

Skokie Swift North Shore Corridor Travel Market Analysis

executive

summary

prepared for

City of Evanston

in association with

**Village of Skokie
Regional Transportation Authority**

prepared by

Cambridge Systematics, Inc.

in association with

**Valerie S. Kretchmer & Associates, Inc.
Bernadette Schleis & Associates, Inc.**

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Table of Contents

Executive Summary	ES-1
Study Approach.....	ES-1
Population, Employment, Land Use, and Demographics	ES-2
Existing Transportation Network	ES-4
Travel Patterns	ES-6
Market Evaluation.....	ES-8
Station Alternatives.....	ES-11

List of Tables

ES.1 Station Location Comparison Matrix	ES-13
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List of Figures

ES.1 Skokie Swift North Shore Corridor	ES-3
ES.2 Projected Population and Employment Growth, 2000 to 2030.....	ES-4
ES.3 Highway Level of Service, 2002 and 2035	ES-5
ES.4 Major Travel Patterns to, from, and through the Corridor	ES-6
ES.5 Potential Station Locations	ES-11

Executive Summary

The CTA Yellow Line Skokie Swift service represents the last major addition to the regional transportation system in the North Shore area, initiated in 1964 on the former Chicago North Shore & Milwaukee Railway Skokie Valley Route between Dempster Street in Skokie and Howard Street in Chicago. On several occasions since that time, state, regional, and local agencies have studied the physical feasibility and cost of various alternatives for extending the Skokie Swift, as well as potential intermediate station locations.

From a regional planning perspective, expansion of the Skokie Swift has gained some support and recognition. Proposals to extend the Skokie Swift have emerged in most of the regional transportation plans adopted in the last 30 years. The Chicago Transit Authority (CTA) currently is conducting an alternatives analysis of potential extension options to determine whether the project could qualify for competitive New Starts program funding from the Federal Transit Administration (FTA) and enter the preliminary engineering phase.

At the same time, both the Village of Skokie and the City of Evanston have expressed interest in new intermediate stations located within their communities to improve local access to the regional transit network and complement local economic development efforts. The Village of Skokie completed a study in 2003 that led to approval of Federal funding for design and construction of a new station at Oakton Street in downtown Skokie. The City of Evanston also requested planning assistance to explore the market feasibility of new stations on the Evanston portion of the Skokie Swift. Intermediate stations will change the function and accessibility of the Skokie Swift. Additional analysis is required to firmly establish the market potential of the intermediate stations in Evanston and the proposed new Oakton Street station in Skokie. Given the interrelated nature of these two questions and the proposed extension to Old Orchard, the Regional Transportation Authority (RTA) recommended combining these initiatives into a corridor-level travel market analysis of the North Shore area.

■ Study Approach

The objectives of the Skokie Swift North Shore Corridor Travel Market Analysis are to describe the Corridor's existing and projected demographics, development patterns, transportation facilities, services and usage; identify the major travel markets that play a key role in impacting corridor travel patterns; evaluate how well the existing corridor transportation system serves current and projected travel needs; define mobility problems most critical to address within the Corridor; assess the extent to which an expanded Skokie Swift service would address these travel needs; and compare the relative performance of

one or more new station locations for the CTA Skokie Swift Yellow Line service in south Evanston from a market perspective.

The Skokie Swift North Shore Corridor (the “Corridor”) is located along Lake Michigan in northeastern Cook County and extreme southeastern Lake County. The Corridor is bounded by the Lake-Cook Road area in the north, the Lake Michigan shoreline in the east, Bryn Mawr Avenue in the City of Chicago in the south, and approximately Metra’s Milwaukee District North commuter rail line in the west. Demographic information and travel patterns were evaluated at increasingly finer levels of geographic detail, from the county level to 14 Corridor districts to individual traffic analysis zones (TAZ) approximately one square mile in area. The boundaries of the Corridor and the 14 districts are shown in Figure ES.1.

