Strategic Regional Arterial

Lake Cook Road (Vol. I)

from U.S. Route 12 (Rand Road)
to U.S. Route 41 (Edens Expressway)

Operation GreenLight

Illinois Department of Transportation
May, 1992

FOREWORD

Lake Cook Road is a Strategic Regional Arterial between Illinois Route 53 and U.S. Route 41 (Edens Expressway). The Strategic Regional Arterial (SRA) report for Lake Cook Road has been prepared for the Illinois Department of Transportation, Cook County Highway Department and the Strategic Regional Arterial Subcommittee of the Work Program Committee of the Chicago Area Transportation Study by Harland Bartholomew & Associates, Inc. with assistance from Triton Consulting Engineers, Ltd.

As an SRA route, Lake Cook Road 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.

Volume I of this report includes a description of the SRA study objectives and process, a detailed exposition and analysis of the existing route conditions and recommendations for improvements. Volume II of this report consists of documentation of the public involvement process including citizen comments.

SUMMARY OF RECOMMENDATIONS

The SRA Route Lake Cook Road is divided into six route segments. (See *Figure i.i.*) Recommendations are made for each route segment, and a summary of the major recommendations is presented below.

SRA Segment 1: U.S. Route 12 (Rand Road) to Arlington Heights Road

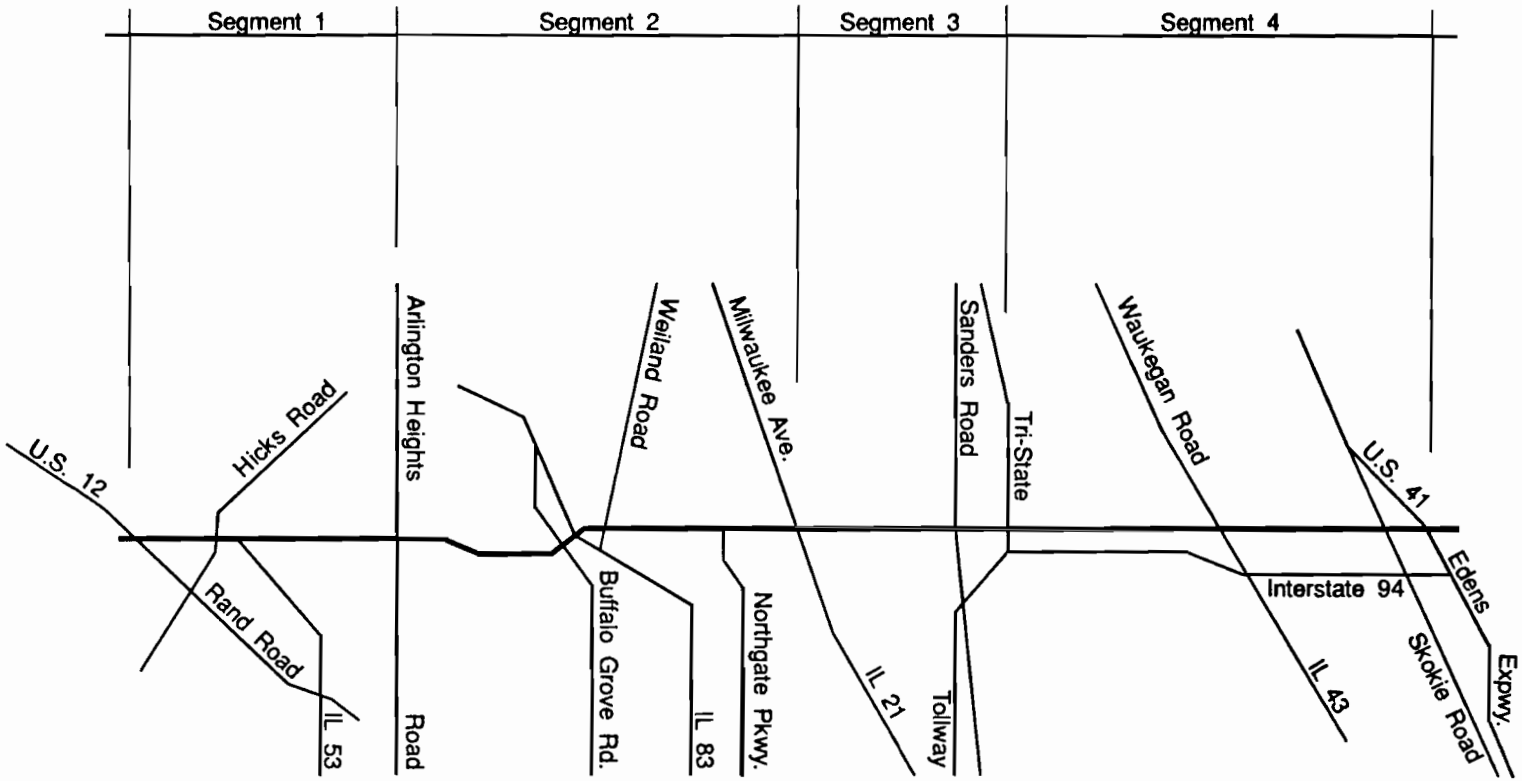
- Between U.S. Route 12 (Rand Road) and Illinois Route 53, two through lanes in each direction plus a 16-foot median
- Between Illinois Route 53 and Arlington Heights Road, three through lanes in each direction plus a 16-foot median
- Major intersection improvements, including dual left-turn and separate right-turn lanes, at U.S. Route 12 (Rand Road) and Arlington Heights Road
- Signal interconnection between U.S. Route 12 (Rand Road) and Old Hicks Road

SRA Segment 2: Arlington Heights Road to Illinois Route 21 (Milwaukee Avenue)

- Three through lanes in each direction plus an 8 to 16-foot median
- Major intersection improvements, including dual left-turn lanes, at Buffalo Grove Road, Illinois Route 83 (Old McHenry Road) and Weiland Road
- Extension of Weiland Road to Buffalo Grove Road
- New diamond interchange at Illinois Route 21 (Milwaukee Avenue)
- Existing signal interconnect extension to Arlington Heights Road
- Structural modifications to accommodate recommended roadway cross section

SRA Segment 3: Illinois Route 21 (Milwaukee Avenue) to Interstate 294 (Tri-State Tollway)

- Two through lanes in each direction plus a 4 to 30-foot median
- Major intersection improvements, including dual left-turn and separate right turn lanes, at Sanders Road
- Signal interconnect between Portwine Road and Interstate 294 (Tri-State Tollway) ramps
- Structural modifications to accommodate recommended roadway cross section



Lake-Cook Road

prepared by Harland Bartholomew & Associates, Inc.

Segment Location Map

Figure i.i

SRA Segment 4: Interstate 294 (Tri-State Tollway) to U.S. Route 41 (Edens Expressway)

- Three through lanes in each direction plus a 16 to 28-foot median
- New ramps, to and from the north, at the interchange with Interstate 294 (Tri-State Tollway)
- Grade separations at the Metra Milwaukee District and Chicago & Northwestern Railroad
- Major intersection improvements, including dual left-turn lanes and/or separate right turn lanes at Wilmot Road, Pfingsten Road, Illinois Route 43 (Waukegan Road) and Skokie Boulevard
- Signal interconnect for all signals between Pine Street and U.S. Route 41 (Edens Expressway)
- Structural modifications to accommodate recommended roadway cross section
- Future traffic signal at Pine Tree Road/Carlisle Avenue

TABLE OF CONTENTS

VOLUME I

Page

SECTION ONE: INTRODUCTION

1.1 THE STRATEGIC REGIONAL ARTERIAL SYSTEM AND OPERATION GREENLIGHT 1
1.2 SRA ROUTE TYPES 3
1.3 DESIRABLE ROUTE CHARACTERISTICS AND TECHNIQUES FOR SPECIAL CIRCUMSTANCES 3
1.4 STUDY OBJECTIVES 7
1.5 THE LAKE COOK ROAD SRA PLANNING STUDY PROCESS 8
1.6 STUDY DATA SOURCES AND METHODOLOGIES 9
1.7 ORGANIZATION OF THE REPORT 10

SECTION TWO: ROUTE OVERVIEW

2.1 THE LAKE COOK ROAD SRA STUDY AREA 12
2.2 REGIONAL TRANSPORTATION FACILITIES 12
2.3 ROUTE AREA TYPE 15
2.4 COOK COUNTY PROJECTS FOR ROADWAY IMPROVEMENTS 15
2.4.1 U.S. ROUTE 12 (RAND ROAD) TO ARLINGTON HEIGHTS ROAD 16
2.4.2 ARLINGTON HEIGHTS ROAD TO ILLINOIS ROUTE 21 (MILWAUKEE AVENUE) 17
2.4.3 ILLINOIS ROUTE 21 (MILWAUKEE AVENUE) TO INTERSTATE 294 (TRI-STATE TOLLWAY) 18
2.4.4 INTERSTATE 294 (TRI-STATE TOLLWAY) TO U.S. ROUTE 41 (EDENS EXPRESSWAY) 19
2.5 TRANSIT 21
2.5.1 CHARACTERISTICS OF THE CORRIDOR 21
2.5.2 BUS AND POOLING SERVICE 22
2.5.3 RAIL SERVICE 23
2.4.4 RECOMMENDED TRANSIT IMPROVEMENTS 24

TABLE OF CONTENTS (cont.)

Page

SECTION THREE: ROUTE ANALYSIS

3.1 U.S. ROUTE 12 (RAND ROAD) TO ARLINGTON HEIGHTS ROAD
- 3.1.1 LOCATION 30
- 3.1.2 EXISTING FACILITY CHARACTERISTICS 30
- 3.1.3 EXISTING ENVIRONMENTAL CHARACTERISTICS 32
- 3.1.4 DEVELOPMENT CHARACTERISTICS 33
- 3.1.5 RECOMMENDED TRANSIT IMPROVEMENTS 34
- 3.1.6 POTENTIAL ENVIRONMENTAL CONCERNS 34

3.2 ARLINGTON HEIGHTS ROAD TO ILLINOIS ROUTE 21 (MILWAUKEE AVENUE)
- 3.2.1 LOCATION 35
- 3.2.2 EXISTING FACILITY CHARACTERISTICS 35
- 3.2.3 EXISTING ENVIRONMENTAL CHARACTERISTICS 37
- 3.2.4 DEVELOPMENT CHARACTERISTICS 38
- 3.2.5 RECOMMENDED TRANSIT IMPROVEMENTS 40
- 3.2.6 OTHER IMPROVEMENTS 40
- 3.2.7 POTENTIAL ENVIRONMENTAL CONCERNS 40

3.3 ILLINOIS ROUTE 21 (MILWAUKEE AVENUE) TO INTERSTATE 294 (TRI-STATE TOLLWAY)
- 3.3.1 LOCATION 41
- 3.3.2 EXISTING FACILITY CHARACTERISTICS 41
- 3.3.3 EXISTING ENVIRONMENTAL CHARACTERISTICS 43
- 3.3.4 DEVELOPMENT CHARACTERISTICS 44
- 3.3.5 RECOMMENDED TRANSIT IMPROVEMENTS 45
- 3.3.6 POTENTIAL ENVIRONMENTAL CONCERNS 45

3.4 INTERSTATE 294 (TRI-STATE TOLLWAY) TO U.S. ROUTE 41 (EDENS EXPRESSWAY)
- 3.4.1 LOCATION 46
- 3.4.2 EXISTING FACILITY CHARACTERISTICS 46
- 3.4.3 EXISTING ENVIRONMENTAL CHARACTERISTICS 49
- 3.4.4 DEVELOPMENT CHARACTERISTICS 50
- 3.4.5 RECOMMENDED TRANSIT IMPROVEMENTS 51
- 3.4.6 OTHER IMPROVEMENTS 51
- 3.4.7 POTENTIAL ENVIRONMENTAL CONCERNS 51

TABLE OF CONTENTS (cont.)

Page

VOLUME II

SECTION FOUR: PUBLIC INVOLVEMENT

4.1 THE PUBLIC INVOLVEMENT PROCESS 52
4.2 ADVISORY PANEL MEETING MINUTES 53
4.3 PUBLIC HEARING MINUTES AND RECORDED COMMENTS 54
4.4 NEWSLETTERS 55

SECTION ONE
INTRODUCTION

1.1 THE STRATEGIC REGIONAL ARTERIAL SYSTEM AND OPERATION GREENLIGHT

The Strategic Regional Arterial (SRA) system is a 1340-mile network of existing roads in Northeastern Illinois. The system includes 146 route segments in Cook, DuPage, Kane, Lake, McHenry and Will Counties *(See Figure 1.1.)* As part of the 2010 Transportation System Development Plan adopted by the Chicago Area Transportation Study (CATS) and Northeastern Illinois Planning Commission (NIPC), the SRA system is intended to supplement the existing and proposed expressway facilities by accommodating a significant portion of long-distance, high volume automobile and commercial vehicle traffic in the region. Many of the roads in the SRA system, including Lake Cook Road, are already on the arterial highway network of the Illinois Department of Transportation (IDOT) and now carry high volumes of long-distance traffic.

According to forecasts prepared by CATS, travel in the year 2010 in Northeastern Illinois is expected to increase by 23 percent over 1980 levels. In the last few years, rapid economic development and growing population have resulted in significant increases in congestion on the regional expressway system, as well as on arterial and local roads in many parts of the region. Creation of the SRA system is a major component of Operation GreenLight, an eight-point plan to deal with urban congestion and improve regional mobility. The plan was developed by IDOT in cooperation with the Illinois State Toll Highway Authority (ISTHA), CATS, NIPC and the Regional Transportation Authority (RTA). In addition to creating the SRA network, Operation GreenLight addresses the following major transportation issues:

- Developing Major Transit/Highway Facilities,
- Improving Other Key Arterial Roadways,
- Identifying Strategic Transit Improvements,
- Reducing Demand for Highway Use, and
- Increasing Environmental Consideration.

Together, the components of Operation GreenLight are a blueprint for a comprehensive approach to improve transportation in Northeastern Illinois. As part of this comprehensive approach, the SRA system is designed to (1) improve regional mobility by providing a comprehensive network of arterial routes designed to carry significant volumes of long-distance traffic across the region, (2) complement the regional transit and highway facilities by providing access for regional trips on these facilities, and (3) provide for long-distance travel to supplement the regional expressway system.

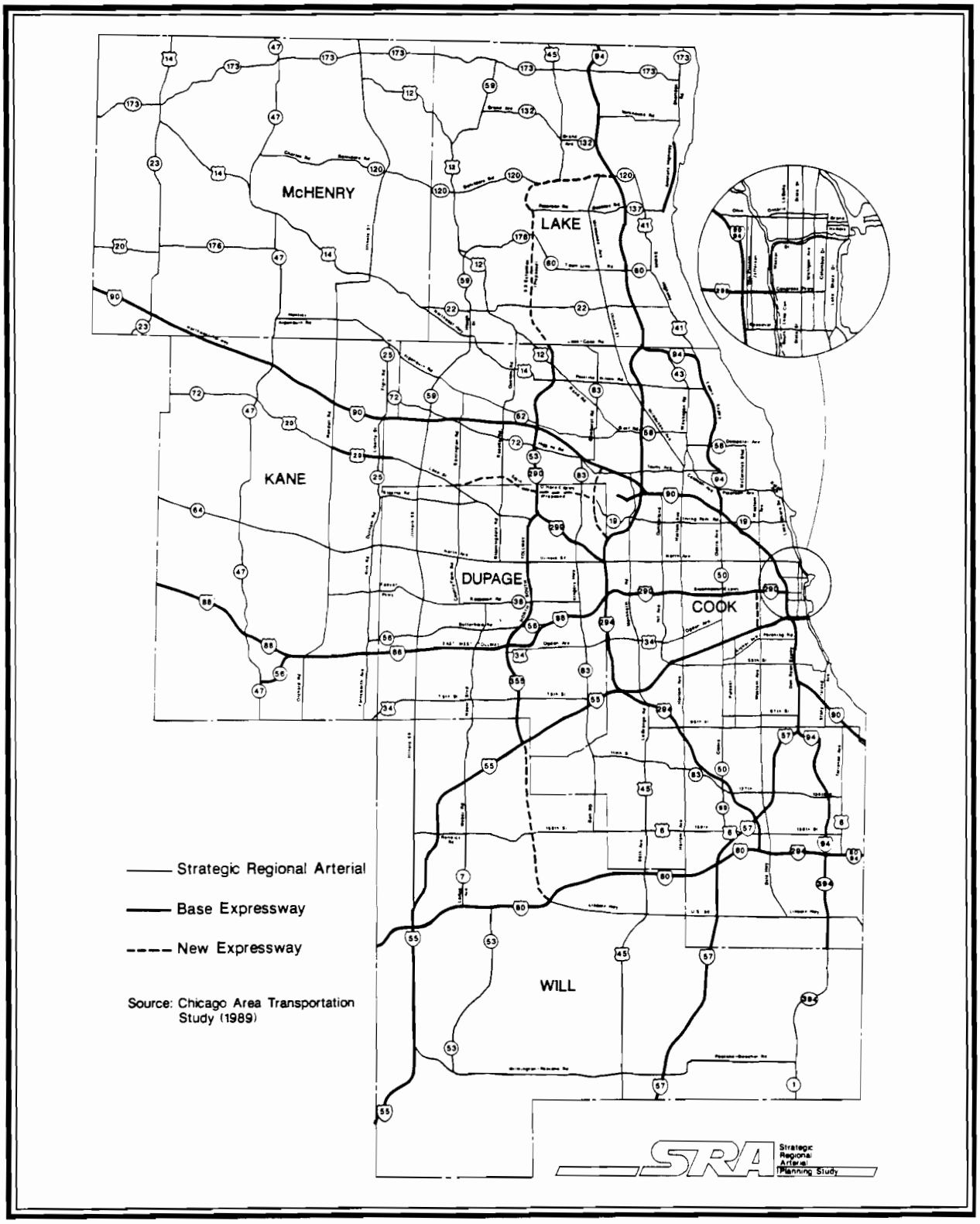


Figure 1.1 The Strategic Regional Arterial System

1.2 SRA ROUTE TYPES

Within the SRA network there are significant differences in the roadway environment. These differences affect how routes will function in the system. Three different types of SRA routes have been designated, corresponding to three types of roadway environment:

- Urban Routes,
- Suburban Routes, and
- Rural Routes.

The designation of route types is based upon the projected Year 2010 density of development within the Chicago region. Lake Cook Road is designated as a suburban route. *(See Figure 1.2.)* Urban SRA routes are located in the City of Chicago and adjacent portions of more densely developed suburbs such as Oak Park, where projected densities are greater than 5.0 households per acre. Suburban SRA route designations, where projected densities are between 0.5 and 5.0 households per acre, apply to most suburban Cook and Lake Counties, all of DuPage County, and the more developed portions of McHenry, Kane and Will Counties. Rural SRA routes are located in the outer portions of Lake, McHenry, Kane and Will Counties, where projected densities are less than 0.5 households per acre.

SRA routes located in densely urbanized areas typically are existing routes with minimal possibilities for roadway expansion, but where improvements could be made to intersections, transit facilities and structural clearances. For routes in developing suburban areas, additional lanes on roadways, new connections to improve route continuity, and operational improvements such as signal coordination may be considered. In rural areas, right-of-way preservation and access management would provide for movement of through traffic and accommodate future needs.

1.3 DESIRABLE ROUTE CHARACTERISTICS AND TECHNIQUES FOR SPECIAL CIRCUMSTANCES

Desirable route characteristics for the year 2010 have been delineated for each of the three SRA route types - Urban, Suburban and Rural - related to the roadway environment. These desirable characteristics are intended to provide adequate traffic service and geometric design, serving as criteria for planning the individual SRA routes. *Table 1.1* lists desirable characteristics for SRA suburban routes in the year 2010, including typical geometrics, operational measures, level of service, and access policies. These desirable characteristics are the basis for defining the desirable SRA suburban route cross-section which is shown in *Figure 1.3*.

