730	120	IV	0.87	2,670	II-30
Oakwood Road/Old Mill Grove Road	0.85	156	1	0.10	0.35	1,680	120	III	1.00	4,120	I-40
Quentin Road	1.05	222	2	0.10	0.50	1,600	120	III	1.00	4,250	I-50
Kemper Drive/South Krueger Road	0.90	185	1	0.10	0.60	1,920	120	III	1.00	6,650	I-50
Old McHenry Road	1.02	185	1	0.10	0.50	1,600	120	III	1.00	7,920	I-50
Illinois 83	1.01	165	2	0.10	0.40	1,280	120	IV	1.00	5,260	I-50
Buffalo Grove Road	0.88	165	2	0.10	0.50	1,600	120	IV	0.85	810	I-50
Arboretum Way/Access Drive	0.72	165	1	0.10	0.65	2,080	120	IV	0.78	1,590	I-50

Table A-2
Suburban Arterial Level of Service Analysis Inputs
Illinois 22

Intersection Operations						Assumed Signal Operation					
Intersection	V/C[a]	Left Turn Volume[a]	Number of Left Turn Lanes[a]	G/C for Left Turn[b]	Thru G/C[c]	Capacity[d]	Cycle Length (Seconds)[e]	Arrival Type[f]	Progression Factor[g]	Spacing to Next Intersection	Arterial Type/Class and Speed[h]
Main Street/Prairie Road	0.84	165	1	0.10	0.65	2,080	120	V	0.70	370	I-50
Prairie Road	0.82	165	1	0.10	0.65	2,080	120	V	0.69	2,320	I-40
East Drive (Adlai Stevenson High School)	0.65	145	1	0.10	0.65	2,080	120	III	1.00	2,380	I-40
Old Half Day Road/Barclay Boulevard	0.89	145	1	0.10	0.45	1,440	120	III	1.00	1,470	I-40
U.S. 45/Illinois 21	0.73	340	2	0.10	0.35	1,680	120	III	1.00	2,080	I-40
Old Half Day Road	0.83	170	1	0.10	0.65	2,080	120	III	1.00	2,540	I-40
Elm Road/Oxford Drive	0.97	170	1	0.10	0.50	1,600	120	III	1.00	2,660	I-40
Riverwoods Road	1.00	170	1	0.10	0.50	1,600	120	III	1.00	3,620	I-40
Hewitt Drive/Westminster Way	0.61	165	2	0.10	0.75	2,400	120	V	0.54	600	I-40
I-94 Eastbound Ramps	0.88	330	2	0.11	0.52	1,660	120	V	0.73	1,080	I-40
I-94 Westbound Ramps	0.88	330	2	0.11	0.52	1,660	120	V	0.73	640	I-40
Lakeside Drive	0.72	165	1	0.10	0.65	2,080	120	V	0.61	3,610	I-40
Telegraph Road	0.68	165	2	0.10	0.60	1,920	120	III	1.00	2,360	I-45
Illinois 43	0.71	310	2	0.10	0.50	1,600	120	III	1.00	4,230	I-45
Tennyson Lane/Ridge Road	0.72	150	1	0.10	0.60	1,920	120	III	1.00	4,000	I-40
U.S. 41	0.67	220	2	0.07	0.26	1,250	120	III	1.00	—	I-40

Table A-2
Suburban Arterial Level of Service Analysis Inputs
Illinois 22

Intersection Operations						Assumed Signal Operation					
Intersection	V/C[a]	Left Turn Volume[a]	Number of Left Turn Lanes[a]	G/C for Left Turn[b]	Thru G/C[c]	Capacity[d]	Cycle Length (Seconds)[e]	Arrival Type[f]	Progression Factor[g]	Spacing to Next Intersection	Arterial Type/Class and Speed[h]

[a]From intersection planning capacity analysis—Table A-1

[b]G/C for left turns = $\frac{\text{LT Vol./LT Lanes}}{1{,}500}$

[c]G/C for through movement = $\frac{\text{V/C for SRA}}{\text{V/C for Intersection}}$ or G/C (for left turns)