■ Population, Employment, Land Use, and Demographics

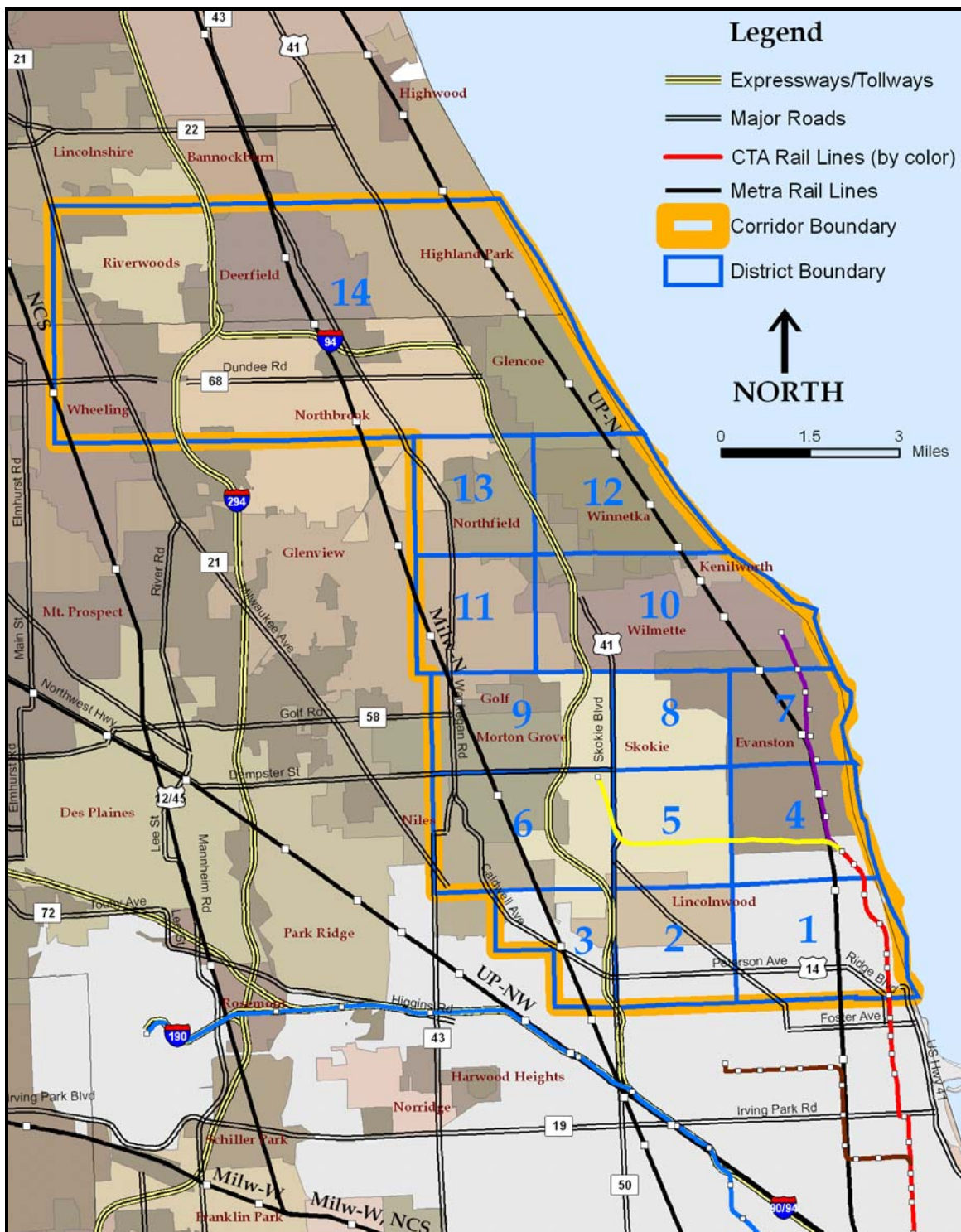
The Corridor has nearly 530,000 residents, which is about 6.5 percent of the total population of the six-county northeastern Illinois region. The Chicago Metropolitan Agency for Planning (CMAP) projects that the Corridor will experience an overall modest growth in population between 2000 and 2030 (about 27,500 new residents or 5.2 percent). As shown in Figure ES.2, the southern third of the Corridor is expected to grow by more than 18,500 residents, or about two-thirds of the Corridor total. Parts of southwestern Skokie and southern Morton Grove are expected to show a growth of over 25 percent in the 30-year period. In contrast, population in areas such as northern Morton Grove, northwestern Skokie, eastern Glenview and Winnetka, is expected to decline, dropping between 1 and 6 percent.

Approximately 300,000 jobs are concentrated in the Corridor, comprising about 6.7 percent of the six-county region. CMAP projects that the Corridor will experience a modest employment growth between 2000 and 2030 (about 20,000 new jobs or 6.7 percent). The predominant land use in all districts is residential and the employment in the Corridor is mostly service-related. As shown in Figure ES.2, the greatest employment growth in the Corridor is projected in the northern portions of the corridor, generally in the Northbrook area and along Lake-Cook Road, where about three-fourths of the job growth is expected to occur.