As planning criteria, these design features and other route characteristics are designed to be generally applicable to all SRA suburban routes. However, the SRA planning process recognizes that there may be situations along suburban routes where certain design features are not appropriate or where special treatment of some features is desirable, such as:

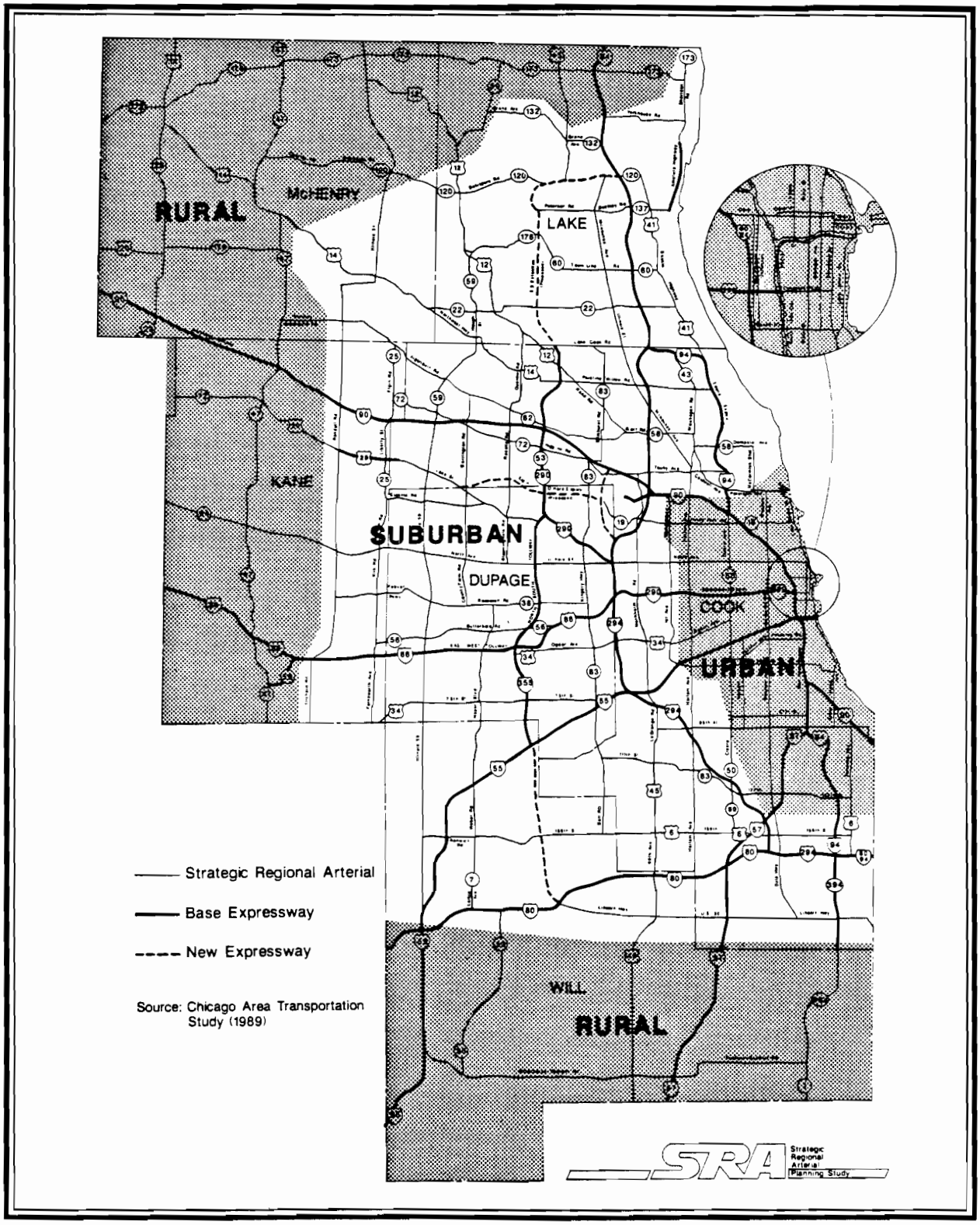


Figure 1.2 Route Types on the Strategic Regional Arterial System

Table 1.1
2010 Desirable Route Characteristics
Suburban Strategic Regional Arterials

Right-of-way Width	120' - 150'
Level of Service (Peak Hour)/Design Speed	C or D / 45 mph
Number of Through Lanes	3 in each direction; 12' width
Median Width	18' - 46', raised
Right Turns	Turn lanes at all major intersections
Left Turns	Dual left turn lanes at all major intersections
Shoulders	Where appropriate, 10' width paved
Curbs	Yes, with 2' gutters
Sidewalks	Where appropriate, 5' 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' 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	4 maximum
Signalization	Synchronization with pedestrian actuation where needed.
Freight: Radii	WB-55 typical/WB-60 Type II truck route
Vertical Clearances	New structures: 16'-3" Existing Structures: 14'-6"
Loading	Off-street loading

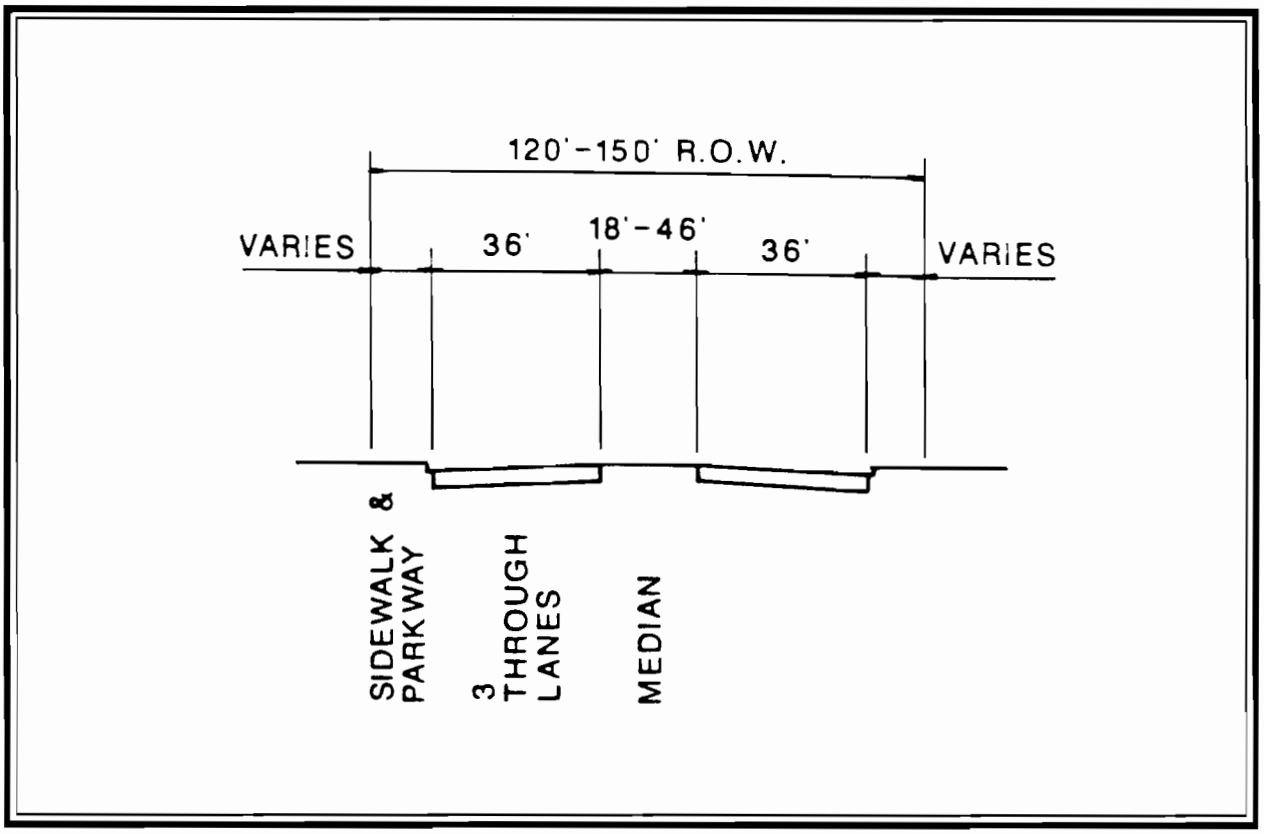


Figure 1.3 Desirable Suburban SRA Cross-Section

- Bus lane/high occupancy vehicle (HOV) lanes;
- Signal preemption capability for transit vehicles;
- Demand actuated signals at transit stations;
- Channelization or interchanges at high volume intersections;
- Use of continuous two-way left-turn lanes;
- Designation of route bypasses for constricted areas; or
- Location of transit or pedestrian facilities in public easements outside the right-of-way.

While not all of these special techniques may be applicable to Lake Cook Road, they illustrate the range of treatments which has been considered.

A full description of the recommended designs and features applicable to all SRA routes, and techniques for special circumstances can be found in the Strategic Regional Arterial Design Concept Report, dated March, 1991.

1.4 STUDY OBJECTIVES

As an SRA route, Lake Cook Road 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. To implement the SRA system, development of a comprehensive, long-range plan for the entire network is necessary. The planning process for the SRA system is to be accomplished over a five year period, with individual route studies comprising one-fifth of the total system to be undertaken each year. Together, the route studies constitute a comprehensive, coordinated plan for the entire SRA network.

The Lake Cook Road study identifies roadway and transit improvements to enable the route to function as part of the SRA system. The following objectives have guided the study process.

- Determine the types of roadway improvements needed for each route including additional lanes, signalization and interchanges.
- Define right-of-way requirements.
- Enhance access to the regional transit system.
- Identify ways to manage access which would improve through traffic movement and reduce conflicts.
- Coordinate recommended route improvements with projected development.

- Identify necessary improvements to accommodate commercial traffic.
- Accommodate necessary bicycle and pedestrian travel.
- Identify potential environmental concerns.

The completed study will guide implementation of improvements on Lake Cook Road, so that individual projects are consistent with the coordinated long-range development of the route as an integral part of the SRA system.

1.5 THE LAKE COOK ROAD SRA PLANNING STUDY PROCESS

The Lake Cook Road SRA planning study process is unique. Need for improvements is substantial enough that Cook County is conducting concurrent design studies along the entire route. The recommendations of these design studies constitute the entirety of SRA roadway improvement recommendations. The primary focus of this report is the development of recommendations and alternatives for the transit component of the Lake Cook Road corridor to be considered during further detailed evaluation. Using data developed during the design studies, a review for SRA purposes is accomplished through the following phases:

Data Collection/Evaluation. The SRA planning process is designed to efficiently use available data. For each route, data is assembled from right-of-way information, roadway plans, traffic volume counts, transit information, bicycle usage, adjacent development characteristics, accident data, environmental studies and other sources, and is analyzed to establish current conditions, constraints and improvement needs.

Route Analysis. Proposed Cook County roadway improvements for Lake Cook Road have been adopted as SRA roadway project recommendations. These recommendations include alternative designs and techniques where necessary to accommodate local conditions or constraints.

Environmental Issues/Screening. While the SRA planning process does not include detailed environmental assessments or analysis of specific mitigation measures, a screening process associated with the design studies identified significant environmental conditions. The results of this process were used to evaluate improvement alternatives and to serve as an indicator of environmental issues associated with proposed improvements.

Identification of Right-of-Way Needs. Right-of-way needs to accommodate recommended improvements are identified.

Local Involvement and Coordination. Throughout the SRA route planning process, the involvement of local and regional agencies is an important consideration. Information and coordination efforts include forming Advisory Panels for each SRA route, which work with IDOT and, for Lake Cook Road, the Cook County Highway Department during the planning and design process. A regular newsletter for each Panel informs members about the SRA program and ongoing route studies. A public hearing in an open house format is also conducted for the route.

Final Route Improvement Plan/Report. As the final step in the planning process, a report for each SRA route documents the recommended improvements and findings.

1.6 STUDY DATA SOURCES AND METHODOLOGIES

Existing Roadway Characteristics Several data sources were compiled to create route inventories. Traffic counts for the route segments and for selected major intersections were obtained from IDOT Traffic Volume Maps, 1990 IDOT Intersection Turning Movement Data, and counts conducted as part of the design process. The route was photographed using a video camera. On-site inspection confirmed IDOT scoping report data for number of lanes, location of traffic signals and turn bays, structures, setbacks, pavement width, speed limit, existence of sidewalks and other appurtenances, frontage roads, and median. The locations of median and curb cuts were identified by type: unlimited, frequent, coordinated, managed. Pavement widths were further confirmed with construction plan sheets whenever these were available. Sidwell maps provided right-of-way widths.

Existing Transit Characteristics Data on existing transit service and facilities were obtained from published data and reports as well as limited field verification of location and characteristics of transit facilities. Basic information on transit services in the SRA study area, including routes and schedules, was obtained from data compiled by the Division of Public Transportation of Illinois DOT. This was supplemented by reports from operating entities, including Pace, Metra and the CTA, which provided information on transit ridership and other operating characteristics. Locations of transit facilities, including bus stops and facilities at commuter rail and rapid transit stations, were verified in the field.

Development Characteristics Development characteristics include existing and planned uses. Current uses were included in the route inventory and derived from NIPC aerial photography, video and on-site inspection. These uses were identified in some detail and later grouped into more general development categories, such as residential, commercial, industrial, public and semi-public.

Planned uses were identified by municipal officials in response to a specific inquiry at the beginning of the SRA study, within adopted Comprehensive and Specific Plans, and during meetings with municipal officials.

Environmental Considerations Because the purpose of the analysis was to identify those conditions and uses which *may* be negatively impacted by improvement of the SRA, the selection of data was as inclusive as possible.

Floodplain boundaries were obtained from the Federal Emergency Management Agency (FEMA) on the Flood Boundary and Floodway Maps and the Flood Insurance Rate Maps. The Illinois Department of Conservation (IDOC) National Wetlands Inventory Maps, local land use plans, and on-site surveys were used to identify wetlands and any streams which were not identified by FEMA.

IDOC also provided information from the Illinois Natural Heritage Database about endangered, threatened and watched species in Illinois and about natural areas. An endangered species is any species which is in danger of extinction as a breeding species in Illinois, while a threatened species is any breeding species which is likely to become a state endangered species within the foreseeable future. A species on the watch list is not listed as endangered or threatened, but is of special concern

and could eventually become listed. Unless it could be determined that the species or area is not adjacent to the route, it is included in this inventory. This information was located to the nearest square mile.

Location of historic buildings, districts, and markers were provided by the National Register of Historic Places in Illinois, the Inventory of Historic Structures prepared by the Illinois Historic Structures Survey, the Inventory of Historic Landmarks prepared by the Illinois Historic Landmarks Survey, the Illinois State Historical Markers Text Book, and IDOT. The buildings, districts, and other structures appearing on the Inventory of Historic Landmarks are not necessarily significant historical resources. This inventory includes all buildings constructed prior to World War II. Those buildings with aesthetic merit are included on the Inventory of Historic Structures. Historic districts were most often listed on the National Register of Historic Places in Illinois, but others appeared in the Inventory of Historic Landmarks. Selected information was refined by IDOT design studies.

The Hazardous Waste Research and Information Center provided a list of waste disposal and hazardous waste dumping sites. The landfills and dumps are located to the nearest square mile. Unless it could be determined that the site is not adjacent to the route, it is included in this inventory. The list notwithstanding, it is recommended that any site used for industrial purposes at any time be tested for hazardous waste prior to roadway facility development.

The analysis of environmentally sensitive land uses included: schools, churches, theaters, auditoriums, parks, cemeteries, recreation facilities, parks, nature and forest preserves, hospitals, nursing homes, selected hospitality facilities, public utilities, and other public buildings. While all such facilities and uses have been identified, there is no presumption that all such uses would be negatively impacted by roadway improvements.

1.7 ORGANIZATION OF THE REPORT

This report on the Lake Cook Road SRA route study is divided into four sections:

Section One (Volume I), Introduction, provides information about the SRA system and Operation GreenLight; SRA route types; desirable route characteristics; study objectives and the study process; and the organization of the report.

Section Two (Volume I), Route Overview, presents a general description of the study process; existing route characteristics; detailed discussion of the recommended roadway improvements currently being planned by Cook County; and overview of the transit recommendations for the overall route.

Section Three (Volume I), Route Analysis, presents a detailed analysis of existing route characteristics and recommended transit related improvements. This section is organized by the following route segments on Lake Cook Road:

- ***Section 3.1***: U.S. Route 12 (Rand Road) to Arlington Heights Road
- ***Section 3.2***: Arlington Heights Road to Illinois Route 21 (Milwaukee Avenue)

- ***Section 3.3***: Illinois Route 21 (Milwaukee Avenue) to Interstate 294 (Tri-State Tollway)

- ***Section 3.4***: Interstate 294 (Tri-State Tollway) to U.S. Route 41 (Edens Expressway)

For each route segment the following analyses are presented:

Existing Facility Characteristics. The existing facility characteristics are defined. Current traffic volumes are listed. Existing right-of-way, number of lanes, pavement widths, location of existing traffic signals and sidewalks, existing transit usage and routes, location of structures and other appropriate existing facility characteristics are discussed and shown on the corresponding aerial base maps.

Environmental Characteristics. Environmental characteristics of the route segment are defined. Existing streams, wetlands and floodplains; historic properties and districts; flora and fauna; waste disposal sites; sensitive land uses; and other environmental characteristics are discussed and shown on the corresponding aerial base maps.

Existing and Projected Development Characteristics. The existing and projected development characteristics of the route segment are analyzed. Jurisdictional boundaries are defined. Existing land use characteristics are examined with respect to the types, density or intensity of use and setbacks and access locations. Future development potential is examined by identification of vacant land, planned or likely redevelopment and other planned development in the vicinity. Finally, public and institutional areas are identified by location and type. The existing and projected development characteristics are shown on corresponding aerial base maps.

Recommended Transit Related Improvements. The recommended transit related improvements are identified for each route segment. Right-of-way requirements for the implementation of the recommended improvements are identified. Potential environmental considerations for the implementation of the recommended improvements are analyzed.

Section Four (Volume II), Public Involvement summarizes the public involvement process during the study, including the Lake Cook Road SRA Advisory Panel meetings, the Advisory Panel newsletters, the public hearings and other efforts to promote local involvement in the study process.

SECTION TWO
ROUTE OVERVIEW

2.1 THE LAKE COOK ROAD SRA STUDY AREA

Lake Cook Road is an SRA route from the U.S. Route 12 (Rand Road) to U.S. Route 41 (Edens Expressway). *(See Figure 2.1.)* It is located in Cook County and passes through the communities of Arlington Heights, Long Grove, Buffalo Grove, Wheeling, Riverwoods, Northbrook, Deerfield and Highland Park. The route is approximately 13 miles long.

Cook County Highway Department is the agency with jurisdiction over Lake Cook Road.

2.2 REGIONAL TRANSPORTATION FACILITIES

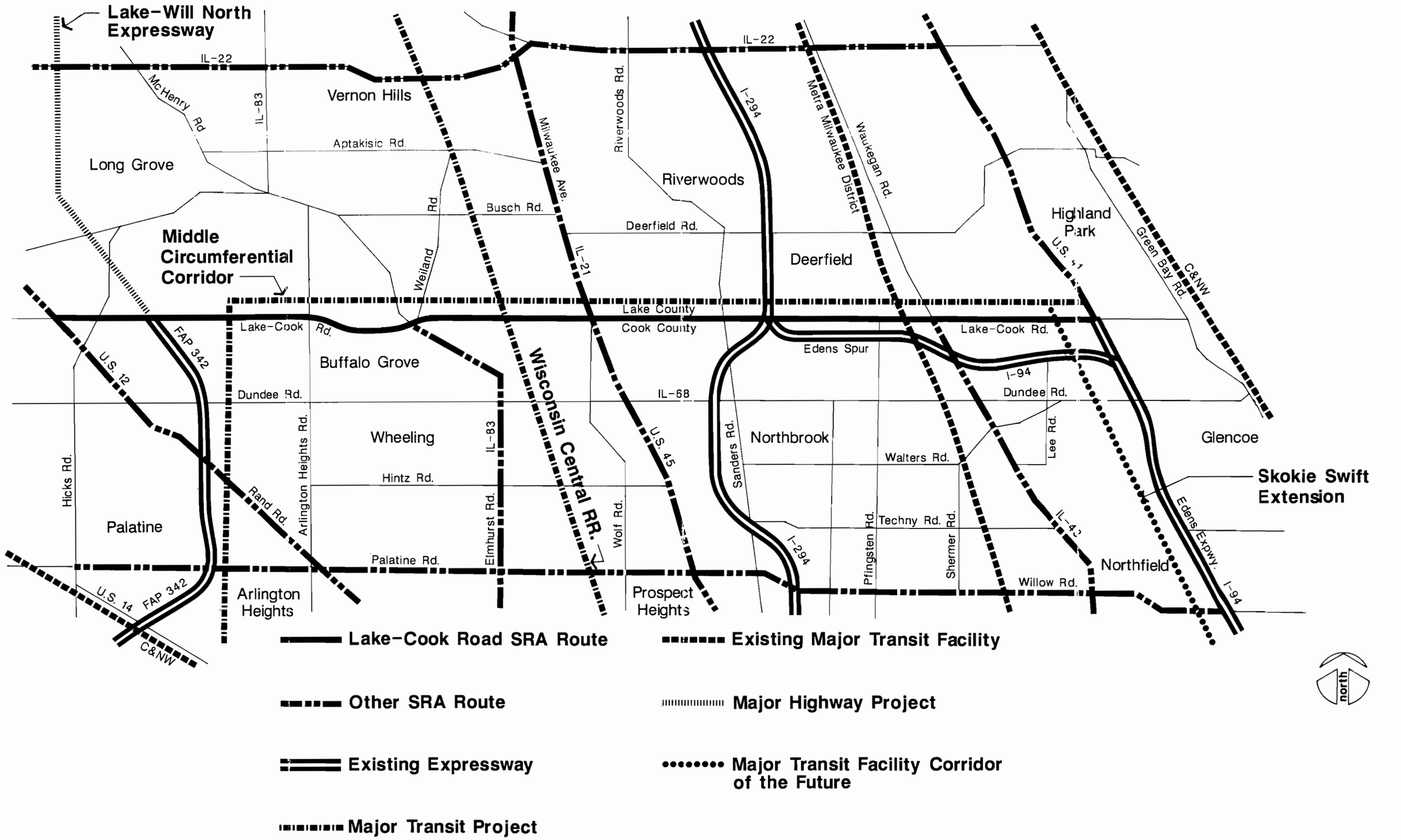
Figure 2.1 indicates the existing and proposed linkages for Lake Cook Road to the regional transportation system as defined in the 2010 Transportation System Development Plan (TSD) prepared by the Chicago Area Transportation Study (CATS).

