Metra

# 2016 STATE OF THE SYSTEM


**DIVISION OF**
Strategic Capital Planning


JULY 2016


Quiet Car

# TABLE OF CONTENTS

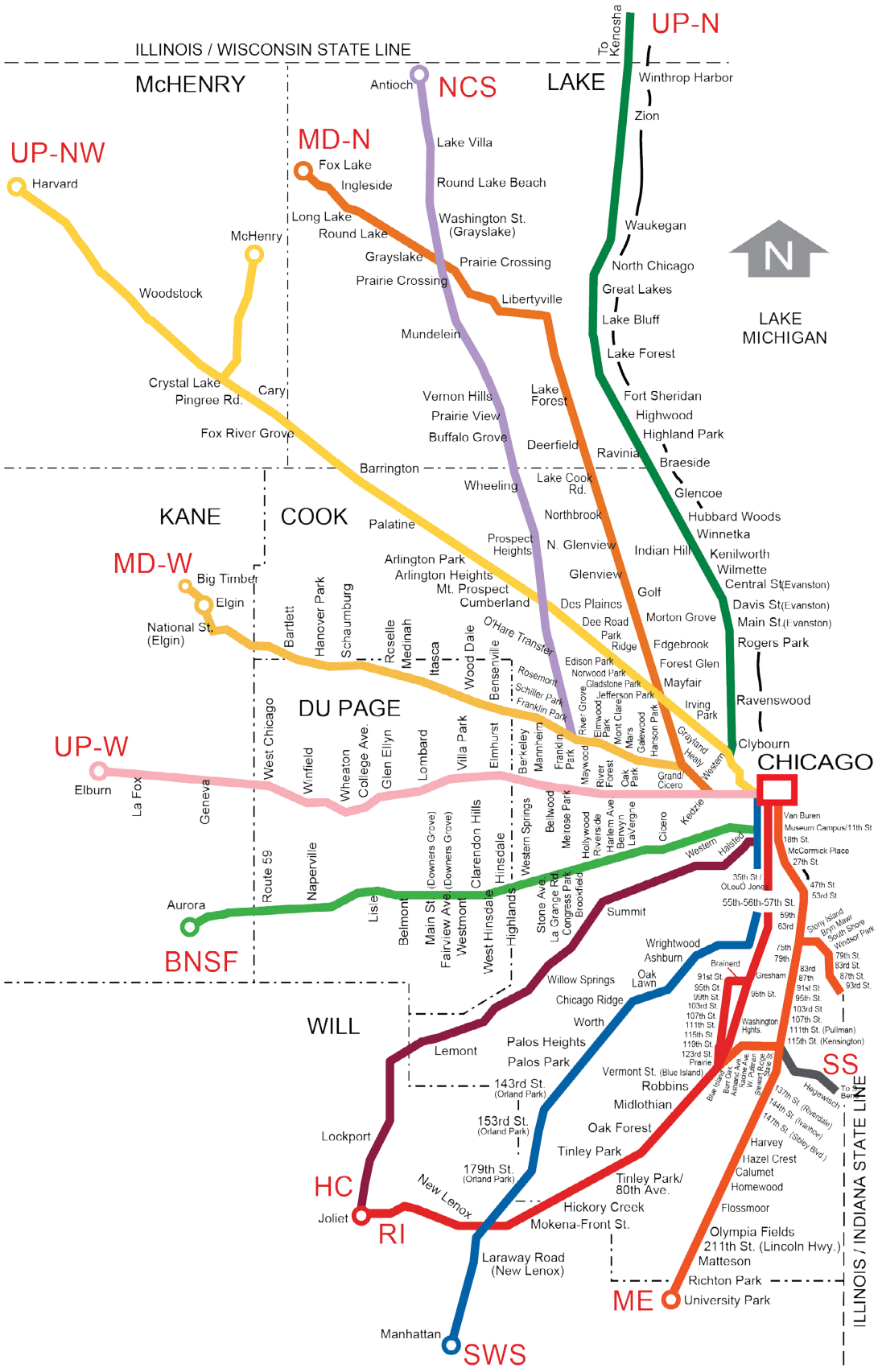
# LIST OF ACRONYMS

## METRA LINES

| | |
|---|---|
| **BNSF** | BNSF Railway |
| **HC** | Heritage Corridor |
| **MD-N** | Milwaukee District-North |
| **MD-W** | Milwaukee District-West |
| **MED** | Metra Electric District |
| **NCS** | North Central Service |
| **RID** | Rock Island District |
| **SWS** | SouthWest Service |
| **UP-N** | Union Pacific-North |
| **UP-NW** | Union Pacific-Northwest |
| **UP-W** | Union Pacific-West |