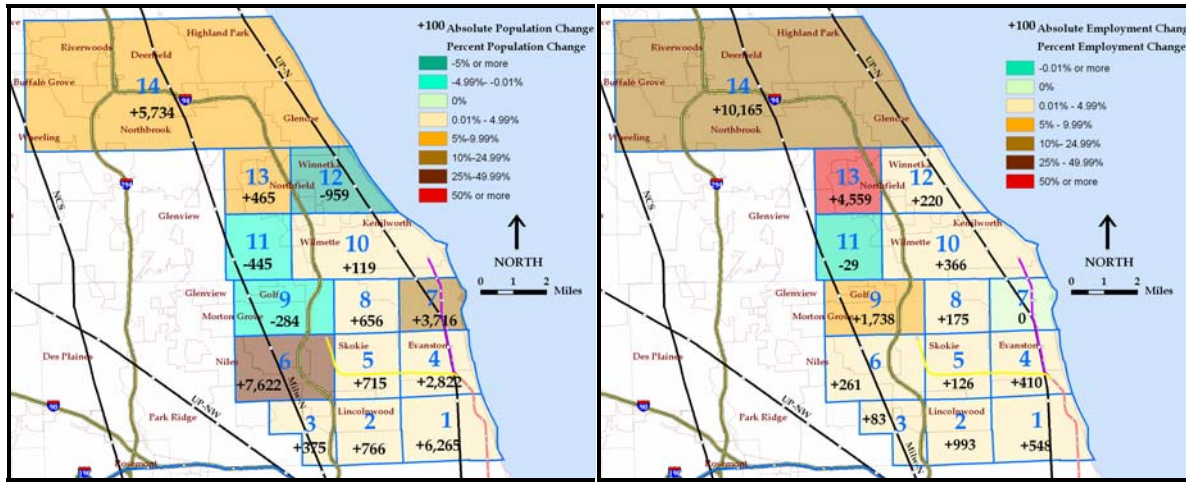
Land use in most of the Corridor is primarily residential, particularly in the areas along Lake Michigan. Considering only developable land, the Corridor has approximately double the proportion of land in residential use as the six-county region as a whole.

Automobile ownership is high overall with the exception of districts closer to the City of Chicago and in the vicinity of Northwestern University, where on average, about 25 percent of the residents do not own an automobile and therefore have a greater reliance on public transportation.

Figure ES.1 Skokie Swift North Shore Corridor



**Figure ES.2 Projected Population and Employment Growth
 2000 to 2030**



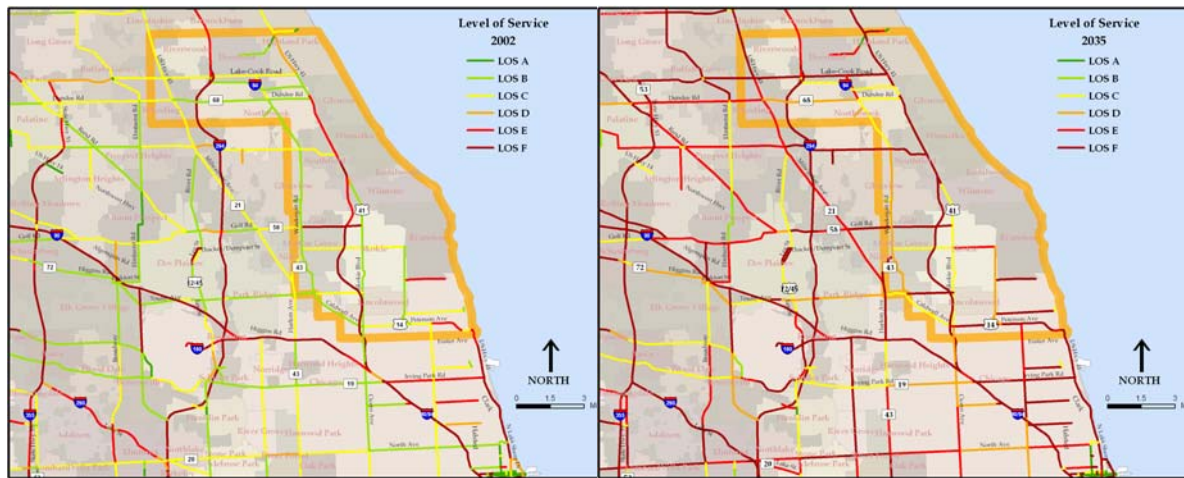
Source: CMAP.

Existing Transportation Network

The Corridor is served by an extensive multimodal transportation network. The transportation system offers a combination of expressways, tollways, and arterial streets that are supplemented by extensive networks of bus, rapid transit, and commuter rail services. The level of service offered by each highway and transit mode and the intermodal nature of the transportation system varies across the different districts in the corridor.

As is common in other metropolitan areas, interstate highways either radiate from or bypass the city center. The arterial highways, however, are more closely spaced to a grid network, with diagonals radiating from Chicago. As shown in Figure ES.3, congestion conditions on many key roadways in the Corridor are expected to worsen over time. Congestion is measured by Level of Service (LOS), a letter grade indicator of the relationship between a highway facility's traffic volume and its capacity which ranges from LOS A (freeflow traffic conditions) to LOS F (gridlock).

Figure ES.3 Highway Level of Service
2002 and 2035



Source: Federal Highway Administration, Freight Analysis Framework 2.