Lake Cook Road intersects with three existing expressways and four other SRA routes. The SRA routes are: U.S. Route 12 (Rand Road), Illinois Route 83 (McHenry Road), Illinois Route 21 (Milwaukee Avenue) and Illinois Route 43 (Waukegan Road). The expressways are: Illinois Route 53 which now ends at Lake Cook Road, Interstate 294 (Tri-State Tollway) and U.S. Route 41 (Edens Expressway).

Metra commuter rail service is provided between Fox Lake and Chicago Union Station on the Metra Milwaukee District which intersects Lake Cook Road between Pfingsten Road and Illinois Route 43. There are stations for this rail line in Northbrook and Deerfield.

The 2010 TSD plan prepared by CATS identifies two proposed transit projects which would cross or run parallel to Lake Cook Road. The first project is the Wisconsin Central Railroad, and it would intersect Lake Cook Road between Illinois Route 83 and Illinois Route 21. According to the 1986 Metra feasibility study for the Wisconsin Central Railroad (formerly the Soo Line Railroad), it is projected this route will serve 2,800 passengers per weekday of whom 38.2 percent would be new. By 2005, it is projected that the number of passengers would increase three to five times and that new passengers would account for as much as 65 percent of the total.

The second project is the 37-mile long Middle Circumferential Corridor which would run parallel to Lake Cook Road. The proposed project links with a planned extension of the CTA Skokie Swift line, follows Lake Cook Road west from U.S. Route 41 (Edens Expressway), and then runs south through northwest Cook County and east-central DuPage County. It would provide transit service to employment and population centers along Lake Cook Road, west of O'Hare Airport, and around either Woodfield or Oak Brook activity centers. Connections would be provided with five existing and three proposed transit lines, serving suburb-to-suburb, inbound and reverse commuting needs. (See *Figure 2.2*)



Lake-Cook Road

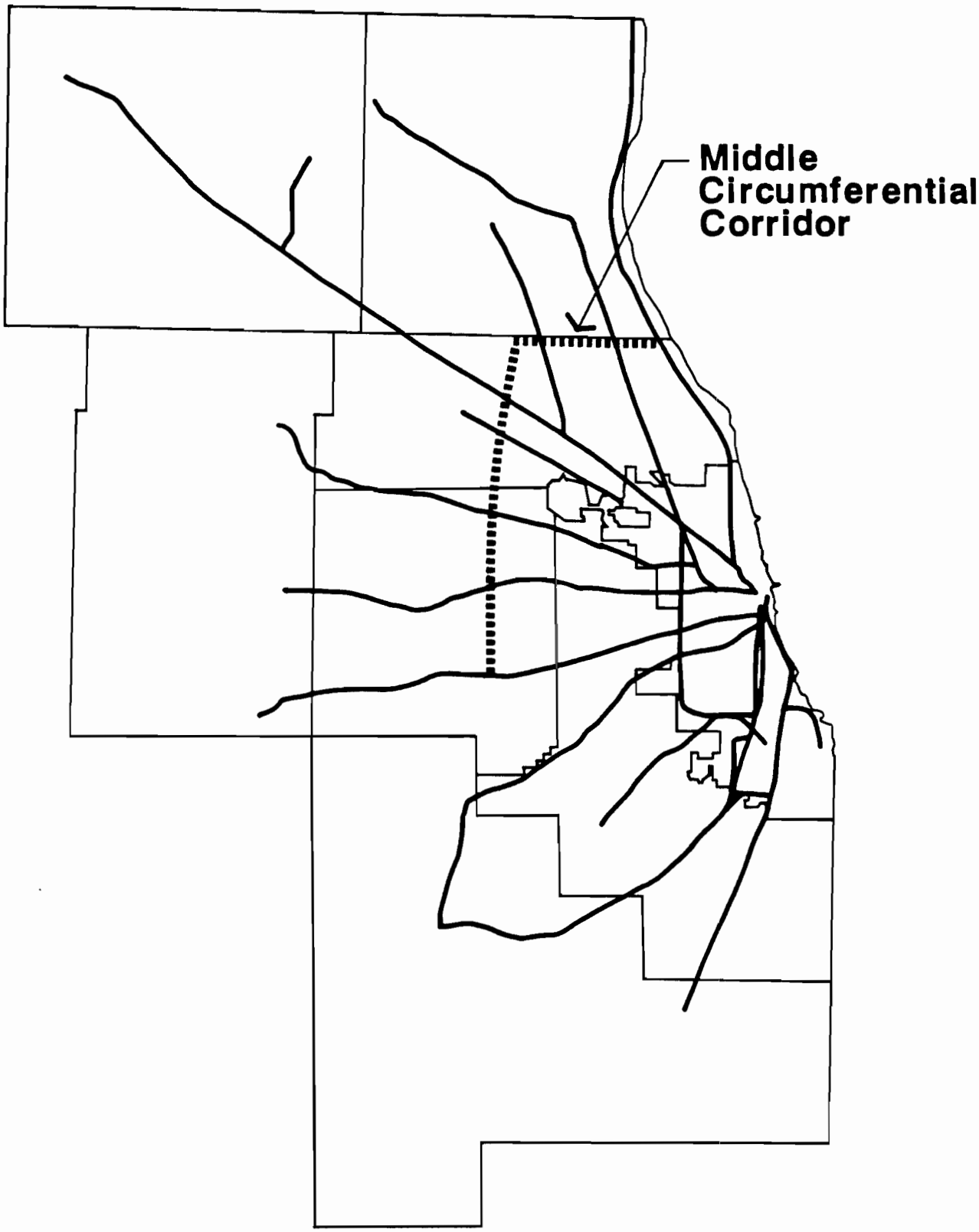
Regional Transportation Facilities

SRA Strategic Regional Arterial Planning Study

prepared by Harland Bartholomew & Associates, Inc. for the

ILLINOIS DEPARTMENT OF TRANSPORTATION

Figure 2.1



NOTE: Facility locations are general and do not represent alignments.

Lake-Cook Road **2010 Transit Network**

prepared by Harland Bartholomew & Associates, Inc.

Figure 2.2

It is possible that the planned EJ&E circumferential corridor service might also impact transit use on the corridor, as it crosses Lake Cook Road in Barrington, where it would also intersect the Chicago & North Western Northwest Line.

The Skokie Swift Extension has been identified as a major transit facility corridor of the future and runs parallel to Interstate 94 (Edens Expressway) and would connect with the Middle Circumferential Corridor.

The Lake-Will North Expressway is identified as a major highway project in the CATS 2010 TSD and will extend north from the existing northern end of the Illinois Route 53 expressway.

Metra is proceeding with joint development of a new commuter station on the Milwaukee North Line at Lake Cook Road. It is expected that this station will provide increased service to those living or working in the corridor and relieve parking facilities at the Deerfield and Northbrook stations.

In addition to the CATS TSD plan, the Village of Deerfield and the Transportation Management Association of Lake Cook Corridor have submitted a joint proposal to construct a Personal Rapid Transit system in the Lake Cook corridor between Portwine Road and Northbrook Court. The proposal shows a looped route which follows both sides of the Edens Spur to approximately Wilmot Road where it travels northward to a loop north of Lake Cook Road. The core system would serve approximately 1.6 million square feet of office development, 777,000 square feet of retail space, 128 hotel rooms, and 7,060 employees. With the addition of extensions, the total market area includes over 5 million square feet of existing office space, about 1.8 million square feet of existing retail space, 918 existing hotel rooms, and 24,500 current employees.

2.3 ROUTE AREA TYPE

Lake Cook Road has been classified as a suburban SRA route. The design speed for a suburban SRA is 45 miles per hour, and the desirable minimum level of service is "C/D" at which average travel speeds are between 40 and 55 percent of the typical free flow speed of 40 miles per hour.

2.4 COOK COUNTY PROJECTS FOR ROADWAY IMPROVEMENTS

The Cook County Highway Department has several ongoing projects along Lake Cook Road. These projects have been initiated due to the existing need for improvements along the route. Three design stage projects are underway within the study limits. These projects involve the preparation of contract plans and documents for a grade separation at Illinois Route 21 (Milwaukee Avenue); a grade separation at the Metra Milwaukee District; and a grade separation at the Chicago & North Western Railroad.

Two separate planning studies are evaluating the improvement needs along Lake Cook Road. The project limits of the first study are from U.S. Route 12 (Rand Road) to Interstate 294 (Tri-State Tollway). The project limits of the second study are from Interstate 294 (Tri-State Tollway) to U.S. Route 41 (Edens Expressway).

Details of the design recommendations and proposed improvements for these projects are provided in the following sections. Recommended roadway improvements are shown on Route Maps D-1, D-2, D-3 and D-4.

2.4.1 U.S. ROUTE 12 (RAND ROAD) TO ARLINGTON HEIGHTS ROAD

Roadway Improvements

To the west of Illinois Route 53 (FAP 342), it is recommended that Lake Cook Road remain as a four lane facility. Modifications to the existing 16 foot wide mountable median would include lengthening the left-turn storage bays at Hicks Road and Old Hicks Road.

To the east of Illinois Route 53 (FAP 342), it is recommended that Lake Cook Road be widened by 12 feet on each side to provide three through traffic lanes in each direction. Modifications to the existing 16 foot wide mountable median would include lengthening the left-turn storage bays at Wilke Road and Highland Avenue.

Right-of-Way

West of Illinois Route 53 (FAP 342), the existing right-of- way varies in width from 100 to 160 feet. No proposed right-of-way is required. East of Illinois Route 53, the existing right-of-way varies in width from 120 to 140 feet. The proposed right-of-way width varies from 120 to 155 feet.

Major Intersection Improvements

Major intersection improvements are recommended at U.S. Route 12 (Rand Road) and Arlington Heights Road.

At the U.S. Route 12 intersection, Lake Cook Road would retain the existing two through lanes in each direction with a separate left-turn lane and right-turn lane. It is recommended that U.S. Route 12 be widened to provide three through lanes with shared right-turns in each direction. Dual left-turn lanes would be provided for the southbound to eastbound movement. A single left-turn lane would accommodate the northbound to westbound movement.

At the Arlington Heights Road intersection, the proposed geometrics along Lake Cook Road include three through lanes with shared right-turns in each direction. Dual left-turn lanes on each approach would be provided. Along both approaches of Arlington Heights Road, two through lanes with dual left-turn lanes and an exclusive right-turn lane are recommended.

Traffic Signal Interconnection

Traffic signal interconnection is recommended for the traffic signals at U.S. Route 12, Hicks Road and Old Hicks Road. At such time as Illinois Route 53 (FAP 342) interchange is reconfigured for extension to the north, the future traffic signals for the entrance and exit ramps should be incorporated into this system along with Wilke Road.

Structure Modifications

The triple box culvert at Buffalo Creek, located between Wilke Road and Arlington Heights Road, would need to be lengthened by 12.5 feet on both ends. No structure modifications are required at the slough bridge.

2.4.2 ARLINGTON HEIGHTS ROAD TO ILLINOIS ROUTE 21 (MILWAUKEE AVENUE)

Roadway Improvements

Within this segment the recommended improvements consist of widening Lake Cook Road to provide three, 12 foot lanes in each direction with a barrier median either 8 foot or 16 foot wide. Provisions would be made to accommodate a continuous 8 foot combined sidewalk/bikepath along the north side and a 5 foot sidewalk along the south side of the route between Arlington Heights Road and the Wisconsin Central Railroad.

The proposed cross-section would generally be constructed along the existing roadway alignment except from Timber Hill Lane to Illinois Route 83 (Old McHenry Road) where the proposed centerline would be offset 6 to 10 feet north of the existing centerline. From Lexington Drive to the Wisconsin Central Railroad, Lake Cook Road would be widened to the north. These shifts will minimize impacts to adjacent residential areas.

Median modifications include lengthening left-turn storage bays at minor cross streets. The type of median within this segment varies between a concrete or landscaped barrier median.

Right-of-Way

The typical existing right-of-way width within this segment varies from 100 to 140 feet. At the Wisconsin Central Railroad, the existing right-of- way widens to approximately 280 feet.

The proposed right-of-way width varies from 117 to 136 feet. At Illinois Route 21, the proposed right-of-way widens to approximately 510 feet to accommodate the proposed interchange ramps.

Major Intersection Improvements

Major intersection improvements are recommended at Buffalo Grove Road, Illinois Route 83 (Old McHenry Road), Weiland Road, and Illinois Route 21 (Milwaukee Avenue).

At Buffalo Grove Road, the proposed geometrics along Lake Cook Road consists of three through traffic lanes with shared right-turns and dual left-turn lanes on both approaches. On Buffalo Grove Road, it is recommended to provide two through lanes with an exclusive left-turn lane in each direction. A separate right-turn lane is recommended for the northbound to eastbound movement.

At the Old McHenry Road intersection, the recommended geometrics along Lake Cook Road consists of three through lanes, dual left-turn lanes, and separate right-turn lanes on each approach. Along Old McHenry Road, it is recommended to provide two through lanes and dual left-turn lanes in each direction. A separate right-turn lane is provided for the southbound to westbound movement.

At Weiland Road, Lake Cook Road consists of three through lanes with shared right-turns and dual left-turn lanes on each approach. On Weiland Road two through lanes with shared right-turns and an exclusive left-turn lane are recommended on both approaches to the intersection.

At Illinois Route 21 (Milwaukee Avenue), an urban diamond interchange is proposed carrying Lake Cook Road over Illinois Route 21. Interchange ramps would connect Lake Cook Road to Illinois Route 21.

Traffic Signal Interconnection

The traffic signals at Raupp Boulevard, Buffalo Grove Road, Old McHenry Road, Weiland Road, and Lexington Drive intersections are currently interconnected. This system would be extended to include the Arlington Heights Road intersection. The proposed traffic signals at the ramp terminals at Illinois Route 21 should also be interconnected.

Structure Modifications

The existing single span bridge at Buffalo Creek west of Raupp Boulevard would require 5 feet of widening to the south and 19 feet of widening to the north.

The existing single span bridge at Buffalo Creek just south of Lake Cook Road crossing Buffalo Grove Road would require 12 feet of widening on both ends.

The existing bridge structure carrying Lake Cook Road over the Wisconsin Central Railroad would be widened 12 feet on each side.

2.4.3 ILLINOIS ROUTE 21 (MILWAUKEE AVENUE) TO INTERSTATE 294 (TRI-STATE TOLLWAY)

Roadway Improvements

Within this segment, the recommended improvements along Lake Cook Road consists of widening the roadway to provide three through traffic lanes in each direction separated by a mountable median. The median between Illinois Route 21 (Milwaukee Avenue) and Portwine Road would remain 4 feet wide to minimize impacts to the forest preserves along both the north and south sides of the route. From Portwine Road to the Interstate 294 (Tri-State Tollway), the median width varies from 16 feet to 30 feet.

Right-of-Way

The typical existing right-of-way width within this segment varies from 100 to 124 feet. At Interstate 294 interchange, the existing right- of-way width increases to approximately 275 feet.

The proposed right-of-way width varies from 120 to 150 feet.

Major Intersection Improvements

Major intersection improvements are recommended at the Sanders Road intersection. Along Lake Cook Road, three through lanes, dual left-turn lanes, and separate right-turn lanes are recommended. Along Sanders Road, two through lanes with dual left-turn lanes and a separate right-turn lane are proposed for both approaches to the intersection.

Traffic Signal Interconnection

The traffic signals at the intersections of Portwine Road, Commerce Clearing House Drive, Corporate/Caribou Drive, Sanders Road, and the Interstate 294 ramps are recommended to be interconnected.

Structure Modifications

The bridge structure carrying Lake Cook Road over the Des Plaines River would be reconstructed to accommodate the proposed entrance and exit ramps for the Illinois Route 21 interchange.

No modifications are required for the two bridges carrying Lake Cook Road over Interstate 294.

2.4.4 INTERSTATE 294 (TRI-STATE TOLLWAY) TO U.S. ROUTE 41 (EDENS EXPRESSWAY)

Roadway Improvements

The recommended improvements along Lake Cook Road within this segment include widening the roadway to provide three through traffic lanes in each direction separated by a 16 foot mountable median or 28 foot barrier median.

Contract plans and documents have been developed for the construction of grade separations at the Metra Milwaukee District and the Chicago & North Western Railroad. These projects would carry Lake Cook Road under the railroads which would remain at their existing location and elevation.

Right-of-Way

The typical existing right-of-way width varies from 100 to 145 feet. At Interstate 294, the existing right-of-way width increases to approximately 275 feet.

The proposed right-of-way width varies from 120 to 210 feet.

Major Intersection Improvements

Major intersection improvements are recommended at the Wilmot Road, Pfingsten Road, Illinois Route 43 (Waukegan Road), and Skokie Boulevard intersections.

At Wilmot Road, three through traffic lanes and separate rights are recommended on both approaches of Lake Cook Road. A single left-turn lane is recommended for the westbound to southbound movement, and dual left-turn lanes are provided for the eastbound to northbound movement. Along Wilmot Road two through lanes with shared right-turns and dual left-turn lanes are recommended for both approaches. The south leg of Wilmot Road connects to the frontage road within the office campus.

At Pfingsten Road, three through lanes and dual left-turn lanes are provided along both approaches of Lake Cook Road. A separate right-turn lane for the eastbound to southbound movement is also provided. Along Pfingsten Road, two through lanes with shared right-turns are recommended on both approaches. Dual left-turn lanes are recommended for the northbound to westbound movement. A single left-turn lane is recommended for the southbound to eastbound movement.

At Illinois Route 43, Lake Cook Road would consist of three through lanes with dual left-turn lanes and separate right-turn lanes on both approaches. Along Illinois Route 43, two through lanes with dual left-turn lanes and separate right-turn lanes would be provided.

At Skokie Boulevard, Lake Cook Road would be widened to provide three through lanes with shared right-turns and dual left-turn lanes on each approach. On Skokie Boulevard, two through lanes with dual left-turn lanes and separate right-turn lanes are recommended.

Future Traffic Signal

A future traffic signal is recommended for installation at Pine Tree Road/Carlisle Avenue, if SRA signal warrants are met.

Traffic Signal Interconnection

Two traffic signal interconnection systems are recommended within this segment.

The first is to maintain the existing traffic signal interconnection system between the ramps at the Interstate 294 and Wilmot Road.

The second system would interconnect all traffic signals between Pine Street and U.S. Route 41.

Structure Modifications

The two bridge structures carrying Lake Cook Road and Pfingsten Road over the West Fork of the North Branch of the Chicago River would be widened to accommodate the recommended intersection improvements. The bridge structure carrying Lake Cook Road over the Middle Fork of the North Branch of the Chicago River would be widened by 12 feet on each side to accommodate roadway improvements.