| | |
|---|---|
| **AC** | Alternating current |
| **ADA** | Americans with Disabilities Act |
| **AED** | Automatic External Defibrillators |
| **AESS** | Automatic Engine Start-Stop System |
| **ARRA** | American Recovery and Reinvestment Act |
| **ATWS** | Another Train Warning System |
| **BRC** | Belt Railway of Chicago |
| **BRT** | Bus Rapid Transit |
| **C&NW** | Chicago and NorthWestern Railroad |
| **CB&Q** | Chicago, Burlington & Quincy Railroad |
| **CBD** | Central Business District |
| **CCF** | Consolidated Control Facility |
| **CIP** | (75th Street) Corridor Improvement Project |
| **CMAP** | Chicago Metropolitan Agency for Planning |
| **CMAQ** | Congestion Mitigation and Air Quality Improvement Program |
| **CN** | Canadian National |

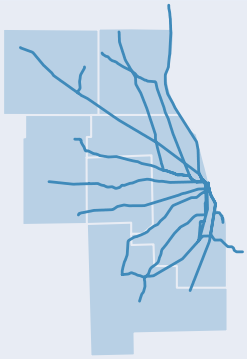
| | |
|---|---|
| **COST** | Capital Optimization Support Tool |
| **CP** | Canadian Pacific |
| **CRB** | Commuter Rail Board |
| **CRD** | Commuter Rail Division (of the RTA) |
| **CREATE** | Chicago Region Environmental and Transportation Efficiency Program |
| **CRI&P** | Chicago, Rock Island & Pacific Railroad |
| **CSS&SB** | Chicago, South Shore and South Bend Railroad |
| **CTA** | Chicago Transit Authority |
| **CTC** | Centralized Traffic Control |
| **CTCO** | Chicago Transportation Coordination Office |
| **CUS** | Chicago Union Station |
| **DC** | Direct current |
| **EMU** | Electric-multiple unit |
| **FRA** | Federal Railroad Administration |
| **GPS** | Global Positioning System |
| **HVAC** | Heating, ventilation and air conditioning |
| **IC** | Illinois Central Railroad |
| **LCD** | Liquid crystal display |
| **LEED** | Leadership in Energy and Environmental Design |
| **NICTD** | Northern Indiana Commuter Transportation District |
| **NIRCRC** | Northeastern Illinois Regional Commuter Railroad Corporation |
| **NS** | Norfolk Southern |
| **OTC** | Ogilvie Transportation Center |
| **PPP** | Public-private partnership |
| **PSA** | Purchase of service agreement |
| **PTC** | Positive Train Control |
| **RTA** | Regional Transportation Authority |
| **SAFETEA-LU** | Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users |
| **TIGER** | Transportation Investment Generating Economic Recovery |
| **UIC** | University of Illinois at Chicago |
| **UP** | Union Pacific Railroad |