The transit network is composed of both rail and bus modes. Rail service within the corridor is provided by two agencies – CTA and Metra. CTA operates the rapid transit system, which predominantly serves the City of Chicago and surrounding suburbs, including Evanston, Skokie, and Wilmette. Metra operates the commuter rail system which primarily accommodates trips from Cook County and surrounding counties to downtown Chicago. Bus service within the Corridor also is provided by two agencies – CTA and Pace. CTA operates bus routes almost strictly in the southern portion of the corridor, while Pace provides bus service throughout the corridor. Pace also provides paratransit service to persons with disabilities within a three-quarter-mile buffer of regular fixed bus routes and vanpool services for other specialized transportation markets. Three dial-a-ride services also are available for elderly and/or disabled residents.

There is a predominance of Metra service in the northern portions of the Corridor particularly during rush hours, while there is a predominance of CTA service in the southeastern portion of the Corridor. CTA and Metra maintain quite different operations in order to serve their distinctive travel markets. Pace, whose services connect with both of the rail services, provides a vital link with CTA and Metra, and also is the primary provider of intersuburban transit services.

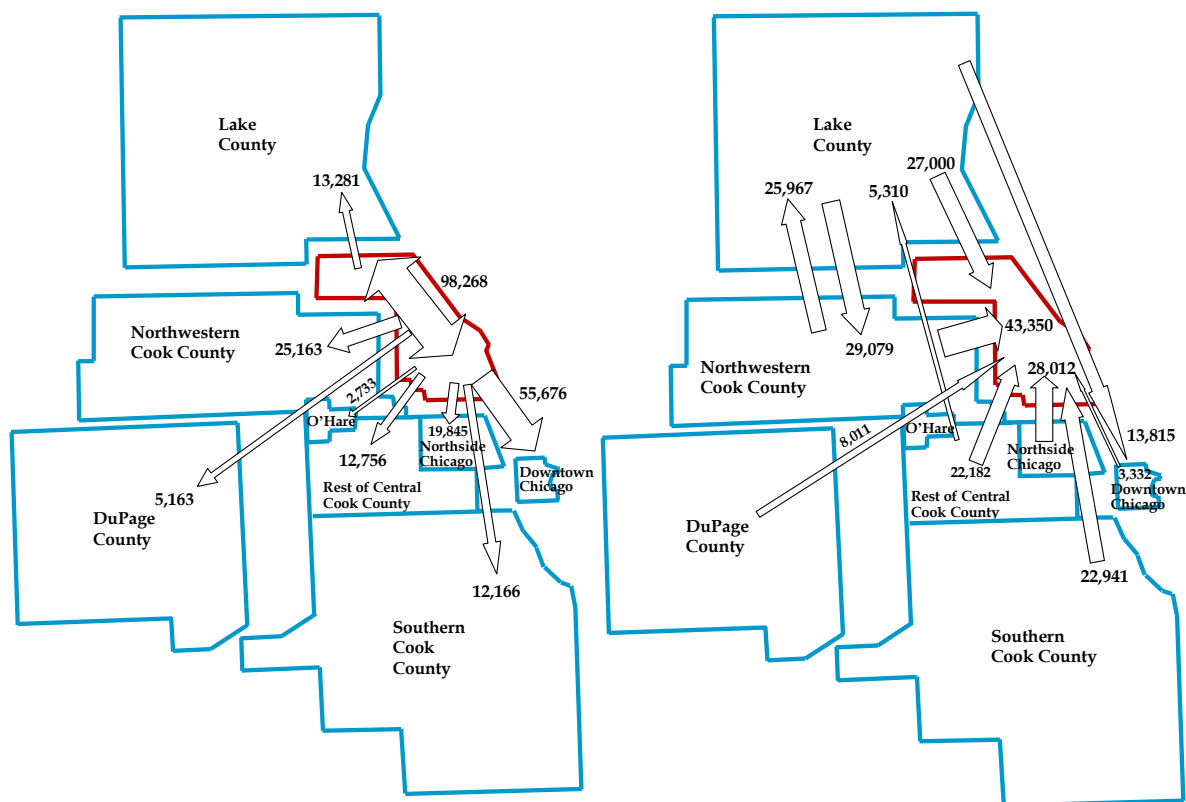
The major capital improvement projects included in the 2030 Regional Transportation Plan that are most likely to have impacts in the Corridor include the expansion of the CTA Yellow Line, widening of the Tri-State Tollway (I-294/I-94), and improvements to the Metra Milwaukee District North (MD-N) Line.

Travel Patterns

Cook County is the principal attractor and generator of work trips by far in the metropolitan area, drawing a significant number of work trips from each of the six counties. Cook County draws more work trips from each county than it sends to each county. With the growth of employment destinations in the western suburbs, DuPage County emerged as a net importer of work trips in the 1990 Census. Similar patterns appear to be emerging more recently in Lake County, which attracted more work trips in 2000 than it sent to other counties. Lake County employment is expected to grow by more than 30 percent between 2000 and 2030.