The bridge structure carrying Lake Cook Road over U.S. Route 41 will not require any modifications.

2.5 TRANSIT

Existing transit service in the Lake Cook Road study area includes Pace services and Metra rail commuter service. The following sections discuss existing service and conditions, as well as the general type of recommended improvements for the overall route. It is assumed in this analysis that the CATS 2010 TSD Plan will be implemented, so there is no attempt to conduct a feasibility study of the proposed improvements herein. The focus of this report is on recommending alternatives regarding how best these plans might be implemented. Specific recommendations are discussed with their respective route segments in Section Three of this report.

2.5.1 CHARACTERISTICS OF THE CORRIDOR

Over the last 15 years the Lake Cook corridor has developed into a major office and commercial development center. The corridor encompasses about 12 square miles between Illinois Route 83 and U.S. Route 41. Within this corridor, employment is expected to grow from the 40,000 workers it was in 1985 to 45,000 by 1995 and as many as 84,000 by 2010. Much of the growth has been between Sanders Road and U.S. Route 41 in the communities of Highland Park, Deerfield, and Northbrook. (Source: *Briefing Book, Transportation Options for Lake County*, Regional Transportation Authority and Metra, October 1987.) Barrington Township is also expected to be the site of substantial employment growth. The Northeast Illinois Planning Commission projects a virtual doubling of employment from 13,574 to 27,124 employees.

Residential population has also grown considerably since 1980 and is expected to continue growing through 2010. (See *Table 2.1.*) The 1980 population in both Lake and Cook County communities abutting the corridor as far west as Barrington was 236,500 people. This population is expected to grow by 43 percent by 2010 yielding a population of about 337,513. Not all communities in the corridor are expected to grow equally. The older communities such as Highland Park, Glencoe, Northbrook, Deerfield, Arlington Heights and Barrington are expected to remain relatively stable during this period. Communities that have significant quantities of developable land within their corporate limits and that may benefit from planned roadway improvements such as the extension of Illinois Route 53 are expected to grow at least twice as quickly. These projections would appear to concentrate residential growth between Illinois Route 12 (Rand Road) and Illinois Route 21 (Milwaukee Avenue).

Table 2.1
Lake-Cook Corridor Community Populations
1980 - Projected 2010

City or Village	1980	2010	Change (%)
Highland Park	30,611	32,263	5.4
Glencoe	9,200	8,338	-9.4
Northbrook	30,778	38,515	25.1
Deerfield	17,430	18,626	6.9
Riverwoods	2,804	4,322	54.4
Lincolnshire	4,151	6,757	62.8
Buffalo Grove	22,230	46,018	107.0
Wheeling	23,266	40,164	72.6
Arlington Heights	66,116	79,444	20.2
Long Grove	2,013	6,691	232.4
Deer Park	1,368	5,358	291.7
Kildeer	1,609	3,262	102.7
Lake Zurich	8,225	20,116	144.6
Barrington	9,029	12,496	38.4
Barrington Hills	3,631	5,942	63.6
Inverness	4,046	9,201	127.4

Source: Northeastern Illinois Planning Commission

Thus, it would appear that the communities in the center of the corridor are projected to increase most significantly in population, and the communities at the ends of the corridor are projected to increase most significantly in employment. Even assuming that employees would choose to live relatively close to where they work, these increases are likely to result in increased traffic in the corridor.

2.5.2 BUS AND POOLING SERVICE

Several Pace bus routes serve the Lake Cook corridor including:

- Routes 212, 213 and 214 connecting the North Shore communities from Evanston to Highland Park with Northbrook Court;
- Routes 471 and 473 which connect Highland Park with Deerbrook Shopping Center and Northbrook Court;
- Route 626, the Lake Cook Limited, an express feeder service operating during the rush period to connect the CTA Skokie Swift terminal to the corridor and to Lincolnshire;
- Route 690 which crosses the corridor on Arlington Heights Road, and connects the Arlington Heights Metra Station with Buffalo Grove.

- Route 691, a rush period connector between the Deerfield Metra Station and northeast Buffalo Grove; and

- Route 803 a rush period connector between the Barrington Metra Station and Carpentersville.

Route characteristics are presented in *Table 2.2*. With one exception, these routes show growth in the relatively new bus market area. The feeder routes appear to be growing most quickly, and the routes which connect the North Shore with Northbrook Court the most heavily traveled.

Table 2.2
Pace Route Characteristics

Route No.	Avg. Weekday Ridership 1989	1990	1991	Change (%)	Passengers /Rev. Hr.	Service Type*
212	1,029	1,072	1,061	3.1	27.4	Inner
213/4	1,994	2,059	20.45	2.6	38.4	Inner
471	318	396	408	28.3	24.4	Out Sub
473	171	193	190	11.1	16.2	Out Sub
626	275	286	493	75.6	n/a	Feeder
690	407	414	403	(0.9)	23.2	Out Sub
691	57	105	117	105.3	22.1	Feeder
803	253	268	292	15.4	21.4	Out Sub

* Inner = Inner Suburban (Suburban Cook and eastern DuPage Counties); Out Sub = Outer Suburban (Collar Counties and less dense areas of Suburban Cook); and Feeder = Feeder (Rush hour services to train stations.

Sources: Suburban Bus System Service Performance Report, Jan-Mar 1990, Pace 5/90 Quarterly Route Review: Jan-Mar, 1991, Pace 6/91

Other bus related services include bus stop signs throughout the corridor and a new Pace transportation center at Busch Parkway and Commerce Court in Buffalo Grove. The center includes sheltered waiting areas and parking. It is the site of a potential Metra station on the Wisconsin Central (formerly Soo Line) Railroad where new commuter service is planned.

Vernon Township cooperates with Pace to support dial-a-ride services for all residents which served 14,187 riders in 1990. Deerfield Township and Village, and Ela and Palatine Townships support dial-a-ride services for the elderly and disabled.

2.5.3 RAIL SERVICE

Three commuter rail lines now intersect the corridor: the Chicago & North Western line east of U.S. Route 41, the Milwaukee North line approximately 2.5 miles west of U.S. Route 41, and the Chicago & North Western Northwest line. *Table 2.3* lists the boarding and parking

Table 2.3
Commuter Rail Service and Ridership

Line	Station	Entering Passengers Avg. Wk. Day	Parking Spaces	Parking Use
C&NW - North	Ravinia	386	145	50%
	Braeside	295	161	83
	Glencoe	841	416	98
	Subtotal	1,522	722	86%
Milwaukee - North	Deerfield	1,528	686	87%
	Northbrook	1,430	682	93
	Subtotal	2,958	1,368	90%
C&NW - Northwest	Barrington	1,838	906	96%
	Total	**6,318**	**2,996**	**91%**

Sources: Metra Station Passenger Counts, 1/5/90
Metra Parking Assessment, 11/12/90

information for all three lines. Within the corridor, a total of 4,480 passengers board a Metra commuter train. An additional 1,838 passengers board at Barrington. On an average weekday, 91 percent of the parking spaces are filled.

2.5.4 RECOMMENDED TRANSIT IMPROVEMENTS

The following are the general types of recommended improvements for transit facilities. Specific recommended improvements for each segment of the Lake Cook Road route are discussed in Section Three with their respective route segments. The corridor is developing in what might be termed a typical suburban pattern. Most of the residential is single family, and the commercial and industrial developments are of a campus style design. Thus, it is desirable that transit services be provided in a way that meets the needs of the corridor.

Because the destinations of most passengers are well off of the vehicular right-of-way, it may be desirable to route transit vehicles off of the route as well. Similarly, the concentrations of population and employment in nodes would seem to argue for smaller vehicles which could more effectively reach the employment and retail centers, and the limited high density residential developments that do occur in the corridor. The following recommendations and those specific to each segment are designed to accommodate this development pattern without being specific as to mode of transit.

The thrust of these recommendations is a linear transit system as depicted in the CATS 2010 TSD Plan that links the existing and proposed transit elements which cross it. *Figure 2.2*

displays existing and proposed rail transit as planned for the Year 2010 in the CATS TSD plan. The purpose of this system should be to link the major employers, shopping centers, and multifamily residential to other modes of transportation.

Right-of-Way Protection

The Lake Cook Road right-of-way is expected to be widened substantially to accommodate roadway improvements and their appurtenances. Additional adjacent right-of-way to the Lake Cook Road right-of-way is expected to be difficult and expensive to acquire. A minimum of 24 feet of right-of-way width for transit, especially personal rapid transit, light rail, and small rubber-tired vehicles, would be required in designated corridors.

A schematic indicating potential transitway rights-of-way and alternatives are indicated on *Figure 2.3*. The potential transitway rights-of-way shown on *Figure 2.3* are based only upon field observations of existing right-of-way constraints and logical transit service areas. It is recommended that a detailed transit feasibility and mode study be undertaken so that specific rights-of-way can be identified and protected, so that the options remain available. The proposed right-of-way indicated on Route Maps D-1, D-2, D-3 and D-4 is that which is required for Cook County Highway projects. Where feasible, efforts should be made to coordinate right-of-way acquisition activities between highway improvements and the potential transitway.

All existing rail corridors which are not currently in use should be preserved as potential future rights-of-way for transportation services to better accommodate existing demand and future growth.

Park and Ride Facility

Several locations for potential park-and-ride facilities have been identified along the route. These could be developed as multi-purpose facilities, supporting car and van pooling as well as accommodating the future transit system identified in the CATS 2010 TSD plan.

Transportation Center Facilities

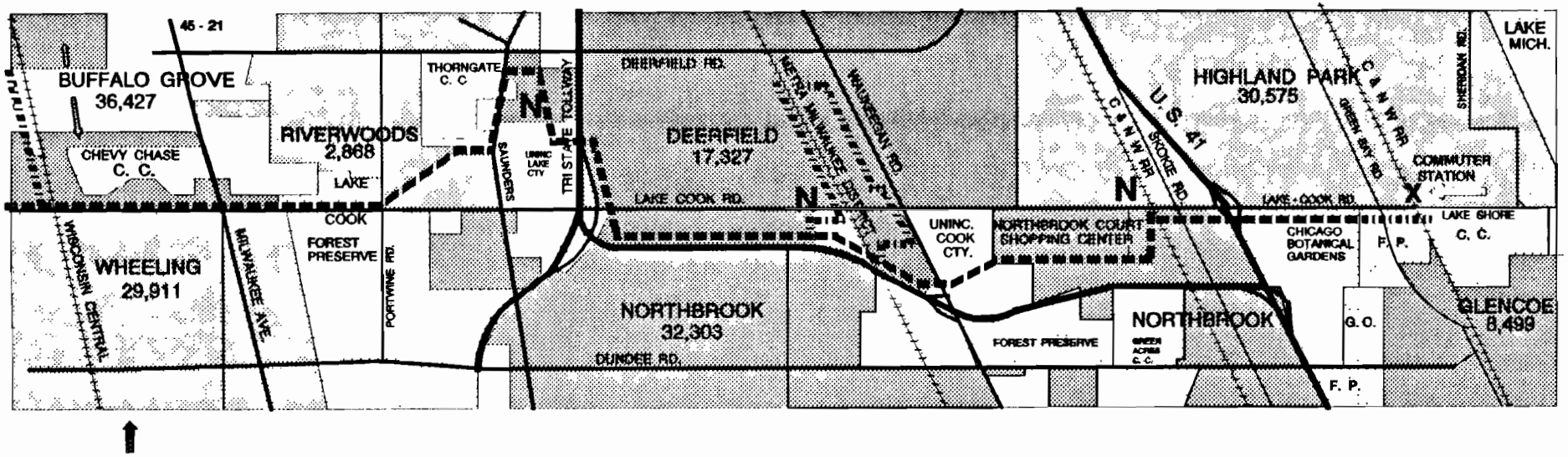
The Transportation Center offers "pulse point" bus services to the rail lines, parking, drop-off points, van pool meeting points, taxi stand, and commuter related commercial space. Transportation centers tend to become more feasible at intersections of more than one transit type (e.g. the intersection of bus and commuter rail services), because the increased number of passengers provides more of a market for consumer goods and services.

A transportation center is recommended in the vicinity of Illinois Route 53 near Lake Cook Road.

Directional Signing

Consistent with the bus stop signage and Pace Development Guidelines, signage indicating the direction to rail facilities and off-route bus stops should be visible within the right-of-way.

TRANSIT OPTIONS FOR LAKE-COOK ROAD - A STRATEGIC REGIONAL ARTERIAL



LEGEND

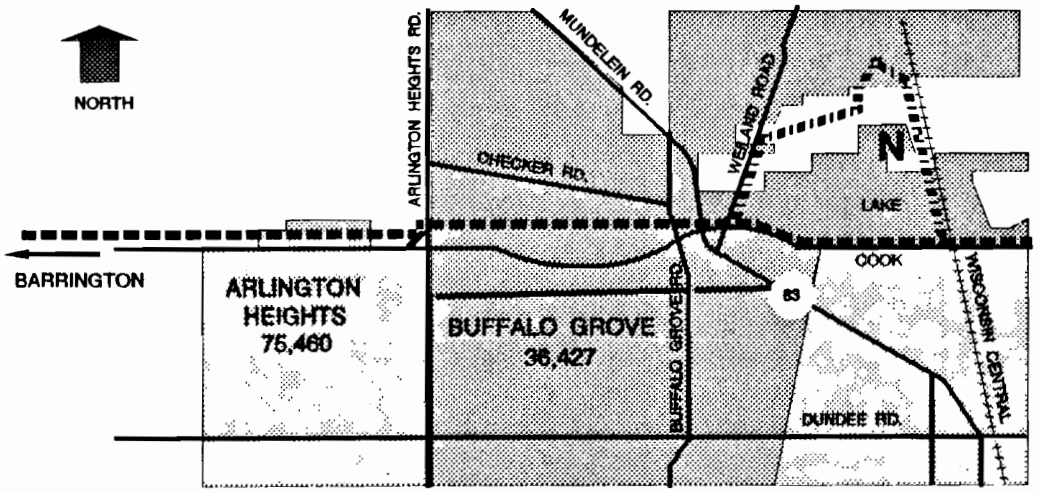
PROPOSED TRANSITWAY

PROPOSED ALTERNATE TRANSITWAY

N INTENSITY NODE

SOURCE:

E J M Engineering, P. C.



Lake-Cook Road **Potential Transitway Alternates**

prepared by Harland Bartholomew & Associates, Inc.

Figure 2.3

At the approaches to stations and stops, specific directional instructions for access drives to parking facilities, "kiss-and-ride" areas or drop-off points should be provided. For bus stops, informational signage should provide graphic illustrations of routes, with information on schedules and connecting routes. Existing rail stations such as Deerfield and Northbrook, as well as those in Ravinia, Braeside and Glencoe, and to the Pace transit center at Busch Parkway in Buffalo Grove would be particularly important destinations in such as signage program.

Transportation Management Association

A Transportation Management Association (TMA) has been formed in the Lake Cook corridor. This organization is strongly supported by the large private sector firms which have offices in the corridor. It provides a forum for public/private cooperation in addressing improvements to the transportation system which benefit employers and workers while striving to minimize congestion. The existing TMA is primarily oriented to that segment of Lake Cook Road which extends from Illinois Route 21 (Milwaukee Avenue) to the U.S. Route 41 (Edens Expressway). The organizational agenda should continue to address traffic and travel issues such as ridesharing and staggered work hours. It should also consider implementation of shuttle bus services, not only between the office campuses and the commuter rail stations in Deerfield and Northbrook, but also during the midday to connect the office campuses to each other, as well as to the shopping facilities and restaurants in the corridor.

Regional Planning for Transportation

The Lake Cook corridor communities should join together to develop a comprehensive land use plan for that portion of the corridor which is yet to be developed or which may be redeveloped to a higher use. While retaining the suburban character of the communities may be an important local objective, it may be impossible to preserve that character without careful planning.

It is suggested that the approach to physical planning used in Toronto, Canada, may be adaptable to the corridor. The major feature of this approach is that the highest levels of density are planned around transit stations, with progressively diminished density zones radiating from the station area. The farthest zone is completely suburban in low level residential density, while the actual station zone assures the volumes necessary to transit operations. In this instance, the intersections of Lake Cook Road with existing or planned commuter rail lines; tollway or interstate intersections; and intersections of other major arterials such as Illinois Route 21 (Milwaukee Avenue), Illinois Route 43 (Waukegan Road), and Illinois Route 83 should be designated for the highest levels of development. If light rail is implemented in the corridor, its station areas should also be designated for highest levels of density. The lowest levels of density should be reserved for off-corridor residential zones.

The new transportation function within the Northwest Municipal Conference may provide a vehicle for such regional cooperation within this and other SRA corridors.

Pace Development Guidelines

New office and commercial developments should be planned to conform to Pace Development Guidelines which specify building setbacks, turning radii for buses, paving which support the weight of buses, and bus waiting areas. Communities should require construction of frontage roads and sidewalks in campus type complexes to facilitate transit access. Sidewalks should also be required throughout the corridor wherever there are any pedestrians. Incentives should be offered to developers who plan to accommodate transit access. These include density bonuses or reduced requirements for parking. New developments should also incorporate multiple uses such as offices, convenience facilities (e.g. dry cleaners, day care centers, postal facilities, food services, etc.) to minimize the need for travel.

Non-Traditional Transit Funding Programs

In order to accelerate funding availability for Metra service on the Wisconsin Central Railroad lines and other transit improvements in the corridor, consideration should be given to joint development in station areas and non-traditional transit funding mechanisms such as assessing impact fees, establishing special assessment districts, and tax increment financing.

Bus Stop Shelters

Bus stops should be redesigned to be located in pull-offs which are appropriate to suburban SRA routes. It should be noted that Pace has, within the last year, installed signs marking the bus stops on Lake Cook Road.

Pedestrian Facilities

Pedestrian facilities, including sidewalks, should be installed to access all bus stops.

Continuing Demand Evaluation

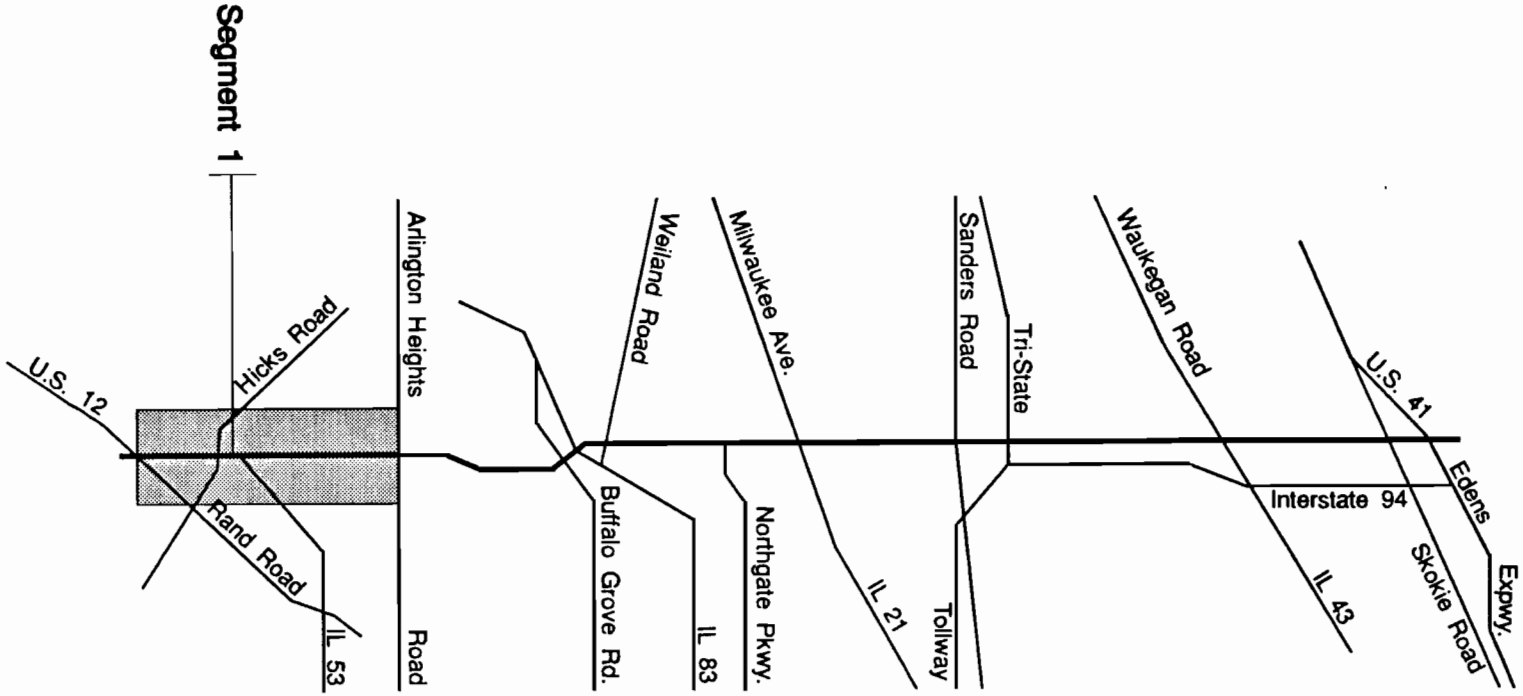
Evaluation of the potential for installing commuter service on the EJ&E should continue, and ridership projections should be re-examined at periodic intervals. Should projections justify the installation of service, Metra should attempt to implement it immediately, before alternative travel habits are formed, using either conventional or non-traditional financing techniques described earlier.