[d]Capacity = 1,600 x number of through lanes x G/C (for through movement)

[e]Assumption:

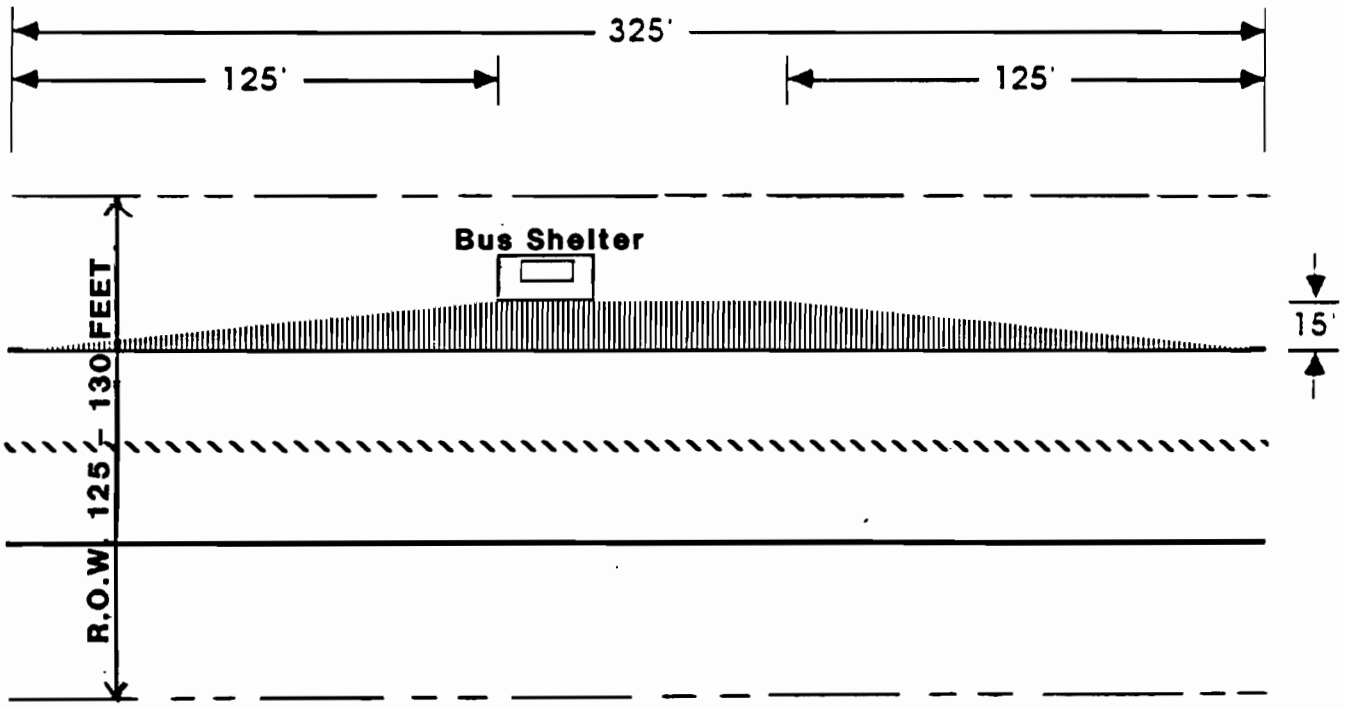
2-Phase signals	60-90 seconds
3-Phase signals	90-100 seconds
4-Phase signals	120-150 seconds

[f]Assume Type III, IV, or V, depending on spacing of signals relative to SRA guidelines per *Highway Capacity Manual*

[g]Per *Highway Capacity Manual*, Table 11-6

[h]Per *Highway Capacity Manual*—Assume Type I or II for suburban SRAs

Minor and Major Arterials
(Maximum Posted Speed Limit: 50 Miles per Hour)



Reference: Pace Development Guidelines, December, 1989.