ILLINOIS / WISCONSIN STATE LINE
McHENRY
KANE
COOK
DU PAGE
WILL
LAKE
LAKE MICHIGAN
ILLINOIS / INDIANA STATE LINE
UP-NW
UP-N
UP-W
MD-N
MD-W
NCS
HC
RI
SS
ME
SWS
BNSF
To Kenosha
Antioch
Lake Villa
Round Lake Beach
Washington St. (Grayslake)
Prairie Crossing
Libertyville
Mundelein
Vernon Hills
Prairie View
Buffalo Grove
Deerfield
Lake Forest
Lake Cook Rd.
Wheeling
Prospect Heights
Palatine
Barrington
Fox Lake
Ingleside
Long Lake
Round Lake
Grayslake
Prairie Crossing
Harvard
McHenry
Woodstock
Crystal Lake
Pingree Rd.
Cary
Fox River Grove
Big Timber
Elgin
National St. (Elgin)
Bartlett
Hanover Park
Schaumburg
Roselle
Medinah
Itasca
Wood Dale
Bensenville
O'Hare Transfer
Rosemont
Schiller Park
Franklin Park
Arlington Park
Arlington Heights
Mt. Prospect
Cumberland
Elburn
La Fox
Geneva
West Chicago
Winfield
Wheaton
College Ave.
Glen Ellyn
Lombard
Villa Park
Elmhurst
Berkeley
Mannheim
Franklin Park
Maywood
River Forest
Oak Park
Grand/ Cicero
Aurora
Route 59
Naperville
Lisle
Belmont
Main St (Downers Grove)
Fairview Ave (Downers Grove)
Westmont
Clarendon Hills
West Hinsdale
Hinsdale
Highlands
Western Springs
Stone Ave
La Grange Rd
Congress Park
Brookfield
Bellwood
Merose Park
Hollywood
Riverside
Harlem Ave
Berwyn
LaVergne
Cicero
Kedzie
Western
Halsted
Summit
Willow Springs
Chicago Ridge
Worth
Palos Heights
Palos Park
Lemont
143rd St. (Orland Park)
153rd St. (Orland Park)
179th St. (Orland Park)
Lockport
Joliet
New Lenox
Laraway Road (New Lenox)
Manhattan
Mokena-Front St.
Hickory Creek
Tinley Park/ 80th Ave.
Tinley Park
Oak Forest
Midlothian
Robbins
Vermont St. (Blue Island)
Blue Island
Ashland Ave
Racine Ave
Halsted
Western Ave
Vincennes Ave
Sawyer Ave
State St.
Hegewisch
To Burns
137th St. (Riverdale)
144th St. (Ivanhoe)
147th St. (Sibley Blvd)
Harvey
Hazel Crest
Calumet
Homewood
Flossmoor
Olympia Fields
211th St. (Lincoln Hwy.)
Matteson
Richton Park
University Park
Waukegan
North Chicago
Great Lakes
Lake Bluff
Lake Forest
Fort Sheridan
Highwood
Highland Park
Ravinia
Braeside
Glencoe
Hubbard Woods
Winnetka
Kenilworth
Wilmette
Central St (Evanston)
Davis St (Evanston)
Main St (Evanston)
Rogers Park
Ravenswood
Clybourn
CHICAGO
Golf
Des Plaines
Dee Road Park
Ridge
Morton Grove
Edgebrook
Forest Glen
Mayfair
Irving Park
Grayland
Healy
Western
Northbrook
N. Glenview
Indian Hill
Glenview
Edison Park
Norwood Park
Gladstone Park
Jefferson Park
River Grove
Elmwood Park
Mont Clare
Mars
Galewood
Hanson Park
Van Buren
Museum Campus/11th St
18th St.
McCormick Place
27th St.
35th St / OLouO Jones
47th St
53rd St
55th-56th-57th St.
59th
63rd
Stony Island
Bryn Mawr
South Shore
Windsor Park
75th
79th
79th St.
83rd St.
87th St.
93rd St.
Brainerd
Gresham
83rd
87th
91st St.
95th St.
103rd St.
107th St.
111th St. (Pullman)
115th St. (Kensington)
Wrightwood
Ashburn
Oak Lawn
91st St.
95th St.
96th St.
103rd St.
107th St.
111th St.
115th St.
119th St.
123rd St.
Prairie
95th St.
Washington Hghts.
N


# INTRODUCTION

Geographically, Metra is one of the largest commuter rail systems in the nation, serving a six-county region of more than 3,700 square miles. This complex system is comprised of 11 rail lines operating on 488 route miles, including 1,100 miles of track, 800 bridges, and 2,000 signals. Each weekday, 703 trains serve 241 stations, including five stations in Chicago's Central Business District (CBD), and provide approximately 270,000 trips. Metra's service area is at the center of the nation's rail network, and Metra commuter service must be closely coordinated with the movements of around 600 freight and passenger trains also operating in the Chicago region each day.