Periodic evaluation of demand for express bus service within and beyond the Lake Cook corridor should be monitored.

Additional Transit Planning

Extensive development in northwest Cook County is expected to greatly increase travel volume in the corridor west of U.S. Route 12 (Rand Road), with a corresponding acceleration of land development in that segment of the Lake Cook corridor. To the east of U.S. Route

41 (Edens Expressway), the character of the corridor is quite different in that the right-of-way is much narrower and that development is primarily residential, rather than commercial. There are, however, two major recreational traffic generators in that segment: the Chicago Botanical Gardens and Ravinia Park, both of which generate substantial traffic during Spring, Summer, and Fall weekends, as well as for scheduled events. This reality should be recognized and addressed in corridor traffic planning, and in planning for extension of public transit services.



Lake-Cook Road

prepared by Harland Bartholomew & Associates, Inc.

Location Map

Figure 3.1

SECTION THREE
ROUTE ANALYSIS

3.1 SRA SEGMENT 1: U.S. ROUTE 12 (RAND ROAD) TO ARLINGTON HEIGHTS ROAD

3.1.1 LOCATION

Lake Cook Road Segment 1 extends from U.S. Route 12 (Rand Road) to Arlington Heights Road. (See *Figure 3.1.*) The segment is approximately 2.8 miles long.

3.1.2 EXISTING FACILITY CHARACTERISTICS

The existing facility characteristics for this segment are shown on Route Map A-1.

Traffic Volumes

The average annual daily traffic (AADT) volume for this segment is 26,600 vehicles. Traffic volumes were obtained from the 1988 Lake County Traffic Map. 1989 traffic counts conducted as part of the Phase I improvements design show a range between 23,200 east of U.S. Route 12 to 38,000 at Wilke Road.

Right-of-Way

The right-of-way ranges from 100 to 160 feet.

Pavement Width and Number of Lanes

The existing pavement is 52 feet wide. The roadway includes four through lanes (two in each direction), median, and curb-and-gutter. From U.S. Route 12 (Rand Road) to Illinois Route 53, there is a barrier median. East of Illinois Route 53, the median is mountable.

Traffic Signals

There are four signalized intersections in Segment 1. (See *Table 3.1.*)

Parking, Sidewalks, and Frontage Roads

There is a sidewalk on the south side of Lake Cook Road between Wilke and Arlington Heights Road. There are no on-street parking spaces or frontage roads.

Structures

There are three structures, which are shown in *Table 3.2.*

Table 3.1
Signalized Intersections

Intersection	No.of Through Lanes		Turn Bays		Remarks
	EB	WB	Left	Right	
U.S. 12 (Rand Road)	2	2	NO	YES	
Hicks Road	2	2	YES	NO	
Wilke Road	2	2	WB	NO	"T" intersection
Arlington Heights Road	2	2	YES	NO	

Note: EB=eastbound; WB=westbound

Table 3.2
Existing Structures

Structure	Structure No. (SN)	Location	Clearance		Remarks
			Vert.	Horiz.	
Slough	016-3205	E. of U.S. 12	N/A	56'	SRA over
Illinois 53	——	————	——	——	SRA over
Trib. A of Buff Ck	016-4011	E. of Shaeffer Rd	N/A	67.5'	SRA over

Note: N/A=Not Applicable

Transit

Rail service closest to the segment is the Chicago & North Western line which stops at Lake Cook Road (Main Street) in Barrington. There is no bus service west of Arlington Heights Road. Palatine Township supports a Pace Dial-a-Ride service for its elderly and disabled residents.

Other Characteristics

There is an interchange with Illinois Route 53 and Lake Cook Road. Illinois Route 53 ends at Lake Cook Road.

3.1.3 EXISTING ENVIRONMENTAL CHARACTERISTICS

The existing environmental characteristics for Segment 1 of Lake Cook Road include wetlands, a floodplain, an endangered species, prime farmland, and a forest preserve and are shown on Route Map B-1.

Streams/Wetlands/Floodplains

Tributary A Buffalo Creek crosses east of Shaeffer Road. At this point the floodplain is 500 feet wide and includes associated wetlands.

There is a slough between U.S. Route 12 and Hicks Roads that is approximately 1000 feet wide and several small wetlands within 100 feet of the right-of-way.

Flora/Fauna

Habitat of one endangered plant species, the strict blue-eyed grass, has been reported to be within one mile of this segment.

Prime Farmland

The prime farmland extends from Hicks Road to the Illinois Route 53 interchange on the north side of the right-of-way.

Sensitive Land Uses

Buffalo Creek Forest Preserve is on the north side of Lake Cook Road between Illinois Route 53 and Arlington Heights Road. The section abutting the right-of-way is cultivated.

3.1.4 DEVELOPMENT CHARACTERISTICS

Existing development characteristics and potential future development for Segment 1 are shown on Route Map C-1.

Jurisdiction

Municipal boundaries abutting the right-of-way are Long Grove and Arlington Heights. Long Grove lies between Hicks Road and Old Hicks Road on the north side of the route. Arlington Heights extends from one-quarter mile west of Wilke Road to Arlington Heights Road. There are also portions of the Palatine and Arlington Heights planning areas fronting Lake Cook Road.

Type and Intensity of Development

Land uses include commercial and residential. The development at the intersections of Lake Cook Road with U.S. Route 12 (Rand Road), Hicks Road and Arlington Heights Road is commercial. The residential development is both single and multi-family and is concentrated on the south side of the route east of Hicks Road.

Development Access and Setback

Direct access to Lake Cook Road is limited. While commercial development has curb cuts along Lake Cook Road, left-turning movements west of Illinois Route 53 are limited by a barrier median. Residential development is accessed by collector streets which intersect Lake Cook Road.

The development on this segment is set back a significant distance from the roadway. Most residential areas are buffered from the roadway by landscaping or fences.

Future Development

According to municipal records as of August, 1990, there are no plans for development on this segment. The existing zoning of undeveloped parcels at signalized intersections shows potential for additional commercial development. Land is being designated for the extension of Illinois 53 north of Lake Cook Road.

3.1.5 RECOMMENDED TRANSIT IMPROVEMENTS

The intersection of Lake Cook Road and Illinois 53 could be developed as the intersection of the east-west leg and the north-south leg of the middle circumferential Rail Line. It is recommended that a transportation center be considered in the area near Hicks Road to provide links between this service, other modes of transit service, Lake Cook Road and Illinois Route 53.

3.1.6 POTENTIAL ENVIRONMENTAL CONCERNS

Environmental concerns associated with recommended roadway improvements are being addressed in their ongoing design phases.

3.2 SRA SEGMENT 2: ARLINGTON HEIGHTS ROAD TO ILLINOIS ROUTE 21 (MILWAUKEE AVENUE)

3.2.1 LOCATION

Segment 2 of Lake Cook Road extends from Arlington Heights Road to Illinois Route 21 (Milwaukee Avenue). (See *Figure 3.2.)* The segment is approximately 3 miles long.

3.2.2 EXISTING FACILITY CHARACTERISTICS

Existing facility characteristics for this segment are shown on Route Maps A-1 and A-2.

Traffic Volumes

The average annual daily traffic (AADT) volume for this segment is 30,000 vehicles. Traffic volumes were obtained from the 1988 Lake County Traffic Map. Traffic counts carried out in 1989 as a part of the design phase of roadway improvements showed AADT volumes ranging from 35,000 east of Arlington Heights Road to 42,000 between Lexington Drive and Northgate Parkway.

Right-of-Way

The right-of-way is at least 100 feet wide.

Pavement Width and Number of Lanes

The pavement is 52 feet wide. The roadway includes four through lanes (two in each direction), a mountable or landscaped median, and curb-and-gutter. Most of the landscaped median is between Weidner Road and Buffalo Grove Road.

Traffic Signals

There are eight signalized intersections in this segment. (See *Table 3.3.*)

Parking, Sidewalks, and Frontage Roads

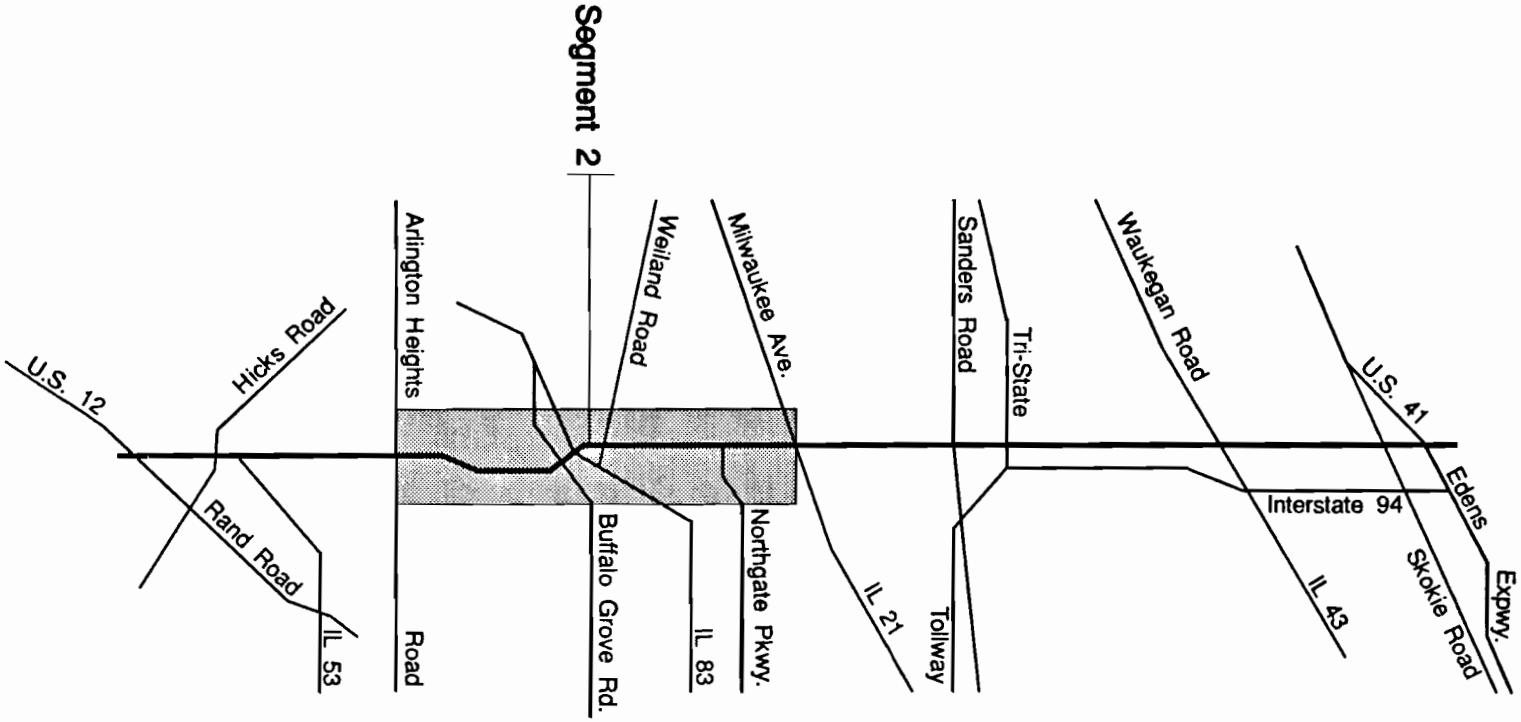
There are sidewalks on both sides of the roadway throughout most of this segment. There are no on-street parking spaces or frontage roads.

Structures

There are three structures, as listed in *Table 3.4.*

Transit

There is no commuter rail service to the corridor. Pace has developed a Park-And-Ride facility north of the segment at Busch Parkway and Commerce Court. It can be reached via Weiland



Lake-Cook Road

prepared by Harland Bartholomew & Associates, Inc.

Location Map

Figure 3.2

Table 3.3
Signalized Intersections

Intersection	No.of Through Lanes EB	No.of Through Lanes WB	Turn Bays Left	Turn Bays Right	Remarks
Weidner Road	2	2	YES	NO	
Raupp Boulevard	2	2	YES	NO	
Buffalo Grove Road	2	2	YES	NO	
Illinois Route 83	2	2	YES	NO	
Weiland Road	2	2	YES	NO	
Lexington Terrace Drive	2	2	YES	NO	
Northgate Parkway	2	2	YES	WB	
Illinois Route 21	2	2	YES	YES	

Note: EB=eastbound; WB=westbound

Table 3.4
Existing Structures

Structure	Structure No. (SN)	Location	Clearance Vert.	Clearance Horiz.	Remarks
Buffalo Creek	016-3203	W. of Raupp Blvd	N/A	68'	SRA over
Buffalo Creek	016-3204	S. on Buff. Gr. Rd.	N/A	64'	SRA over
Wis. Central RR	016-3201	W. of Nrthgt Pwy	——	56'	SRA over

Note: N/A=Not Applicable

Road and Illinois Route 21 (Milwaukee Avenue). It is adjacent to the Wisconsin Central Railroad Line which is planned for use by Metra to provide commuter rail service via a connection to the Chicago & North Western Railroad.

The Pace Park-And-Ride facility currently provides bus service to the Arlington Heights and Deerfield commuter rail stations. Pace Route 690 crosses the corridor on Arlington Heights Road and provides connections between the Arlington Heights Metra Station and Buffalo Grove. Route 691 is a rush period service connecting the Deerfield Metra Station and the Park-And-Ride facility in northeast Buffalo Grove.

3.2.3 EXISTING ENVIRONMENTAL CHARACTERISTICS

The existing environmental characteristics include wetlands, floodplains, an endangered species, parks and recreational facilities, and sensitive land uses. They are shown on Route Maps B-1 and B-2.

Streams/Wetlands/Floodplains

There are two floodplains which cross the right-of-way:

- The Buffalo Creek floodplain crossing is 200 feet wide west of Raupp Boulevard and abuts the right-of-way at about Buffalo Grove Road; and
- A tributary of Aptakisic Creek is 1200 feet wide west of Illinois Route 21.

Wetlands are associated with these floodplains.

Flora/Fauna

A habitat of the small White Lady's Slipper, an endangered plant species, has been reported within one mile of this segment.

Sensitive Land Uses

St. Mary's Church, School and Cemetery are at the northwest corner of Lake Cook Road and Buffalo Grove Road.

Weidner Park is on the south side of Lake Cook Road at Weidner Road. Emmerich Park is on the south side of the route at Raupp Boulevard. The Buffalo Grove Golf Course occupies much of the land on the north side of the route between Arlington Heights Road and Buffalo Grove Road. The Chevy Chase Country Club is separated from the north side the right-of-way east of Northgate Parkway by the Chevy Chase Business Park development now under construction.

The Buffalo Grove Village government facilities are on the north side of the route at Raupp Boulevard.

3.2.4 DEVELOPMENT CHARACTERISTICS

Existing development characteristics and potential future development are indicated on Route Maps C-1 and C-2.

Jurisdiction

The local jurisdictions exercising control over development on this segment are the Villages of Buffalo Grove and Wheeling. Buffalo Grove extends along both sides of the roadway from Arlington Heights Road to one-quarter mile east of Weiland Road. However, several parcels near the intersection with Illinois Route 83 and a large parcel at the southeast corner of the intersection with Weiland Road are in Wheeling. Buffalo Grove continues east on the north side of the route until Potawatomi Woods. The Wheeling Village Limits end at the south side of the right-of-way and extend from the east side of Weiland Road past Illinois Route 21 (Milwaukee Avenue) except for an area west of the Wisconsin Central Railroad which is unincorporated but within the Wheeling planning area.

Type and Intensity of Development

Land use on this segment includes commercial, office, residential and industrial development. There are commercial developments at the following intersections with

- Arlington Heights Road,
- Weidner Road,
- Illinois Route 83, and
- Lexington Drive.

There is office development located as follows:

- east of Arlington Heights Road at Weidner Road,
- on the southwest corner of the intersection with Weiland Road,
- on the northwest corner of the intersection with Lexington Drive, and
- on the northeast corner at Northgate Parkway.

Other development in Buffalo Grove consists of light industrial complexes developed in a campus-like configuration.

There is also single and multi-family residential development on this segment. There is a mobile home community between Lexington Drive and the Wisconsin Central Railroad right-of-way. Light industrial parks are located on both sides of the Wisconsin Central Railroad.

Development Access and Setback

A landscaped median limits access through much of this segment. The median becomes mountable east of Buffalo Grove Road. Curb cuts provide direct access to commercial development, while residential, office and industrial developments are accessed via the cross streets.

Most buildings are set back significantly from the route. Most of the residential development is set back 25 to 30 feet. Landscaping and fencing are often used to buffer residences from the roadway. Commercial development is typically neighborhood and strip shopping centers with developed corner out-parcels. Office and light industrial complexes are usually set near the middle of developed parcels with parking or landscaping separating buildings from the right-of-way.

There are, however, notable exceptions. Several of the commercial out-parcel buildings are within twenty feet of the right-of-way as are several homes in the townhouse development at the northwest corner of the intersection with Lexington Drive.

Future Development

According to municipal records as of August, 1990, there are no plans for development on this segment, although there is vacant land which could accommodate future development.

Undeveloped land along Lake Cook Road recognized in the Comprehensive Plan for Buffalo Grove includes land directly east of Weiland Road on both sides of the route and land on the north side of the route at the Wisconsin Central Railroad. The Buffalo Grove Comprehensive Plan designates the northeast corner of the intersection with Weiland Road for office development and the land at the Wisconsin Central Railroad for industrial development. Of this undeveloped land, only the area at the railroad is incorporated, and it is zoned for industrial use.

The Wheeling Comprehensive Plan recognizes undeveloped land on the south side of the route at the Wisconsin Central Railroad and between Northgate Parkway and Illinois Route 21 (Milwaukee Avenue). Land at the Wisconsin Central Railroad is planned for multi-family development. Between Northgate Parkway and Illinois Route 21 land is planned for office/ research development reserving the large wetland associated with the tributary of Aptakisic Creek and its surrounding area for open space.

3.2.5 RECOMMENDED TRANSIT IMPROVEMENTS

Consistent with the overall recommendation to provide service to multi-family residential, employment and retail development concentrations, it is recommended that the areas at Weidner Road, between Raupp Boulevard and Weiland Road and within the Chevy Chase complex east of Lexington Drive and west of Illinois Route 21 (Milwaukee Avenue) be considered as potential transit service areas, and that off-route corridors for transit service be defined within and between them. (See Route Maps D-1 and D-2.)

Planned provision of Metra rail commuter service on the Wisconsin Central rail line should be implemented as soon as possible.

3.2.6 OTHER IMPROVEMENTS

It is recommended that Weiland Road be extended southward to intersect with Buffalo Grove Road.

3.2.7 POTENTIAL ENVIRONMENTAL CONCERNS

Potential environmental concerns of the roadway improvements are being addressed in their design phases which are underway.

3.3 SRA SEGMENT 3: ILLINOIS ROUTE 21 (MILWAUKEE AVENUE) TO INTERSTATE 294 (TRI-STATE TOLLWAY)

3.3.1 LOCATION

Segment 3 extends from Illinois Route 21 (Milwaukee Avenue) to Interstate 294 (Tri-State Tollway), a distance of approximately 2 miles. (See *Figure 3.3.)*

3.3.2 EXISTING FACILITY CHARACTERISTICS

Existing facility characteristics for this segment are shown on Route Maps B-2 and B-3.