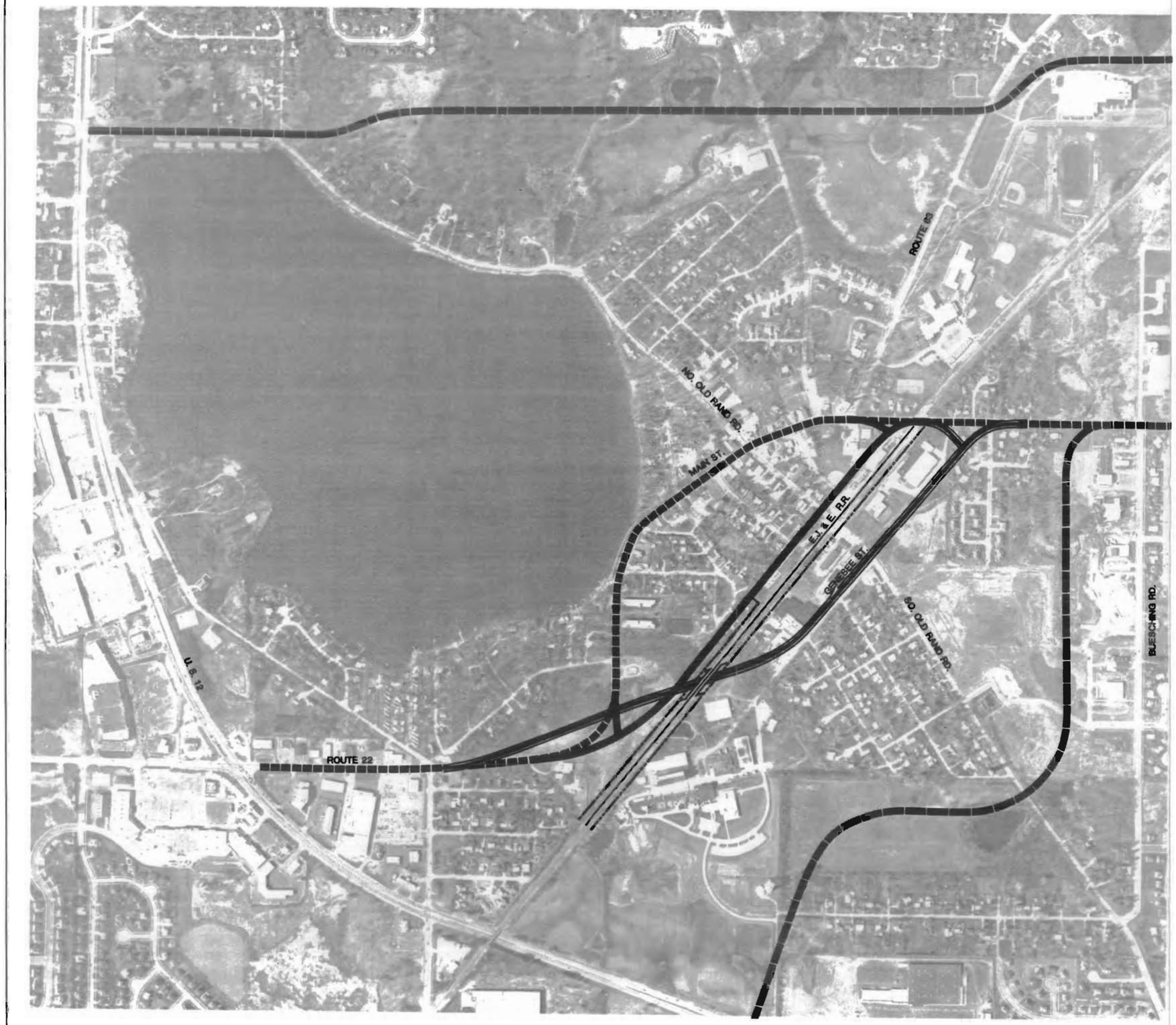
BUS TURNOUT DESIGN

APPENDIX FIGURE A-1

Illinois 22 SRA

Appendix B

Lake Zurich Bypass Alternatives, Alternative 4 Plan, and Alternative 4 Cross Section