*Metra: State of the System* provides a broad view of Metra's infrastructure, operating environment, and customer base, to help readers gain perspective on the complexities of Metra's system and provide context for agency strategic planning efforts. Following chapters on Metra's origins, physical assets and CBD market, the document explores the Metra system on a line-by-line basis. Line-specific chapters include historical information about each corridor as well as descriptions of the line's infrastructure, particular operating limitations, and service and station characteristics. Past, present, and projected future ridership demand, including growing reverse commute and non-downtown markets, is examined. Line chapters include a demographic analysis of each fare zone in the corridor and discuss improvements that have been made to track and signal infrastructure, station facilities, and parking.



*Metra: State of the System* focuses on Metra's existing system, and builds on Metra's *Future Agenda for Suburban Transportation* (1992), which emphasized the agency's long-term investment needs and proposed expansion projects. This document also complements Metra's annual *Program and Budget Book*, which provides a near-term view of agency activities and planned investments.

2014 Average trip length:
**22.5 miles**

2014 Average fare paid:
**$3.80**

*Source: Ridership Trends Report, Dec. 2014*

Number of Stations:
**241**

System Route Length:
**488 miles**

Number of weekday trains:
**703**

2014 On-time performance*:
**94.3%**

** On-time Performance Report, Dec. 2014*

## HISTORICAL OVERVIEW

The Northeastern Illinois Regional Commuter Railroad Corporation (NIRCRC) is a public corporation of the State of Illinois that was authorized by statute and created by Regional Transportation Authority (RTA) ordinance in 1980. The corporation, commonly known as Metra, is the primary operator of commuter passenger rail services in the six-county Chicago metropolitan area in Northeast Illinois.

The RTA was formed in 1974, initially to provide financial assistance to troubled passenger rail operators and suburban bus companies throughout the region. To keep the patchwork of public transportation providers running, voters in the six-county Chicago area, comprised of Cook, DuPage, Kane, Lake, McHenry and Will Counties, authorized the RTA's creation.

From the beginning, the RTA's mission has been to coordinate and assist public transportation and to serve as the conduit for state and federal subsidies needed to keep the system operational. The RTA did not at first directly operate commuter rail service (or any other transit service), but paid private railroads to do so under purchase of service agreements (PSAs). The RTA, along with the suburban Mass Transit Districts, began to reverse decades of disinvestment in the overall commuter rail system, primarily by buying new locomotives and cars. However, with the bankruptcies of the Rock Island and the Milwaukee Road together with the financial difficulties of the Illinois Central, the Illinois General Assembly gave the RTA the authority to directly own and operate (through NIRCRC) commuter railroad operations and the RTA eventually bought the tracks of those railroads over which commuter trains operated.

In 1983, the General Assembly reorganized the RTA into a planning and financial oversight agency (rather than a direct operator of transit service) and created the Commuter Rail Division (CRD) and the Suburban Bus Division (Pace Suburban Bus). Along with the Chicago Transit Authority (CTA), previously established in 1947, the three agencies (now known as service boards) fell under the financial oversight umbrella of the RTA. The CRD is responsible for commuter rail throughout the six Northeast Illinois counties, Pace for the suburban bus and regional ADA paratransit system, and the CTA continues to be responsible for rapid transit and bus service, primarily within the city of Chicago. Under this arrangement, each service board is responsible for day-to-day operations and maintenance, setting fare policy, and planning for services and facilities for their respective systems.

The service mark "Metra" is co-registered and controlled by NIRCRC and CRD. NIRCRC operates as a separate corporation but is governed by the Commuter Rail Board (CRB), which also governs the CRD. The CRB is responsible for the commuter passenger rail operations, capital investments, finances, fare policy, and service and facilities planning for the system. Revenues come

from local sales taxes in each of the six counties in which Metra operates, farebox recovery, and capital credits and leases.