Traffic Volumes

The average annual daily traffic (AADT) volume for this segment is 30,000 vehicles. Traffic volumes were obtained from the 1988 Lake County Traffic Map. Volumes obtained as part of the Phase I design study for improvements to the route showed a range between 34,000 vehicles west of Interstate 294 (Tri-State Tollway) and 39,000 east of Illinois 21 (Milwaukee Avenue).

Right-of-Way

Most of the right-of-way for this segment is 100 feet wide.

Pavement Width and Number of Lanes

The roadway pavement is 52 feet wide and includes four through lanes (two in each direction), a mountable median, and curb-and-gutter.

Traffic Signals

There are six signalized intersections in this segment. (See *Table 3.5.*)

Parking, Sidewalks, and Frontage Roads

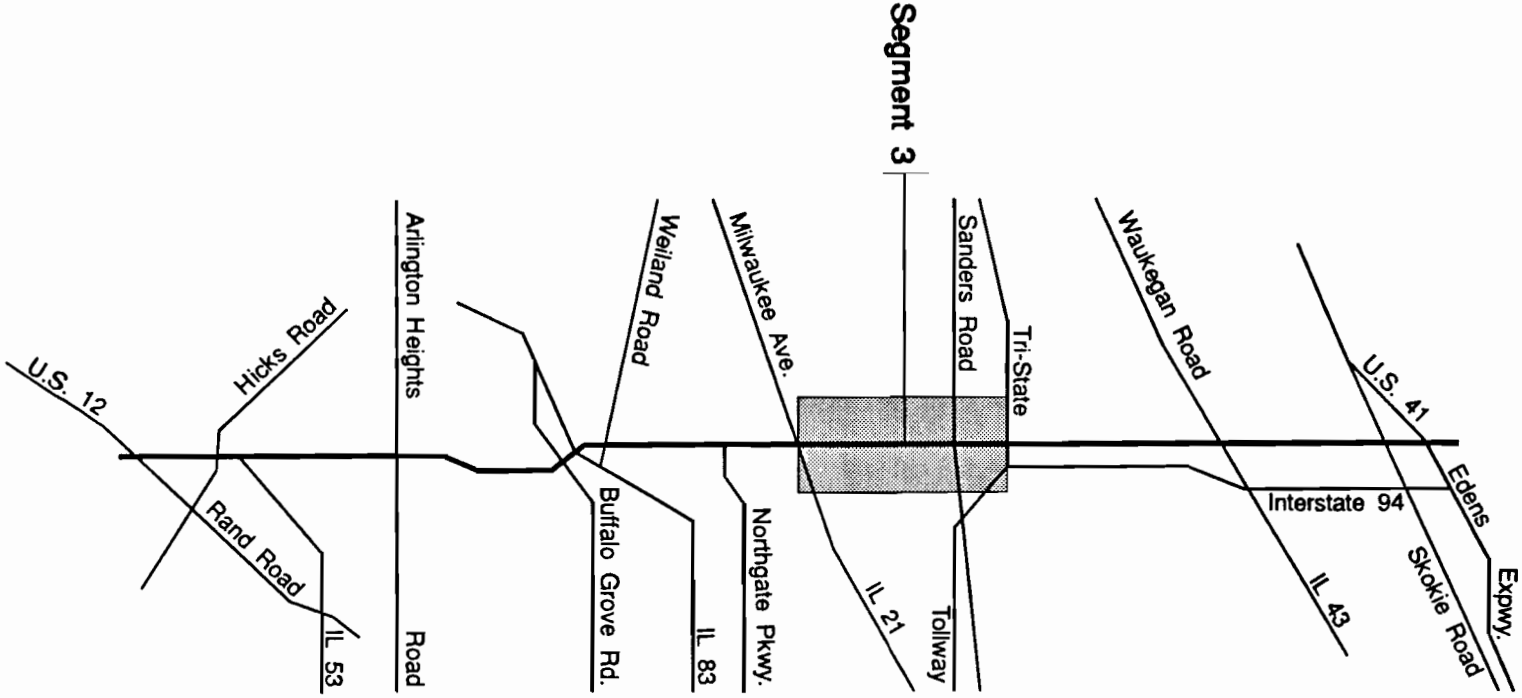
There are no on-street parking spaces or frontage roads. There are short segments of sidewalk serving residential development on the south side of the route between Portwine Road and Interstate 294.

Structures

There are three structures located in this segment, as shown in *Table 3.6.*

Transit

Route 626, the Lake Cook Limited is an express feeder service which links the CTA Skokie Swift terminal to Lincolnshire via Lake Cook Road. It operates during peak hours only.



Lake-Cook Road

prepared by Harland Bartholomew & Associates, Inc.

Location Map

Figure 3.3

Table 3.5
Signalized Intersections

Intersection	No.of Through Lanes EB	No.of Through Lanes WB	Turn Bays Left	Turn Bays Right	Remarks
Portwine Road	2	2	YES	NO	
Office Park Entrance	2	2	EB	WB	
Caribou Xing	2	2	YES	WB	
Sanders Road	2	2	YES	NO	
I-294 soutbound ent	3	3	WB	EB	dual left-turn lanes westbound
I-294 nortbound exit	3	3	NO	NO	"T" intersection

Note: EB=eastbound; WB=westbound

Table 3.6
Existing Structures

Structure	Structure No. (SN)	Location	Clearance Vert.	Clearance Horiz.	Remarks
DesPlaines River	016-0810	E. of Illinois 21	N/A	50'	SRA over
Interstate 294	016-9989	———	——	——	SRA over
Interstate 294	016-9990	———	——	——	SRA over

Note: N/A=Not Applicable

Other Characteristics

There is a semi-directional interchange with Interstate 294 (Tri-State Tollway) allowing southbound entrance to and northbound exit from Interstate 294.

3.3.3 EXISTING ENVIRONMENTAL CHARACTERISTICS

The existing environmental characteristics include wetlands, floodplain, a hazardous waste site and a sensitive land use, and are shown Route Maps B-2 and B-3.

Streams/Wetlands/Floodplains

Lake Cook Road crosses the 1,300-foot wide floodplain of the Des Plaines River east of Illinois Route 21 (Milwaukee Avenue). There are wetlands associated with this floodplain and in isolated areas north of the route east of Sanders Road and south of the route just west of Interstate 294 (Tri-State Tollway).

Waste Disposal Sites/Hazardous Waste Sites

The reported hazardous waste site is southwest of the intersection with Illinois Route 21 (Milwaukee Avenue) and north of the intersection with Wolf Road.

Sensitive Land Uses

The Potawatomi Woods Forest Preserve extends from about 1,200 feet east of Illinois 21 (Milwaukee Avenue) to Portwine Road on both sides of the roadway.

3.3.4 DEVELOPMENT CHARACTERISTICS

Existing development characteristics and potential future development are indicated on Route Maps C-2 and C-3.

Jurisdiction

The segment is within the village limits of Buffalo Grove, Wheeling, Riverwoods and Northbrook. The Buffalo Grove jurisdiction continues from Segment 2 on the north side of the route and extends to Potawatomi Woods. Wheeling also continues from Segment 2 and includes development on the southeast corner at Illinois Route 21. Riverwoods is on the north side of the route between Portwine Road and Sanders Road except for the office development at Chapel Gate. Northbrook extends west from Sanders Road approximately one-half mile on the south side, and its planning area extends east from Sanders Road on the south side of the route beyond the limits of this segment.

Type and Intensity of Development

Land use includes office and residential development. The office developments are major employment centers and typically are designed with extensive parking and landscaping separating the buildings from the right-of-way and the rear lot lines. Except for an office complex at the southeast corner of the intersection with Sanders Road, office developments are confined to the north side of the roadway.

Residential development is largely confined to the south side of the roadway, includes multifamily between Portwine Road and Sanders Road, and single family between Sanders Road and Interstate 294 (Tri-State Tollway). Several single family homes remain north of roadway and east of Portwine Road.

There is a stable at the southeast corner of the intersection with Illinois 21 (Milwaukee Avenue), but it does not front Lake Cook Road.

Development Access and Setback

Direct access to Lake Cook Road is limited. Homes on the north side of the route east of Portwine Road have driveways intersecting Lake Cook Road. Direct access to office development on Lake Cook Road is usually available only at signalized intersections.

Building setbacks are normally more than 100 feet. The single-family residential development is the closest to the roadway with setbacks of over 30 feet.

Future Development

According to municipal records as of August, 1990, there are no plans for development on this segment. There is, however, a significant amount of undeveloped land fronting Lake Cook Road.

The Northbrook Comprehensive Plan recognizes undeveloped land on the south side of the route west of Sanders Road and also west of Interstate 294 (Tri-State Tollway). According to the Traffic Analysis and Proposed Comprehensive Road Improvement Plan dated July 1990, the land at Sanders Road is designated for multi-family residential development, and the land at Interstate 294 is designated for office development. The area at Sanders Road is incorporated and is zoned for residential development.

The Riverwoods Comprehensive Plan recognizes land on the north side of Lake Cook Road between Portwine Road and Sanders Road. This land is designated for office and research development.

3.3.5 RECOMMENDED TRANSIT IMPROVEMENTS

Consistent with the overall recommendation to provide service to multi-family residential, employment and retail development concentrations, it is recommended that the northeast intersection with Illinois Route 21 (Milwaukee Avenue) and the area east of Portwine Road be considered as potential transit service areas, and that off-route corridors for transit service be defined within and between them. (See Route Maps D-2 and D-3.)

3.3.6 POTENTIAL ENVIRONMENTAL CONCERNS

Potential environmental concerns associated with roadway improvements are being addressed as part of the design studies now underway for the route.

3.4 SRA SEGMENT 4: INTERSTATE 294 (TRI-STATE TOLLWAY) TO U.S. ROUTE 41 (EDENS EXPRESSWAY)

3.4.1 LOCATION

Lake Cook Road Segment 4 extends from Interstate 294 (Tri-State Tollway) to U.S. Route 41 (Edens Expressway). This segment is approximately 4.3 miles in length (See *Figure 3.4.*)

3.4.2 EXISTING FACILITY CHARACTERISTICS

The existing facility characteristics for this segment are shown on Route Maps A-3 and A-4.

Traffic Volumes

The average annual daily traffic (AADT) volume for this segment is 38,700 vehicles. The traffic volumes were obtained from 1990 traffic counts conducted as part of the Phase I improvement study and range between 43,800 east of the Interstate 294 to 34,700 at Skokie Highway.

Right-of-Way

The typical existing right-of-way width ranges from 100 to 145 feet.

Pavement Width and Number of Lanes

The existing pavement is 64 feet wide. The roadway consists of two 12-foot through traffic lanes in each direction separated by a 16 foot mountable median. There is concrete curb-and-gutter on the outer edges of pavement and an enclosed storm sewer system.

Traffic Signals

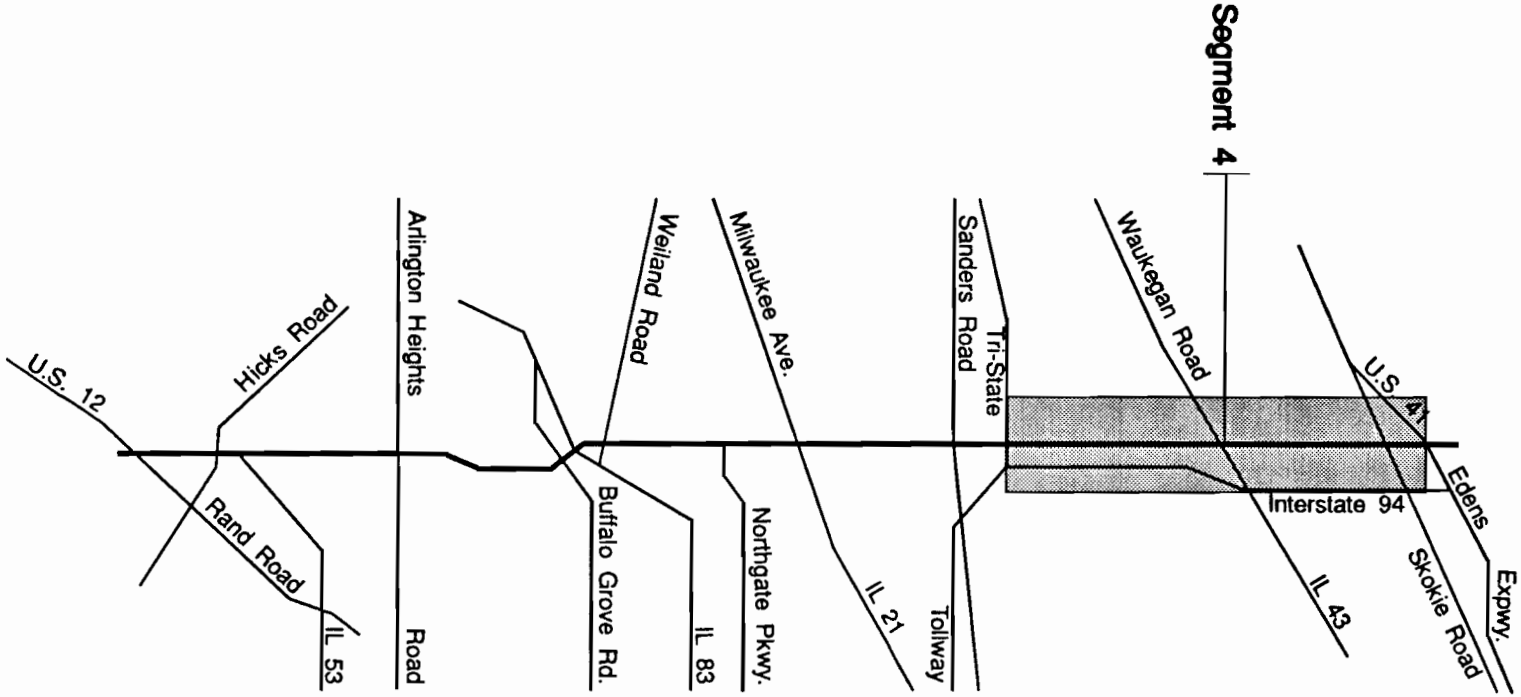
There are sixteen signalized intersections in Segment 4 (See *Table 3. 7.*)

Parking, Sidewalks, and Frontage Roads

There is no on-street parking allowed on Lake Cook Road. Sidewalks exist along Lake Cook Road at the following locations: north side from Pfingsten Road to east of Waukegan Road, south side from east of the Northbrook Court west entrance to Lee Road, both sides from Lee Road to the Chicago & North Western Railroad, and north side from Skokie Boulevard to U.S. Route 41. There is also a frontage road on the south side of Lake Cook Road between Wilmot Road and Pine Street to service the office campus in the area.

Structures

There are eight bridge structures within Segment 4 and are listed in *Table 3.8.* Two additional bridges are being proposed by the Cook County Highway Department. The first will carry



Lake-Cook Road

prepared by Harland Bartholomew & Associates, Inc.

Location Map

Figure 3.4

Table 3.7
Signalized Intersections

Intersection	No.of Through Lanes		Turn Bays		Remarks
	EB	WB	Left	Right	
I-294 soutbound ent	3	3	WB	EB	dual left-turn lanes westbound
I-294 nortbound exit	3	3	NO	NO	"T" intersection - SB
Wilmot Road	2	2	YES	YES	
Pine Street	2	2	YES	NO	
Pfingsten Road	2	2	YES	EB	
Deer Lake Road	2	2	YES	NO	
Lake Cook Plaza Ent.	2	2	WB	NO	
Illinois Route 43	2	2	YES	YES	
Northbrook Ct. West	2	2	WB	EB	"T" intersection
Red Oak Lane	2	2	WB	EB	
Northbrook Ct. East	2	2	WB	EB	"T" intersection
Ridge Road/Lee Road	2	2	WB	EB	
Revere Drive	2	2	YES	YES	
Skokie Boulevard	2	2	YES	EB	
U.S. 41 SB Ramp	2	2	WB	EB	One-way ramps
U.S. 41 NB Ramp	2	2	EB	WB	One-way ramps

Note: EB=eastbound; WB=westbound; SB=southbound; NB=northbound

Table 3.8
Existing Structures

Structure	Structure No. (SN)	Location	Clearance		Remarks
			Vert.	Horiz.	
I-294 (Tri-State)	016-9989	———	——	——	SRA over
I-294 (Tri-State)	016-9990	———	——	——	SRA over
Chicago River	049-6156	W of Pfingsten Rd.	N/A	92'	SRA over
Chicago River	016-0546	E of Pfingsten Rd.	N/A	——	SRA over
Chicago River	016-0546	N of Pfingsten Rd.	N/A	——	Bridge extension
Chicago River	016-8296	S of Pfingsten Rd.	N/A	68'	Bridge extension
Chicago River	016-3200	W of Red Oak Ln.	N/A	80'	Bridge extension
U.S. Route 41	016-0811	———	——	——	SRA over

Note: N/A=Not Applicable

the Metra Milwaukee District over Lake Cook Road, which is located just west of Illinois Route 43. The second will carry the Chicago & North Western Railroad over Lake Cook Road, which is located just west of Skokie Boulevard.

Transit

Existing transit service operating along Lake Cook Road includes Pace bus service and Metra commuter rail service. Pace routes 212, 214, 473, and 626 operate along portions of Lake Cook Road. The Metra Milwaukee North Line operates along the Metra Milwaukee District from Fox Lake to downtown Chicago. There is an existing train station north of Lake Cook Road in Deerfield and to the south in Northbrook.

Beyond the eastern end of the SRA Route, the Metra Chicago & North Western North Line stations are at Ravinia, Braeside, and Glencoe.

Other Characteristics

Lake Cook Road crosses over Interstate 294 (Tri- State Tollway). A half diamond interchange connects Lake Cook Road to Interstate 294 to and from the south. Future planning calls for a full diamond interchange at this location. Lake Cook Road crosses over U.S. Route 41 (Edens Expressway) and there is a full diamond interchange.

3.4.3 EXISTING ENVIRONMENTAL CHARACTERISTICS

The existing environmental characteristics for Segment 4 include floodplains and are shown on Route Map B-3 and B-4.

Streams/Wetlands/Floodplains

The West Fork of the North Branch of the Chicago River crosses Lake Cook Road near Pfingsten Road. The channel was recently realigned to the west and a large detention facility is being constructed. There are no associated wetlands within 100 feet of the right-of-way.

There is a detention pond with wetland characteristics approximately 100 feet north of Lake Cook Road just east of Pfingsten Road.

The Middle Fork of the North Branch of the Chicago River crosses Lake Cook Road near Red Oak Lane. The floodplain at this point is approximately 100 feet wide. There are no associated wetlands within 100 feet of the right-of-way.

Sensitive Lane Uses

The Northern Suburban Church is located on the north side of Lake Cook Road just east of Illinois Route 43.

3.4.4 DEVELOPMENT CHARACTERISTICS

Existing development characteristics and potential future development for Segment 4 are shown on Route Maps C-3 and C- 4.

Jurisdiction

Municipal boundaries abutting the right-of-way are Deerfield, Northbrook and Highland Park. Deerfield lies on the north side between Interstate 294 (Tri-State Tollway) and the Middle Fork of the North Branch of the Chicago River and on the south side from Interstate 294 to Illinois Route 43 (Waukegan Road). Northbrook lies on the south side of Lake Cook Road between the west entrance to Northbrook Court and U.S. Route 41 (Edens Expressway). Highland Park lies on the north side of Lake Cook Road from the Middle Fork of the North Branch of the Chicago River to U.S. Route 41. The south side of Lake Cook Road from Illinois Route 43 to the west entrance of Northbrook Court is unincorporated Cook County.

Type and Intensity of Development

Land use within Segment 4 includes a mixture of office, commercial, industrial, and residential development. Between Interstate 294 (Tri-State Tollway) and Pfingsten Road, there is a large office development on the south side of the route and single family residential to the north.

Between Pfingsten Road and Illinois Route 43, there are businesses and commercial developments along both sides of Lake Cook Road. There are two shopping centers located south and west of Illinois Route 43.

On the north and south sides of Lake Cook Road between Illinois Route 43 to the Northbrook Court Shopping Mall, the primary land use is residential.

Northbrook Court Shopping Mall, a large commercial development, is located on the south side of Lake Cook Road, and there are plans for expansion within 5 years.