Alternate 1

Alternate 2

(Alt. 1 & 2) Alternate 3

Alternate 4

Alternate 5

Alternate 6

EXHIBIT 3
ALTERNATE ALIGNMENTS
ROUTE 22

TRANSPORTATION PLAN AND REDEVELOPMENT STRATEGY FOR THE VILLAGE CENTER

The Village of:
Lake Zurich, Illinois

Scale: 0 200' 600' north

Prepared By: Trkla, Pettigrew, Allen & Payne
Beling Consultants / Land Design Collaborative

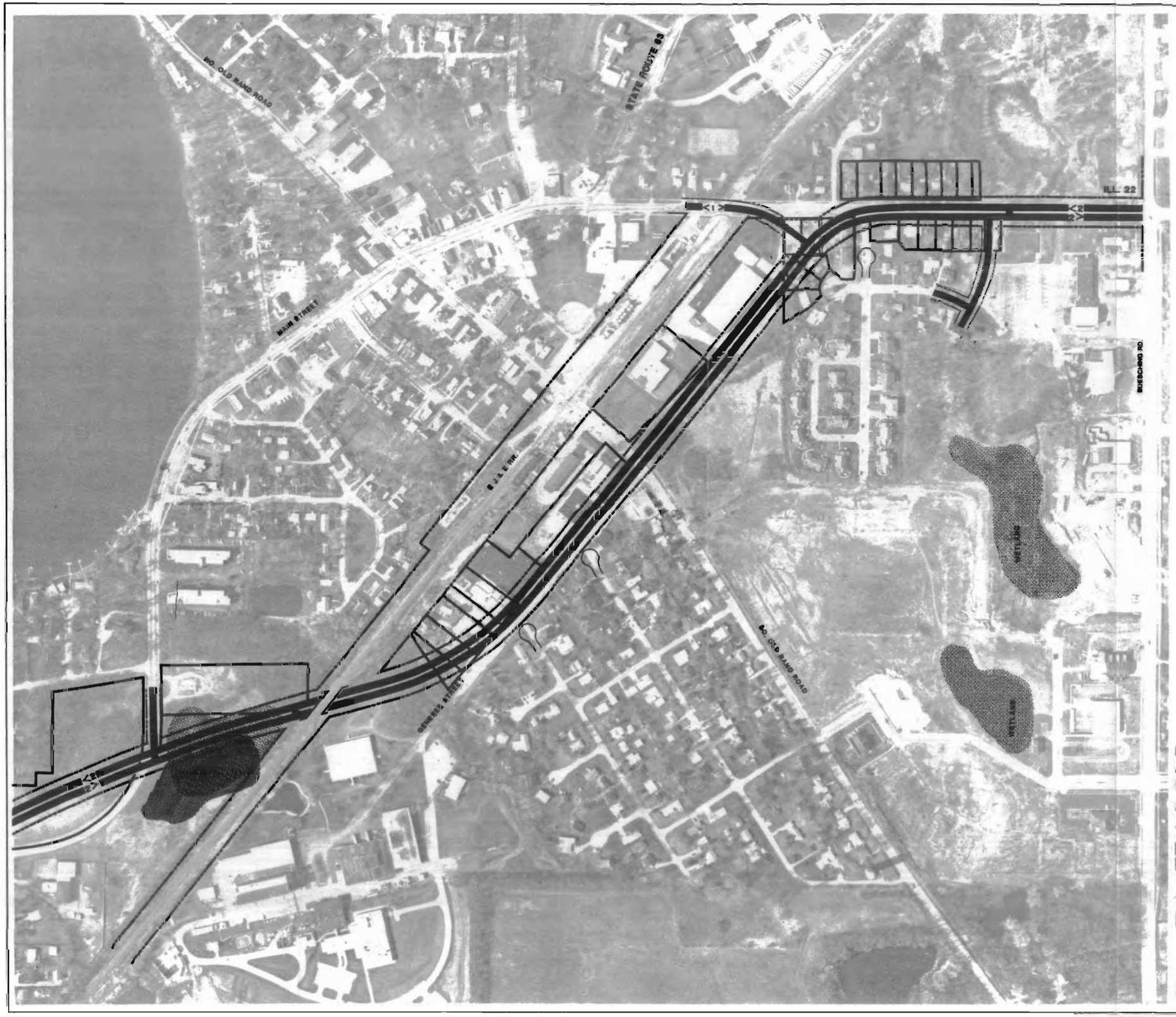


EXHIBIT 11
ALTERNATE 4
GENESEE STREET ALIGNMENT

TRANSPORTATION PLAN AND REDEVELOPMENT STRATEGY FOR THE VILLAGE CENTER

The Village of:
Lake Zurich, Illinois

scale 0 100' 300' north

Prepared By: Trkla, Pettigrew, Allen & Payne
Being Consultants / Land Design Collaborative