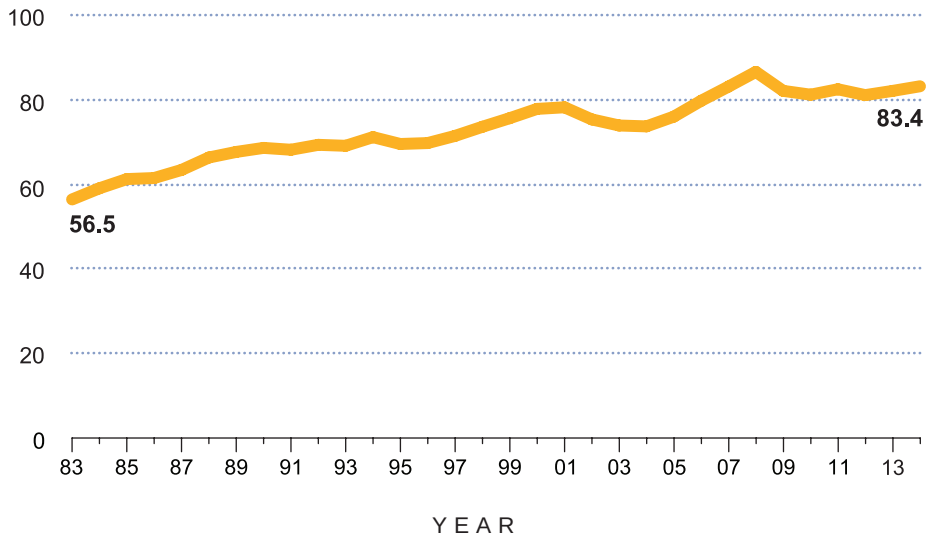
Of the Metra CRB's 11 members, five are appointed by County Board chairs or chief executives from the collar counties, four are appointed by the suburban Cook County board members, one is appointed by the Cook County President, and one is appointed by the Mayor of Chicago. The CRB's Chairman is elected by the members of the CRB. The Metra workforce is made up of over 4,400 employees, including union members, management staff, and employees of privately owned railroads operating under PSAs with Metra.

## TABLE 1A: 2014 SYSTEMWIDE WEEKDAY BOARDINGS

| Time of Day | Inbound | Outbound |
|---|---|---|
| AM Peak | 108,631 | 7,542 |
| Midday | 13,362 | 13,162 |
| PM Peak | 9,471 | 99,604 |
| Evening | 3,243 | 12,898 |
| **TOTAL** | **134,707** | **133,206** |

*Source: Metra Weekday Station Boardings and Alightings by Time-of-Day and Direction, 2014*

## TABLE 1B: SYSTEMWIDE ANNUAL PASSENGER TRIPS
1983 — 2014, in millions




*Note: from 2008, figures include free Circuit Permit trips. 2008-2011 figures include free senior trips; this program ended September 2011.*

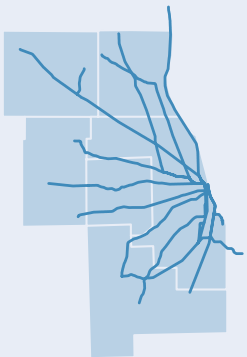

*Worker monitors switch heaters at A-2 crossing near Western and Grand in Chicago*

*Photo: Mark Llanuza*

# METRA INFRASTRUCTURE

## OVERVIEW

Metra operates eleven main lines radiating from the Chicago Central Business District throughout Chicago and the six-county area. Diesel-powered service operates on the BNSF Railway (BNSF), Union Pacific–North (UP-N), Union Pacific–Northwest (UP-NW), Union Pacific–West (UP-W), SouthWest Service (SWS), Milwaukee District–North (MD-N), Milwaukee District–West (MD-W), North Central Service (NCS), Rock Island District (RID), and the Heritage Corridor (HC). Electric-powered service is provided on the Metra Electric District (MED). Four branch lines—the McHenry Branch of the UP-NW, Beverly Branch of the RID, and Blue Island and South Chicago Branches of the MED—diverge from the main lines. Metra passenger service on the BNSF Line and three UP lines is operated by employees of these railroads under terms specified by purchase of service agreements (PSAs) with Metra, while the remaining lines are operated directly by Metra employees. Metra operates service on two lines—the HC and NCS—via trackage rights agreements with Canadian National (CN) and on the SWS via a trackage lease agreement with Norfolk Southern. Metra also operates on four Metra-owned lines: the MD-N, MD-W, MED, and RID. The Northern Indiana Commuter Transportation District (NICTD), which provides commuter rail service from Chicago to South Bend,