Between Ridge Road/Lee Road and Revere Drive, the primary land use is multi-family units. At the Skokie Boulevard intersection, there are office and commercial land uses.

Development Access and Setback

Access from Lake Cook Road to the office developments between Interstate 294 and Pfingsten Road is via an existing frontage road. For the remainder of Segment 4, there are curb cuts for commercial and office developments. Most residential development is accessed via cross streets, but there are approximately 10 existing residential driveways with direct access to Lake Cook Road in this segment.

Most building structures in Segment 4 are set back significantly from the right-of-way line.

However, near Illinois Route 43, parking lots for commercial and office developments are adjacent to the existing right-of-way line. Most residential areas are buffered from the roadway by landscaping or fences.

Future Development

There are undeveloped parcels located at the following areas which are currently being considered for development: 1) in the office complex south of Lake Cook Road between Interstate 294 and Pfingsten Road, 2) the northwest corner of Lake Cook Road and Wilmot Road, 3) the northeast corner of Lake Cook Road and Wilmot Road, 4) the northwest corner of Lake Cook Road and Pfingsten Road, and 5) the southwest corner of Lake Cook Road and U.S. Route 41 interchange. The probable developments for these parcels are office for Areas 1, 2, and 4, residential for Area 3, and commercial/shopping for Area 5.

3.4.5 RECOMMENDED TRANSIT IMPROVEMENTS

Consistent with the overall recommendation to provide service to multi-family, employment and retail development concentrations, it is recommended that the areas abutting Interstate 294 (Tri-State Tollway) and Interstate 94 (Edens Spur), west of Illinois Route 43 (Waukegan Road), between Northbrook Court Shopping Center and U.S. Route 41 (Edens Expressway), and the Chicago Botanic Gardens be considered as potential transit service areas, and that off-route corridors for transit service be defined within and between them. (See Route Maps D-3 and D-4.) Consideration should also be given to extending the corridor service area to the Chicago & North Western North Line stations and to opening a new station at Lake Cook Road for the Metra Milwaukee District North Line.

A transportation center, providing intermodal transfer between the Lake Cook Road SRA, the Middle Circumferential future transit project and the Skokie Swift extension corridor of the future, should be provided near Skokie Boulevard.

3.4.6 OTHER IMPROVEMENTS

It is recommended that new ramps to and from the north be implemented at Interstate 294 (Tri-State Tollway).

3.4.7 POTENTIAL ENVIRONMENTAL CONCERNS

Potential environmental concerns of the roadway are being addressed in their design phases which are underway.

FACILITY CHARACTERISTICS

Existing R/W

Existing Signal

Existing Structure

ENVIRONMENTAL CHARACTERISTICS

Wetlands

Floodplain

Sensitive Land Use

RECOMMENDED IMPROVEMENTS

Proposed Signal

Lake-Cook Road

Existing Facility Characteristics

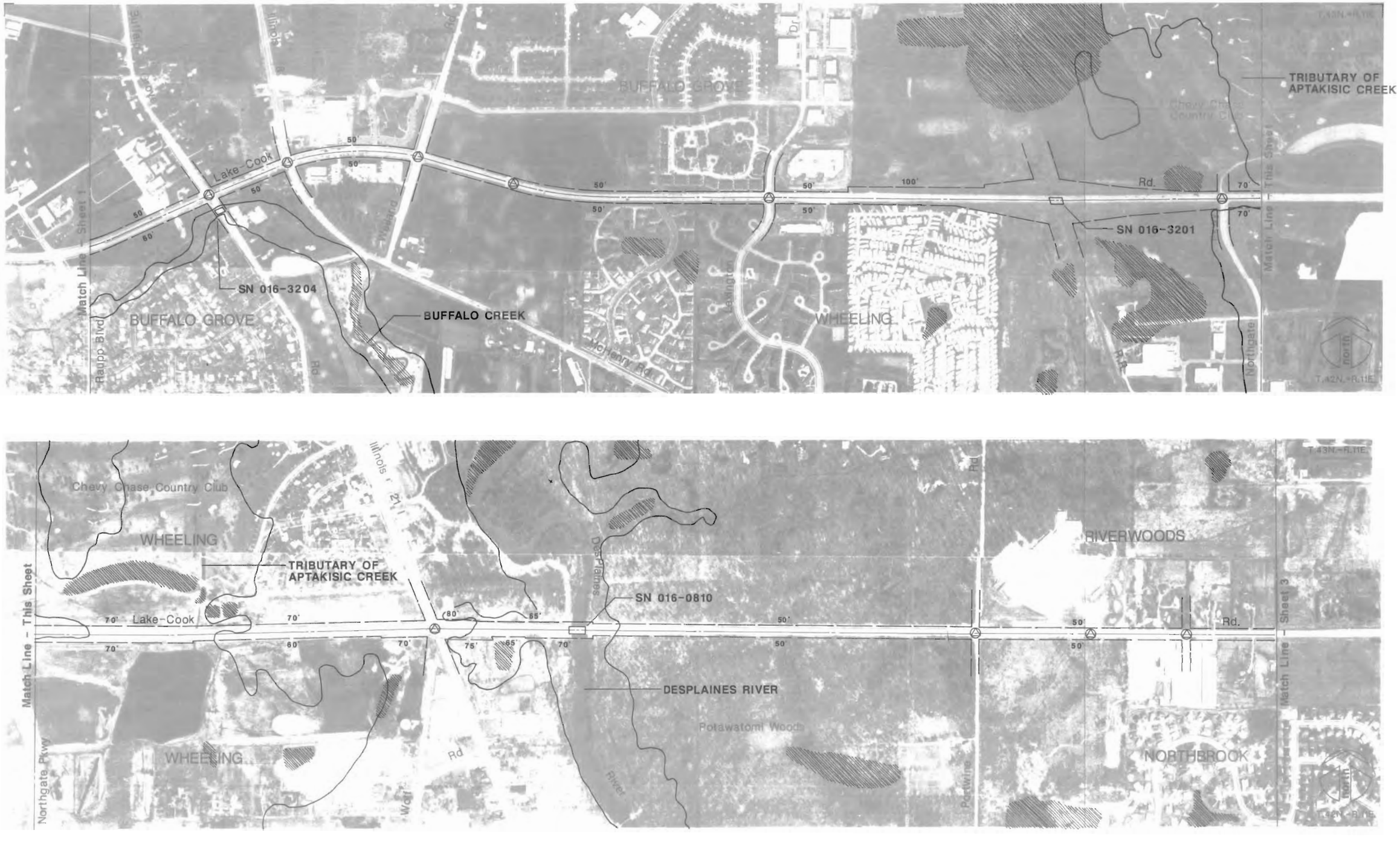
Strategic Regional Arterial Planning Study

prepared by Harland Bartholomew & Associates, Inc. for the

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale in Feet
0 200 400 800 1200

Route Map A-1



Lake-Cook Road

Existing Facility Characteristics

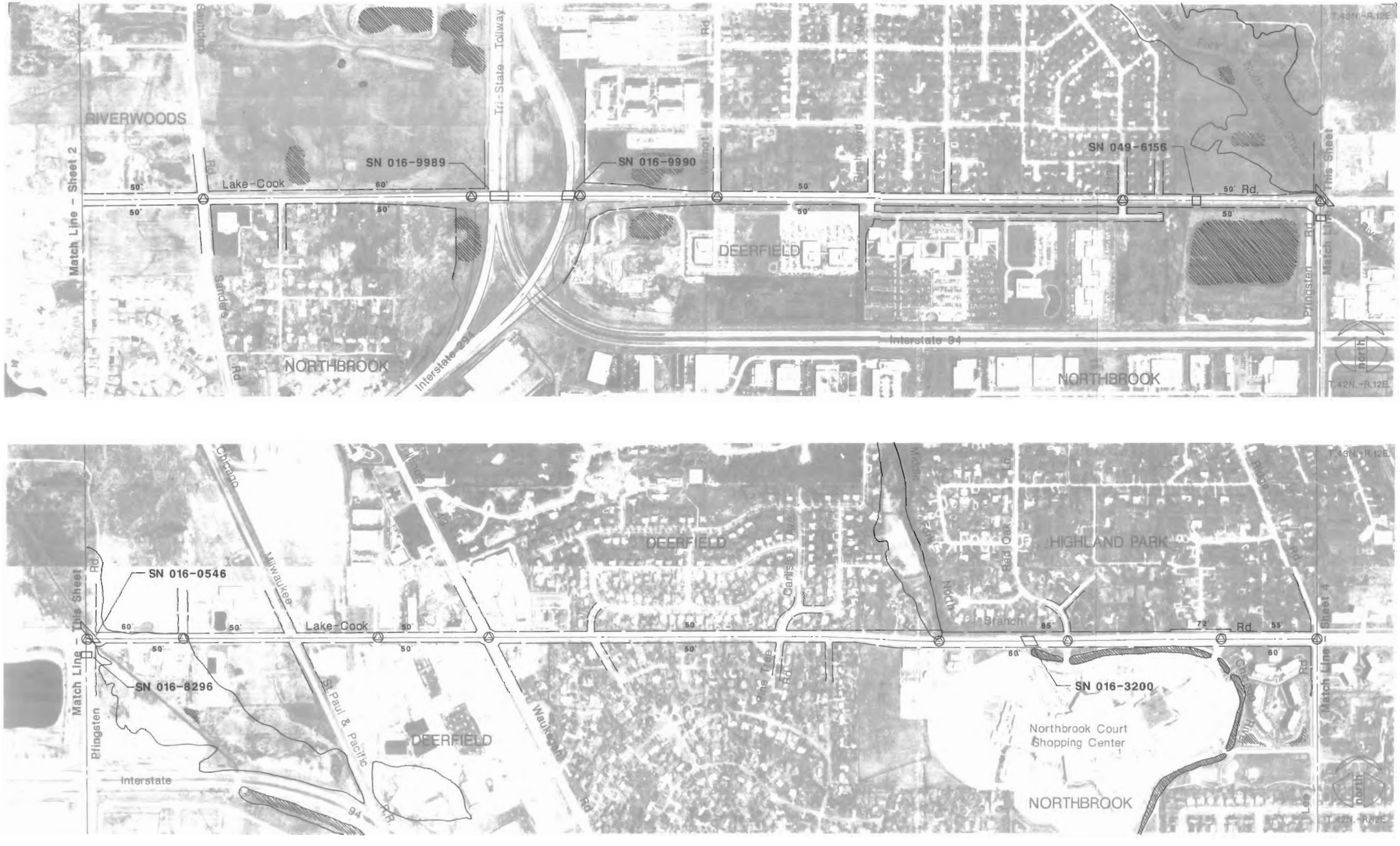
SRA Strategic Regional Arterial Planning Study

prepared by Harland Bartholomew & Associates, Inc. for the

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale in Feet
0 200 400 800 1200

Route Map A-2



Lake-Cook Road

Existing Facility Characteristics

SRA Strategic Regional Arterial Planning Study

prepared by Harland Bartholomew & Associates, Inc. for the

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale in Feet
0 200 400 800 1200

Route Map A-3

Lake-Cook Road

Existing Facility Characteristics

Strategic Regional Arterial Planning Study

prepared by Harland Bartholomew & Associates, Inc. for the

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale in Feet
0 200 400' 800 1200

Route Map A-4

Lake-Cook Road

Environmental Characteristics

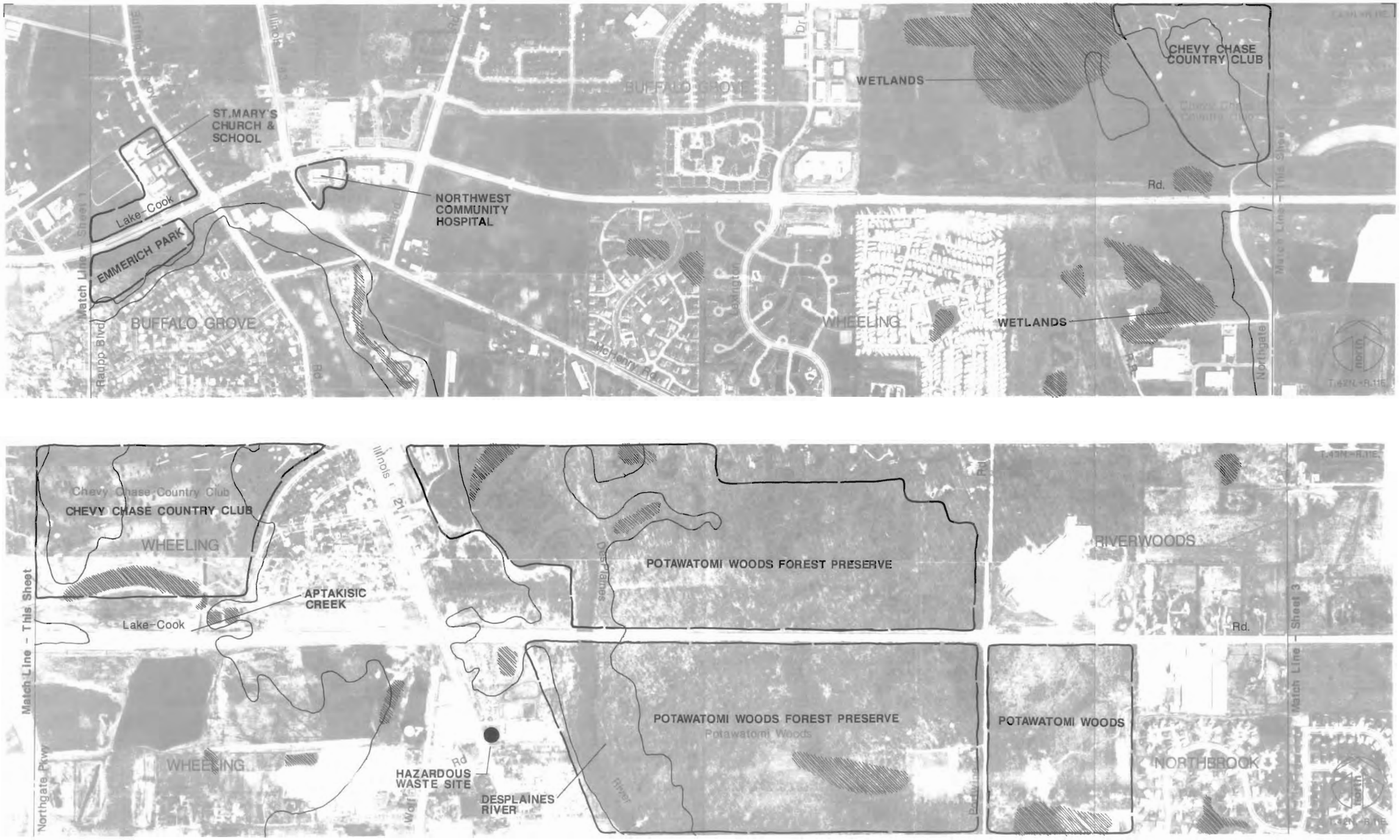
Strategic Regional Arterial Planning Study

prepared by Harland Bartholomew & Associates, Inc. for the

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale in Feet
0 200 400 800 1200

Route Map B-1



Lake-Cook Road

Environmental Characteristics

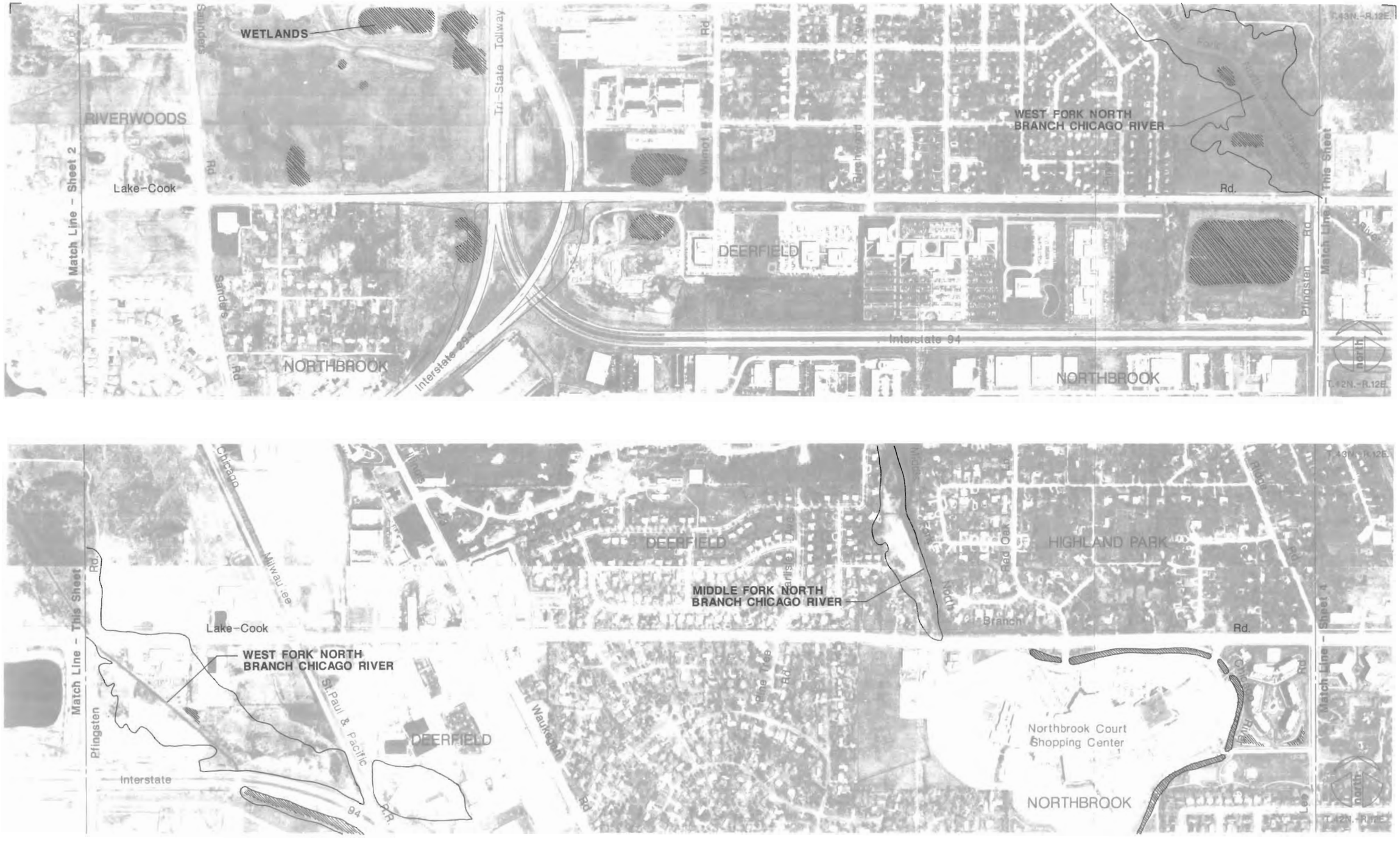
SRA Strategic Regional Arterial Planning Study

prepared by Harland Bartholomew & Associates, Inc. for the

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale in Feet
0 200 400 800 1200

Route Map B-2



Lake-Cook Road

Environmental Characteristics

SRA Strategic Regional Arterial Planning Study

prepared by Harland Bartholomew & Associates, Inc. for the

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale in Feet
0 200 400 800 1200