Approximately 40 percent of the nearly 250,000 daily work trips that originate in the Corridor stay within the Corridor. As shown in Figure ES.4, nearly 25 percent of the work trips that originate in the Corridor are destined to downtown Chicago. Although Lake County currently is the destination for only about 5 percent of the Corridor's work trips, this travel pattern is expected to grow with increasing employment to the north. A similar volume of travel, about 13,000 daily work trips, passes through the Corridor en route from Lake County to downtown Chicago.

Figure ES.4 Major Travel Patterns to, from, and through the Corridor



The Corridor attracts approximately as many daily work trips as it sends to other places, approximately 260,000 trips. About 17 percent of trips are from northwestern Cook County, and are largely destined to the Lake-Cook Road area. About 11 percent of trips are from the North Side of Chicago. About 10 percent of work trips to the Corridor originate in Lake County.

The northeastern part of Chicago (District 1) is the biggest generator of work trips in the Corridor, with more than 70,000 trips. Southern Evanston (District 4) follows with about half as many trips. In part because of its large size in comparison to other districts, the Lake-Cook Road area (District 14) had disproportionately large flows of work and non-work trips, with more than 37,000 work trips originating there and more than 70,000 work trips ending there. Southwestern Skokie and southern Morton Grove (District 6) and downtown Evanston and the vicinity of Northwestern University (District 7) each attract about 30,000 work trips. With a large share of trips from relatively nearby areas, Northwestern University was found to have a significant impact on local travel patterns.

For nonwork travel, trips are generally shorter and more numerous than work trips. More than two-thirds of the over 1.1 million work trips that begin or end in the Corridor stay in the Corridor. Flows within districts emerged as significant movements.

The northeastern part of Chicago (District 1) is the biggest attractor of nonwork trips within the Corridor, with more than 145,000 trips. Southwestern Skokie and southern Morton Grove (District 6), northern Evanston, including downtown Evanston and Northwestern University (District 7), and southern Evanston (District 4) all attracted between 85,000 and 95,000 nonwork trips, with the majority from elsewhere in the Corridor.

The northeastern part of Chicago (District 1) also emerges as the strongest market after District 14 for nonwork trips, with over 200,000 produced and 145,000 attracted. Evanston (District 4 and District 7) and Skokie (District 6) also appear as strong nonwork trip markets.

Five key markets were selected for more detailed analysis of local travel patterns. These include:

Market 1 - North-South Travel between the Chicago North Side and Evanston;

Market 2 - East-West Travel between Evanston and Skokie;

Market 3 - North-South Travel from northeastern Chicago and Evanston to Lake-Cook Road;

Market 4 - Lake-Cook Road Area Travel; and

Market 5 - North-South Travel from the southern part of the Corridor to downtown Chicago.

■ Market Evaluation

Eight submarkets representing major travel patterns in the five markets were selected for evaluation of the performance of key elements of the transportation system. The submarkets include:

- **Loyola-Northwestern.** This movement between the Edgewater area in Chicago and central Evanston has a strong share of trips on public transportation as a result of a variety of high-quality direct rail and extensive bus transit options. Though the travel distance between origin and destination is short, it reveals much about the services available for a northern city-to-suburb commute along the lakefront. Evanston's strong employment market and Chicago's densely developed residential areas contribute to the regional significance of this movement. The importance of the CTA Howard terminal as a transit hub also is apparent in reviewing this origin-destination pair.
- **Uptown.** This movement between the area around Loyola University and the Uptown neighborhood in Chicago also enjoys relatively high transit mode share, with nearly half of its trips on public transportation. Congestion conditions are expected to worsen over time on one key roadway serving this submarket, U.S. 41. This submarket highlights the transportation options available for a typical short commute in northeastern Chicago and the importance of the CTA Red Line in serving the densely developed lakefront neighborhoods.
- **Skokie Industry.** This diagonal movement between western Rogers Park in Chicago and the industrial area of southeastern Skokie can use many combinations of east-west and north-south streets to traverse the grid, providing both highway and transit users with some flexibility to avoid congestion. The travel demand models were somewhat inconsistent in their results, but showed a general trend of worsening congestion over time. Although there is a strong grid network of bus routes serving this submarket, a transfer would be required for most transit trips. In part because of this need for transfers, transit was somewhat less attractive than the other submarkets in this part of the Corridor. The transit share of this submarket could be enhanced by the presence of an infill station along the CTA Yellow Line, serving the industrial employment centers in and around the destination TAZ.
- **Yellow Brick Road.** This movement between the Edgewater area in Chicago and the Old Orchard area in Skokie currently has about 80 percent of commuters driving alone. Greater congestion is expected over time on both I 94 and U.S. 41, increasing drive times. Although a strong grid network of east-west and north-south bus routes exists, the lack of a direct transit option suppresses transit mode share in this submarket. An extension of the CTA Yellow Line to Old Orchard may be part of a solution to improving mobility options in this submarket. The CTA Howard terminal again serves as a key transportation hub allowing a wide variety of rail-bus and bus-bus transfer options.