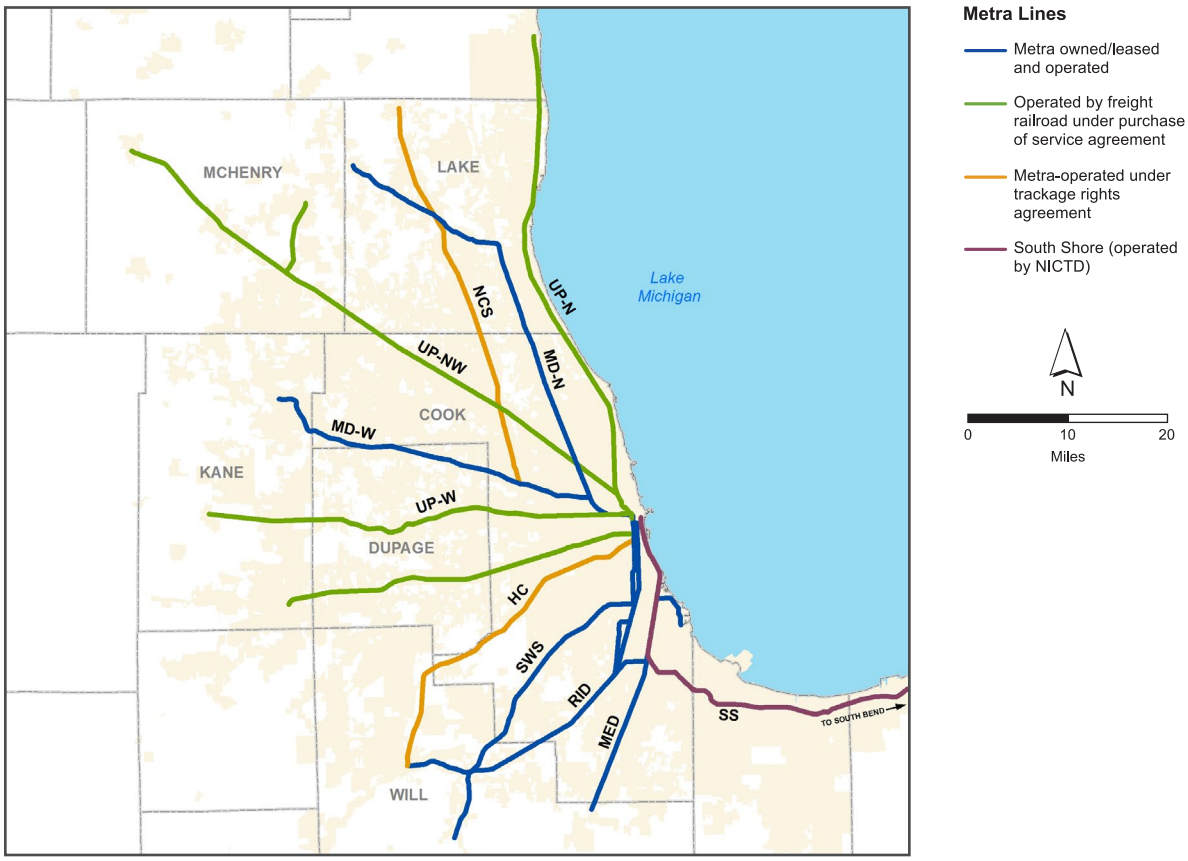


Indiana, operates part of its South Shore commuter rail service on Metra's Electric District tracks.

Metra's capital assets are diverse and extensive, including rolling stock, track, signal and communications equipment, yard and maintenance facilities, station buildings, platforms, parking lots, and property at administrative headquarters. Each day, delivery of safe, reliable, efficient train service depends on these assets, though many are never seen by riders. Constant maintenance, rehabilitation, and replacement—and significant funding—are required to keep Metra's facilities and equipment in working order.

Over the last several years, however, Metra has fallen behind on these investments. The availability of federal, state, and local funding for transit capital projects has decreased, resulting in a $6.1 billion backlog—the investment needed to achieve a state of good repair. Approximately 40% of Metra assets are classified as in marginal or worn condition. These assets, while safe, have exceeded their useful lives, and continued use results in higher operating costs and degraded on-time performance. This situation is unsustainable, and threatens the future viability of the important service Metra provides.