Route Map B-3

Lake-Cook Road

Environmental Characteristics

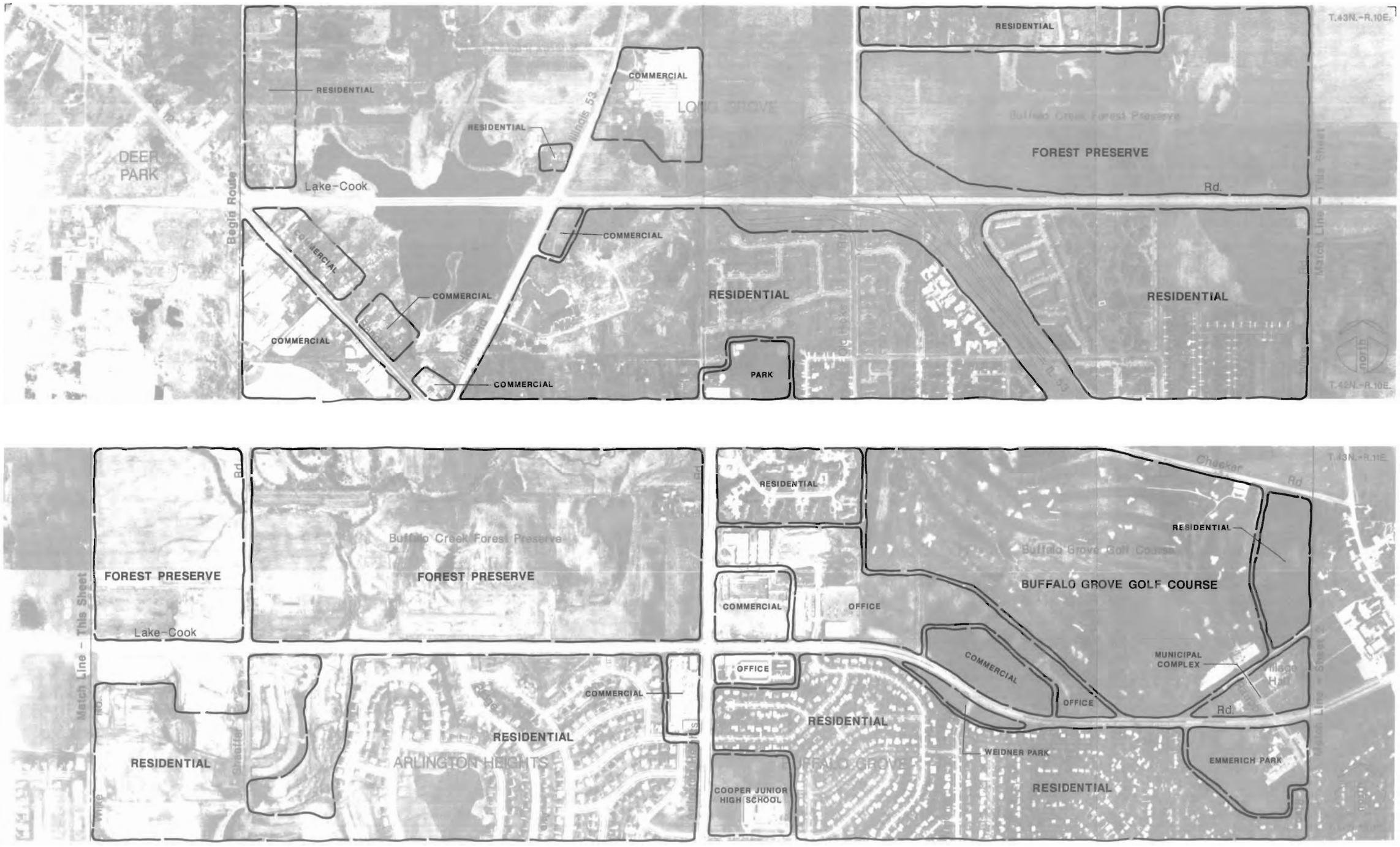
Strategic Regional Arterial Planning Study

prepared by Harland Bartholomew & Associates, Inc. for the

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale in Feet
0 200 400 800 1200

Route Map B-4



Lake-Cook Road

Development Characteristics

SRA Strategic Regional Arterial Planning Study

prepared by Harland Bartholomew & Associates, Inc. for the

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale in Feet
0 200 400 800 1200

Route Map C-1

Lake-Cook Road

Development Characteristics

SRA Strategic Regional Arterial Planning Study

prepared by Harland Bartholomew & Associates, Inc. for the

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale in Feet
0 200 400 600 1200

Route Map C-2

Lake-Cook Road

Development Characteristics

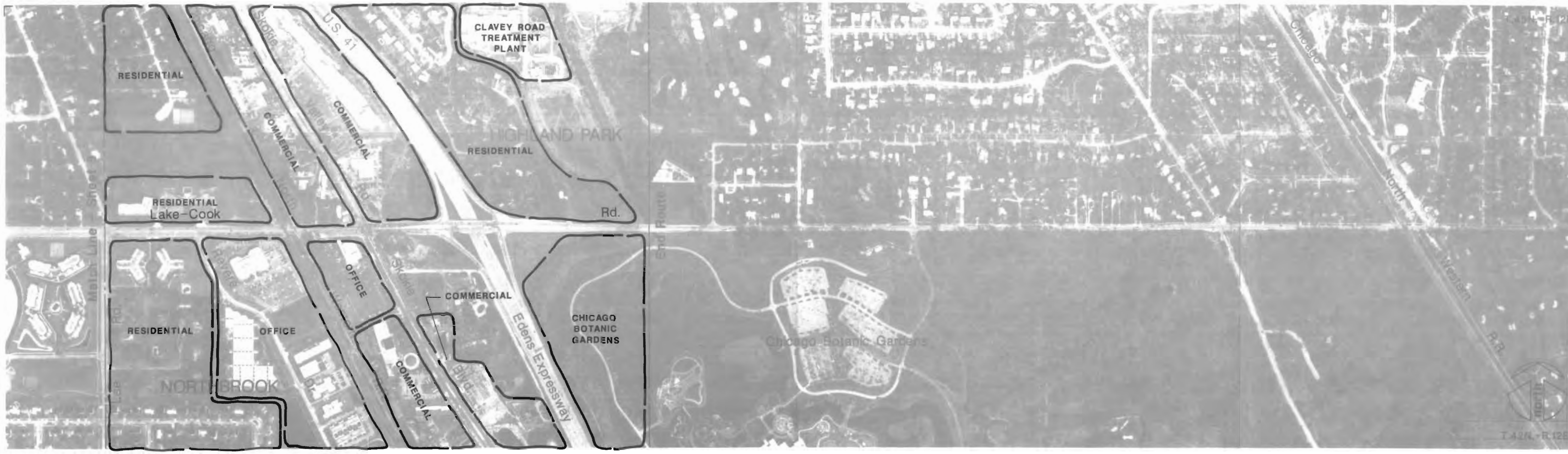
SRA Strategic Regional Arterial Planning Study

prepared by Harland Bartholomew & Associates, Inc. for the

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale in Feet
0 200 400 800 1200

Route Map C-3



Lake-Cook Road

Development Characteristics

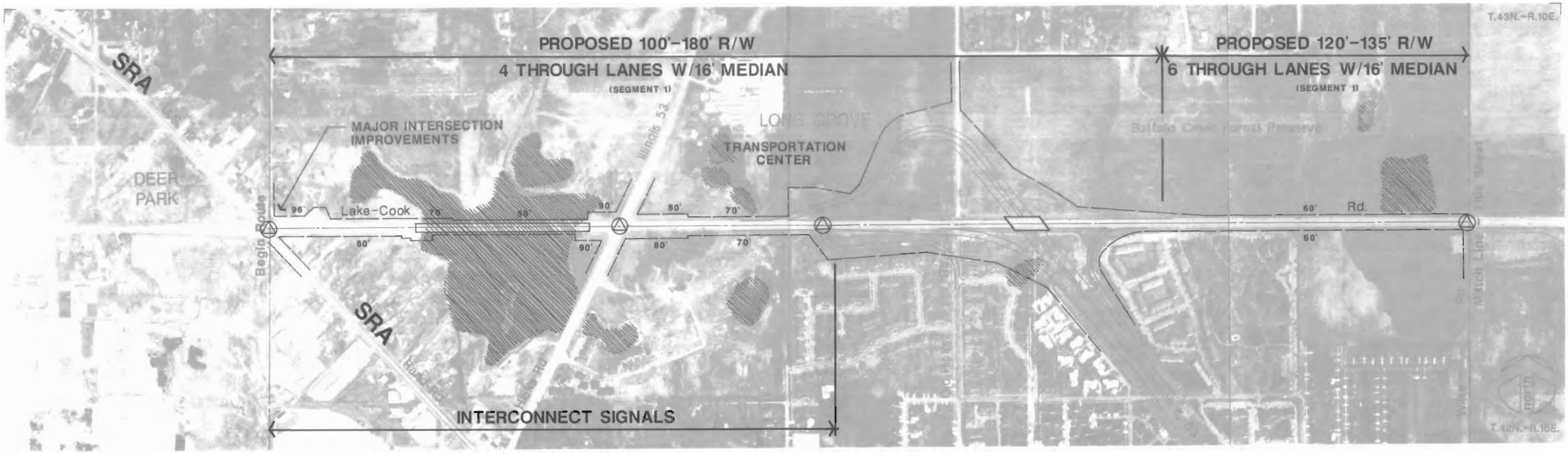
Strategic
Regional
Arterial
Planning Study

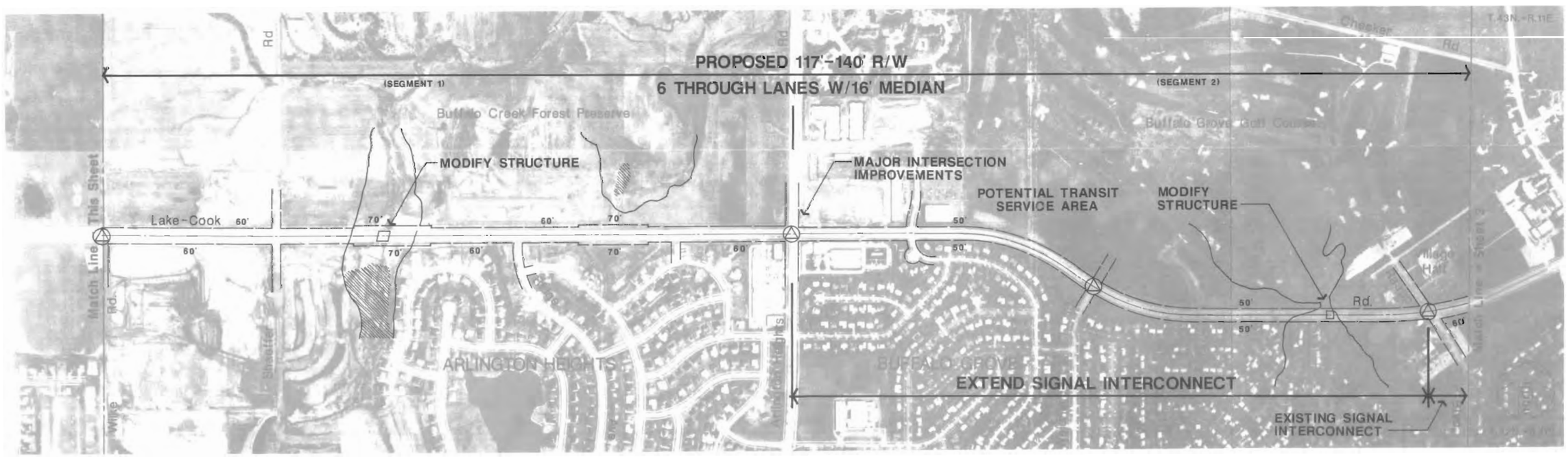
prepared by Harland Bartholomew & Associates, Inc. for the

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale in Feet
0 200 400 800 1200

Route Map C-4





Lake-Cook Road

Recommended Improvements

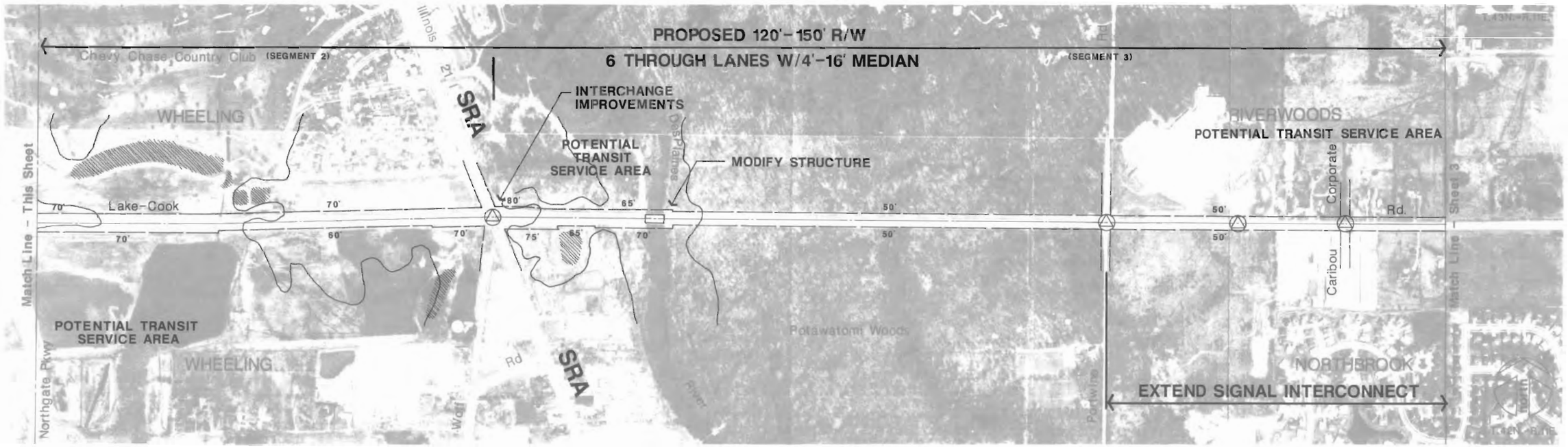
SRA Strategic Regional Arterial Planning Study

prepared by Harland Bartholomew & Associates, Inc. for the

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale in Feet
0 200 400 800 1200

Route Map D-1



Lake-Cook Road

Recommended Improvements

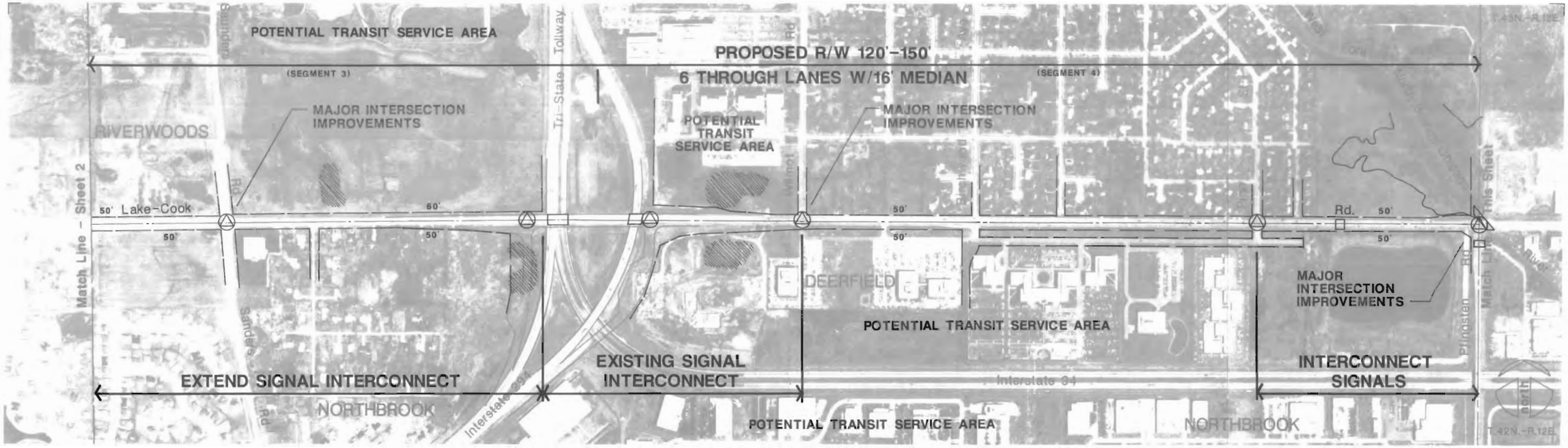
SRA Strategic Regional Arterial Planning Study

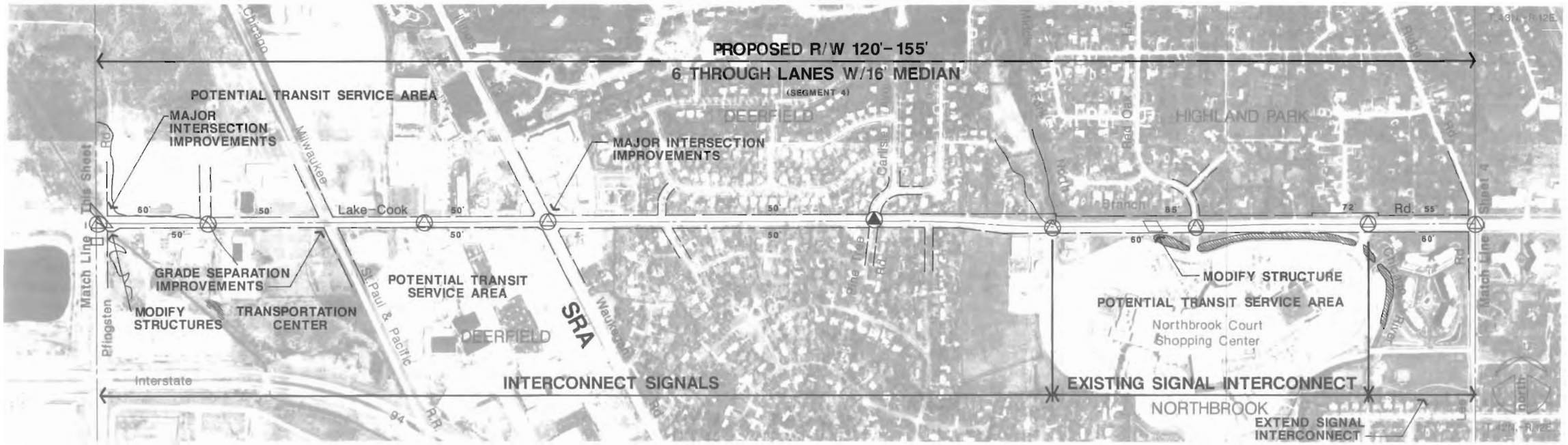
prepared by Harland Bartholomew & Associates, Inc. for the

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale in Feet
0 200 400 800 1200

Route Map D-2





Lake-Cook Road

Recommended Improvements

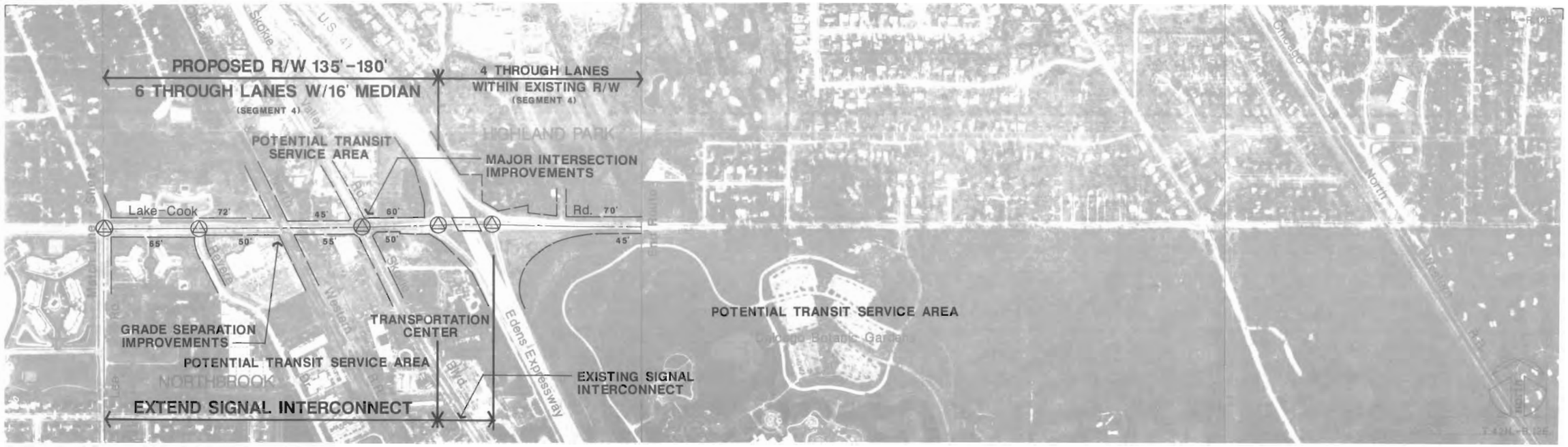
SRA Strategic Regional Arterial Planning Study

prepared by Harland Bartholomew & Associates, Inc. for the

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale in Feet
0 200 400 800 1200

Route Map D-3



Lake-Cook Road

Recommended Improvements

SRA Strategic Regional Arterial Planning Study

prepared by Harland Bartholomew & Associates, Inc. for the

ILLINOIS DEPARTMENT OF TRANSPORTATION

Scale in Feet
0 200 400 800 1200

Route Map D-4