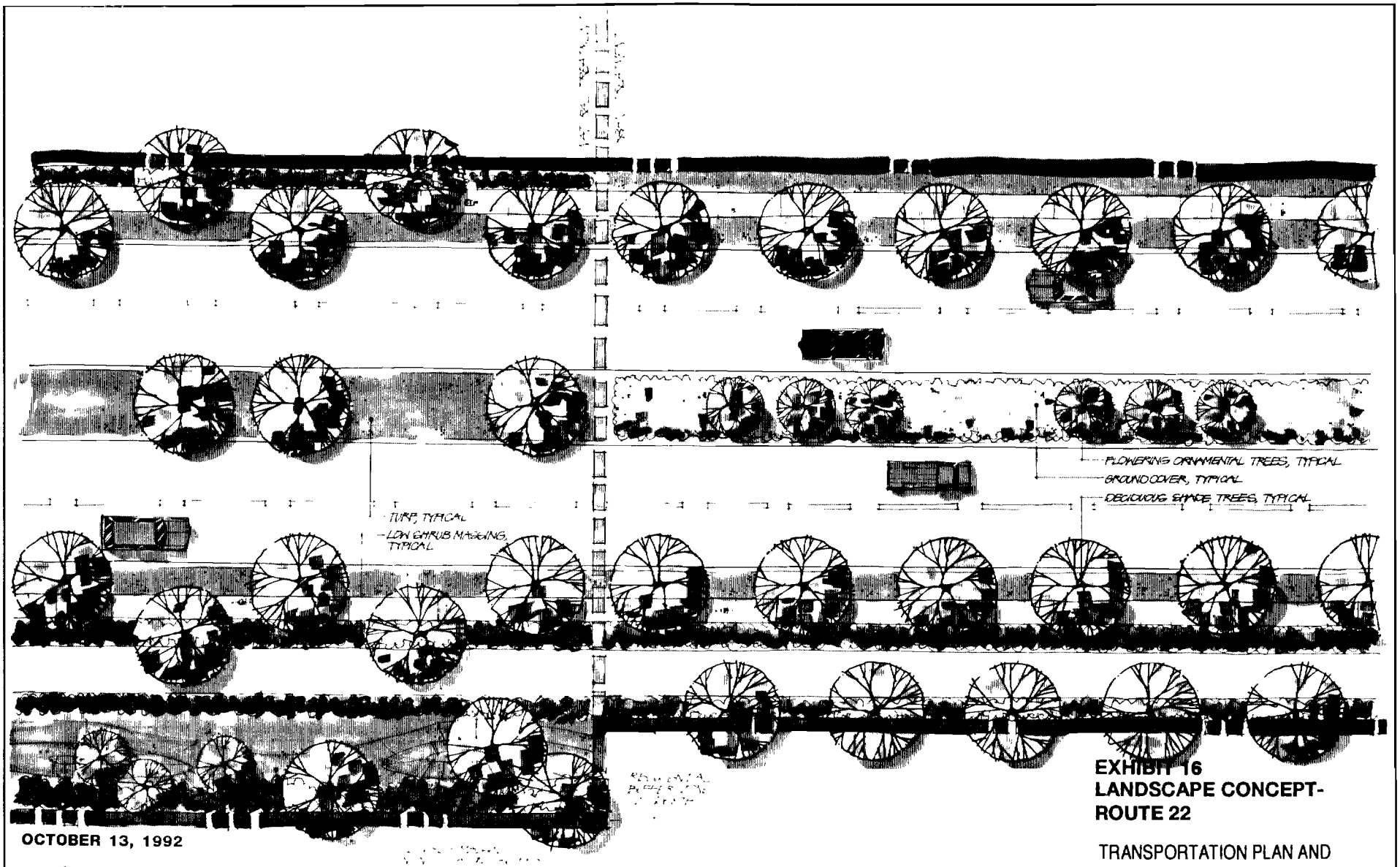


EXHIBIT 16
LANDSCAPE CONCEPT-
ROUTE 22

TRANSPORTATION PLAN AND
REDEVELOPMENT STRATEGY
FOR THE VILLAGE CENTER

The Village of
Lake Zurich, Illinois

Prepared by Trkla, Pettigrew, Allen & Payne
Land Design Collaborative