## FIGURE 1: METRA OPERATIONS



Through 2023, Metra expects to receive $2.4 billion for capital projects from traditional federal and state sources. However, the Regional Transportation Authority (RTA) estimates that Metra needs $11.7 billion over the same period to achieve and maintain a "state of good repair." According to the Federal Transit Administration, "an asset or system is in a state of good repair when no backlog of capital needs exists—hence all asset lifecycle investment needs (e.g., preventative maintenance and rehabilitation) have been addressed and no capital asset exceeds its useful life." Achieving a state of good repair on Metra's existing system is vital to the region's future mobility, since enhancement and expansion of the commuter rail network—new stops, extensions, and lines—requires a well-functioning core.

When Metra was formed in 1983, it inherited disinvested rail lines hobbled by derailments, speed restrictions, mechanical failures, and deteriorated stations. Metra has spent billions to renew its assets, as well as introduce new stations and expand service. Now, a lack of funding limits the ability to care for critical infrastructure, jeopardizing the value of these investments. Since 1985, Metra has invested over $7 billion (in year of expenditure dollars) in improvements to its system. Table 1 indicates the amount of investment in different asset categories.

On the BNSF and UP lines, Metra's share of infrastructure maintenance costs are included in the fee paid by Metra under its PSA with each freight railroad, and costs for individual capital projects are allocated between Metra and the freight railroad in proportion to the improvement's value to each party and each party's usage in the area of the improvement. Similarly, infrastructure maintenance costs are included in the trackage rights fee Metra pays to operate the NCS and HC on CN track, and fixed facilities agreements are in place on these lines as well. Freight railroad employees complete maintenance and capital projects on the BNSF, UP, and CN lines used by Metra. Metra's access to CUS, which is owned by Amtrak, is controlled by a Lease Agreement that governs all operations, use and fees. A fixed facility agreement between Metra and Amtrak specifies which capital improvements at CUS will be paid for by Metra.

Canadian Pacific (CP) contributes towards the cost of capital projects that benefit the freight service the company operates over the Metra-owned Milwaukee District lines. Metra pays the entire cost of capital improvements on the SWS and on the RID and MED (apart from costs shared with NICTD as part of their fixed facilities agreement with Metra for NICTD's use of the MED). On the Milwaukee District, RID, MED, and SWS, Metra crews complete all maintenance and capital projects.

## TABLE 1: METRA CAPITAL INVESTMENT HISTORY
### 1985 — June 2015, in millions of dollars

| Carrier/Line | System | MED | RID | SWS | HC | BNSF | UPW | MDW | UPNW | MDN | NCS | UPN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rolling stock | **2,449** | 857 | 226 | 59 | 19 | 380 | 181 | 168 | 212 | 152 | 26 | 171 |
| Track and structure | **1,329** | 91 | 425 | 31 | 8 | 123 | 93 | 99 | 164 | 72 | 33 | 190 |
| Signal, electrical, and communications | **777** | 170 | 68 | 30 | 18 | 121 | 69 | 89 | 53 | 87 | 27 | 46 |
| Facilities and equipment | **548** | 126 | 100 | 17 | 9 | 61 | 18 | 76 | 27 | 77 | 18 | 19 |
| Stations and parking | **1,084** | 229 | 181 | 34 | 13 | 74 | 148 | 62 | 144 | 68 | 9 | 121 |
| Acquisitions, extensions, and expansions | **599** | 17 | 2 | 152 | 1 | 8 | 119 | 56 | 6 | 2 | 233 | 3 |
| Support activities | **348** | 77 | 43 | 18 | 13 | 30 | 21 | 35 | 28 | 41 | 18 | 24 |
| **TOTAL** | **7,134** | **1,567** | **1,044** | **341** | **80** | **796** | **649** | **585** | **635** | **498** | **364** | **574** |
| **PERCENTAGE** | **100.0%** | **22.0%** | **14.6%** | **4.8%** | **1.1%** | **11.2%** | **9.1%** | **8.2%** | **8.9%** | **7.0%** | **5.1%** | **8.0%** |