- **Lake-Cook Journey.** Although there are only about 100 work trips on this movement between southeastern Evanston and the Lake-Cook Road area, that the magnitude is so great given the long distance of this commute underscores the attraction of the Lake-Cook Road area as a regional employment center. Nearly 90 percent of commuters currently drive alone and are expected to experience greater congestion over time on several of the key north-south highway facilities serving this submarket, including I-94, Skokie Boulevard, and Green Bay Road. Although an expanded Yellow Line could play a role in addressing the mobility needs in this submarket, increased reverse commute service on the Metra UP-North Line could provide potentially superior travel times and reliability. A combination of more frequent northbound service in the morning, more frequent southbound service in the afternoon, and timed transfers with bus shuttle services in the Lake-Cook Road corridor could be attractive to motorists experiencing chronic congestion in this submarket.
- **Nature Drive.** This movement between Buffalo Grove and Northbrook is representative of major intersuburban commuter patterns to the Lake-Cook Road area. According to the 2000 Census, every commuter drives alone. Transit options are limited and increased congestion is expected on some of the highway facilities serving this submarket. Most significant is the anticipated congestion on Lake-Cook Road, one of the principal connectors for both eastbound and westbound trips within the greater market.
- **Corporate Campus Short-Haul.** This movement between Wheeling and Deerfield also is representative of major commuter patterns in the Lake-Cook Road area. While there are multiple arterial options for many trips, congestion on Lake-Cook Road is already significant during peak periods, and increasing congestion may be difficult to avoid as this area continues to grow. Drive alone and carpool trips make up the vast majority of movements in this submarket. As with the Nature Drive submarket, congestion along Lake-Cook Road, coupled with limited transit service, will likely lead to greatly increased travel times.
- **Lakefront Commute.** This traditional commute along the eastern side of Chicago represents a large commuter trend. Combined with significant parking costs in downtown Chicago, the importance of the CTA Red Line and Lake Shore Drive express bus services in serving this market is apparent from the large transit share (70 percent). Congestion is anticipated to worsen along key north-south highways, including Lake Shore Drive/U.S. 41, increasing travel times for automobile users and those traveling on existing express bus routes. Increased congestion will likely boost the competitive advantage of transit options that offer physical separation from automobile traffic, such as CTA rapid transit or potentially buses operating in dedicated lanes.

Evaluation of these submarkets provides insights into general mobility problems for travel in and around the Corridor, as well as potential solutions to improve mobility to and from the major activity centers associated with the Corridor. Given the generally limited ability to add significant highway capacity on the most congested facilities, potential solutions focus on transit options that improve alternatives to automobile travel. Mobility problems and potential solutions include:

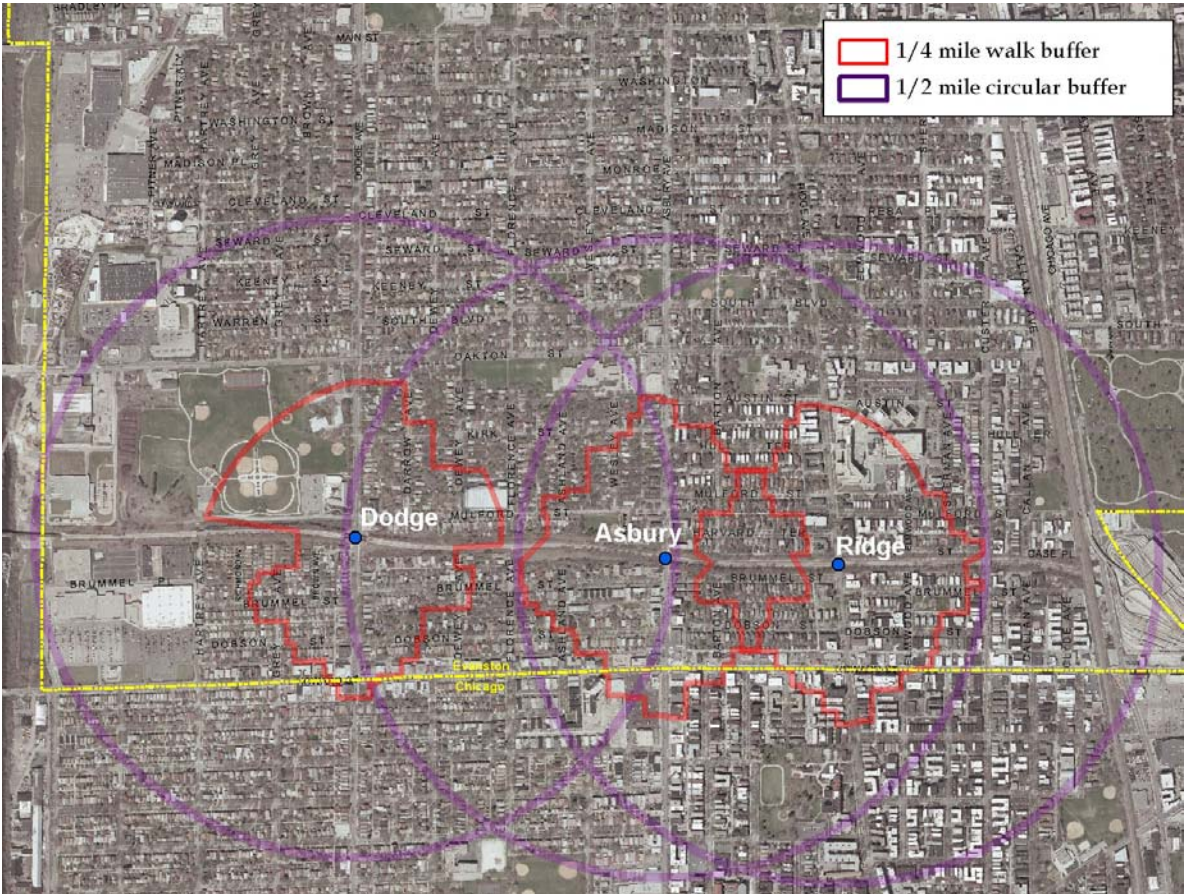
- **Downtown Chicago and North Side: North-to-south all-purpose travel from the southern part of the Corridor.** Densely developed lakefront neighborhoods, congested conditions on Lake Shore Drive, and high parking costs in downtown Chicago create conditions for successful transit services between Evanston and Chicago. Adequate rail capacity and service reliability are critical to maintaining transit as an attractive mobility alternative in this regionally significant travel market.
- **Lake-Cook Road Area: South-to-north commutes from Chicago and Evanston.** Congested conditions on I-94 and increasing employment concentrations along Lake-Cook Road are expected to result in substantially increased delays for commuters traveling to this suburban employment center. Increased reverse commute service on the Metra Union Pacific North Line, along with improved transit connections between the Braeside rail station and major employers, represents one of the most potentially effective solutions to this growing mobility problem.
- **Downtown Evanston: All-purpose travel from Chicago, Evanston, Skokie, and Wilmette.** Downtown Evanston and Northwestern University emerged as one of the major concentrations of activity in the Corridor. Maintaining good access from the areas where its trips mainly originate, particularly within Evanston and in the north-eastern part of Chicago, is critical as residents and jobs continue to concentrate in this area. CTA Purple Line service, expanded Yellow Line service, and high-performance bus routes on major arterials, such as Golf Road and Dempster Street, could support this objective. Because so many of the trips are short-distance, providing high-quality circulation within and around this growing activity center also is an important consideration.
- **Old Orchard Area: All-purpose travel from Chicago, Evanston, Skokie, and Wilmette.** Although its magnitude is somewhat lower than downtown Evanston, the Old Orchard area increasingly functions as a major concentration of activity. Improving access from the areas where its trips mainly originate, particularly elsewhere in Skokie and Evanston and in the northeastern part of Chicago, could enhance Old Orchard as an activity center. Extension of the Yellow Line, combined with high-performance bus routes on major arterials, such as Golf Road and Skokie Boulevard/Cicero Avenue, could support this objective and help to reduce congestion growth on I-94.
- **Lake-Cook Road Area: All-purpose travel from surrounding areas.** While not as concentrated as the downtown Evanston or Old Orchard areas, the Lake-Cook Road area emerged as a major employment center and attractor of nonwork trips. The area also is expected to grow significantly over the next 30 years. Travelers on Lake-Cook Road are expected to experience deteriorating traffic conditions over time. Providing effective transit options, including flex-route or demand-responsive services, and encouraging transit-supportive land use strategies, such as the enhancement of activity nodes, could help to manage the area's growth.

■ Station Alternatives

The CTA Yellow Line serves two of the major travel markets identified in the study, including East-West Travel between Rogers Park, Evanston, and Skokie and North-South Travel from the southern part of the Corridor to Downtown Chicago. Although its share of all Corridor travel would remain relatively small, a new station in south Evanston could significantly expand the market served by the Yellow Line. Depending on location, a new station could expand the total number of work trips served by the Yellow Line by 25 to 45 percent and attract up to 1,000 riders per day, potentially more if the Yellow Line offered direct service to downtown Chicago. However, various evaluation criteria suggest conflicting choices for the most desirable station location.