OCTOBER 13, 1992

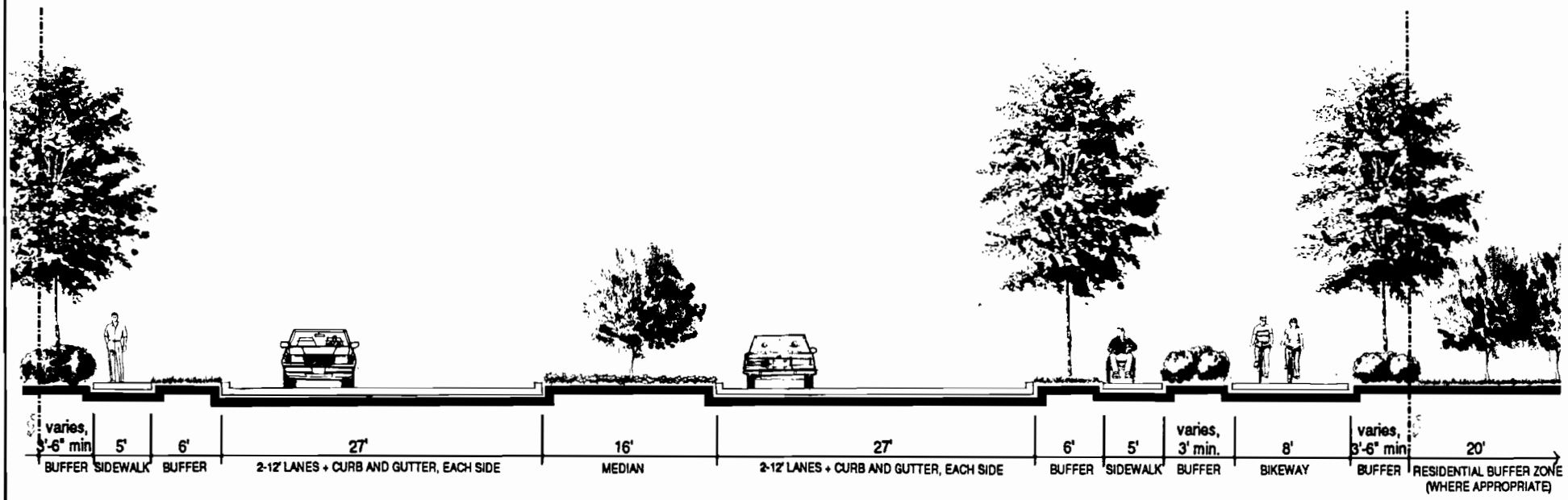


EXHIBIT 17
LANDSCAPE CONCEPT-
ROUTE 22

TRANSPORTATION PLAN AND
REDEVELOPMENT STRATEGY
FOR THE VILLAGE CENTER

The Village of
Lake Zurich, Illinois

Prepared by Trkla, Pettigrew, Allen & Payne
Land Design Collaborative