Three potential station locations were selected for evaluation at Dodge, Asbury, and Ridge, corresponding to stations that previously existed and were served by local “L” service. Depending on the type of analysis, the study area was defined as a quarter-mile walk distance or a half-mile circular radius around these points, as shown in Figure ES.5.

Figure ES.5 Potential Station Locations



The three station alternatives were compared using a range of methods to evaluate the viability of each location with respect to the others. Station areas were reviewed in terms of the relative activity levels, physical design considerations, multimodal access, community development considerations, and local preference. Level of activity was measured by trip ends, population and employment, and the presence of large employers and attractions. Physical design considerations include station spacing and track conformity to CTA station design standards. Multimodal access considerations include opportunities for connections with bus services and availability of vacant land for potential commuter parking. Community development considerations include consistency with local plans and availability of nearby developable land with transit-oriented development potential. Local preference includes the results of a resident survey and consistency with community values and local character. Table ES.1 shows a comparison of the three locations.

From a perspective of size of market served or potential ridership, the Ridge or Asbury station locations perform best. However, if effective pedestrian connections can be made from the Dodge station to the Howard/Hartrey shopping center, this sizable traffic generator could add to the market potential of a Dodge station.

From a perspective of track geometry, all of the station locations appear to be potentially feasible. However, the Asbury station location presents the fewest constraints, followed closely by Ridge. Track geometry would present relatively few challenges at the Dodge station location if the station were built on the east side of Dodge Avenue, although this could diminish the attractiveness of any pedestrian connection to the Howard/Hartrey shopping center. Furthermore, the close proximity of Ridge Avenue station to the Howard terminal raises concerns about station spacing on the high-speed shuttle Yellow Line service.

From a perspective of multimodal access, the Dodge station location is best. It offers connections to three bus routes and the potential for commuter parking. The Asbury and Ridge station locations each offer direct connections to one or two bus routes, respectively, and no opportunities for commuter parking without land acquisition.

From a perspective of opportunities for development or redevelopment, the Dodge station location again leads with more than 16 acres of nearby land with potential for transit-oriented development and parts of one TIF district. However, much of this land is located in the Howard/Hartrey shopping center area, which is located far enough away to present challenges for pedestrian access.

From a perspective of community preferences, the resident survey provided no clear direction and a station in each location is considered to be consistent with community values and character.

Accordingly, no single station location is identified for exclusive evaluation in the next phase of project development. It is recommended that the relative costs of constructing a station at one or more of the locations be evaluated in an engineering feasibility study. The relative benefit/cost relationships that result from that study are likely to provide clearer direction on a preferred station location.

Table ES.1 Station Location Comparison Matrix

Evaluation Criteria	Dodge	Asbury	Ridge
<i>Activity Level Served</i>			
Population ^a (2000)	6,418	10,794	11,116
Employment ^a (2000)	3,313	3,171	2,916
Trip Ends within Walking Distance ^b	6,675	11,239	23,029
Presence of Major Employers ^c	4 major employers (840 jobs)	1 major employer (825 jobs)	1 major employer (825 jobs)
Presence of Large Attractions ^a	Howard/Hartrey Shopping District Oakton/Hartrey Shopping District Howard/Western Shopping District (22,818 weekday trip ends)	Howard/Western Shopping District (2,790 weekday trip ends)	Howard/Western Shopping District (2,790 weekday trip ends)
<i>Design Considerations</i>			
Distance from Howard Station	1.44 miles	0.95 miles	0.68 miles
Distance from Oakton Station	3.48 miles	3.97 miles	4.24 miles
Consistency with CTA Grade Standards	Acceptable	Acceptable	Acceptable
Consistency with CTA Curve Standards	Acceptable	Acceptable	Acceptable

Notes:

- ^a Within one-half-mile circular buffer.
- ^b Weekday trip ends within one-quarter-mile walk distance buffer.
- ^c Employers with 100 or more jobs within one-half-mile circular buffer.

Table ES.1 Station Location Comparison Matrix (continued)

Evaluation Criteria	Dodge	Asbury	Ridge
<i>Access</i>			
Connecting Bus Services	3	1	2
Land for Potential Commuter Parking	Yes	No	No
<i>Community Development</i>			
Nearby Developable Land with TOD Potential ^d	16.4 acres	2.1 acres	1.1 acres
Consistency with Local Plans	Includes Howard-Hartrey TIF District 3 Includes portion of Howard Street Corridor commercial development area	Includes portion of Howard Street Corridor commercial development area	Includes portion of Howard Street Corridor commercial development area
<i>Local Preference</i>			
Residents' Stated Preference	34% "will use"	41 % "will use"	36% "will use"
Consistent with Community Values and Character	Yes	Yes	Yes

Notes:

^d Within one-half-mile circular buffer.