*Notes: 1) Excludes South Shore, preventative maintenance, new lines, and pending grants. 2) Prior expenses are not adjusted for subsequent inflation. 3) Data is subject to budget revisions, audit adjustments, etc. at any time. 4) For many projects, work locations and associated costs have not been identified, so budget amounts have been allocated among lines by various criteria.*

## TABLE 2: TRACK OWNERSHIP WHERE METRA SERVICE OPERATES
### in Route Miles

| Carrier/Line | Outlying Terminal | BNSF | UP | Amtrak | CN | NS | Metra | Total Route Miles | Total Route Miles wo Double Counting |
|---|---|---|---|---|---|---|---|---|---|
| BNSF | Aurora | 36.8 | | 0.8 | | | | 37.5 | 37.5 |
| Electric District | Univ. Park | | | | | | 40.6 | 40.6 | 40.6 |
| Heritage Corridor | Joliet | | | 1.6 | 35.6 | | | 37.2 | 37.2 |
| Milwaukee District - North | Fox Lake | | | 0.5 | | | 49.0 | 49.5 | 49.5 |
| Milwaukee District - West** | Elgin | | | | | | 34.4 | 34.4 | 34.4 |
| North Central Service | Antioch | | | *0.5 | 40.2 | | *12.1 | 52.8 | 40.2 |
| Rock Island District | Joliet | | | | | | 46.8 | 46.8 | 46.8 |
| SouthWest Service | Manhattan | | | *1.6 | | 33.3 | 5.9 | 40.8 | 39.2 |
| Union Pacific (3 lines) | | | 162.3 | | | | | 162.3 | 162.3 |
| **Total Route Miles Operated by Metra** | | | | | | | | **501.9** | |
| **Total Rt. Miles by Owner** | | **36.8** | **162.3** | **2.9** | **75.8** | **33.3*****| **176.7** | | **487.7** |
| **Percent of Total Route Miles** | | **7.5%** | **33.3%** | **0.6%** | **15.5%** | **6.8%** | **36.2%** | | **100.0%** |

* Totals were adjusted to avoid double counting
**.4 miles of the MD-W Line (CUS to A-5 Junction) are included in the MD-N Line total and are not included in the 34.4 number
*** Metra maintains the NS-owned trackage

## TRACK AND STRUCTURE

Each weekday, Metra commuter trains travel over approximately 1,100 miles of track—the backbone of Metra's system. A Metra locomotive weighs approximately 130 tons, and each train car weighs between 60 and 70 tons. A tough yet precisely calibrated system sustains this massive weight and the forces it generates. Steel rails—secured by spikes, tie plates and crossties—rest on a bed of crushed rock ballast, stabilized by the subgrade material used to build the rail embankment. These layers work together to anchor the track in place, provide drainage, and distribute the weight of the traffic passing overhead. Supporting structures such as bridges and retaining walls are also critical to track performance. Preventing and repairing damage caused by moisture, temperature extremes, and vandalism are ongoing activities of Metra track crews. Timely renewal and realignment of track components maintains safety and ride quality, reduces wear and tear on rolling stock, preserves on-time performance, and helps manage operating costs. Since 2009, 100% of Metra-owned mainline track has consisted of continuous-welded rail, which is stronger, provides better ride quality, and requires less maintenance than the jointed rail it replaced.

Metra has established inspection and renewal cycles for track and structure elements. Due to budget constraints, however, these cycles are often longer than industry best practice. Metra replaces 80,000 cross ties each year, so that every tie in the system is replaced every 21 years. Track resurfacing—compacting ballast and realigning track—is completed across the system on a four-year cycle. At highway-rail grade crossings, the rate of deterioration varies widely, based on the volume of vehicular traffic. Metra renews 12 road crossings each year, replacing cross ties, crossing material, and ballast, rewiring signals, and resurfacing the track at each location.

Since 1992, Metra has replaced approximately a hundred of the 820 bridges across its network, some over a century old. Rehabilitation and replacement of aging bridges is ongoing, and recent bridge projects have targeted the RID and UP-N lines. Retaining wall rehabilitation prevents deterioration, which can destabilize the roadbed and lead to track shifting. Railroad embankments may need to be stabilized to prevent erosion. In addition to scheduled work, broken or deteriorated components must be replaced as needed. Track work takes place during midday, weekend, and overnight periods to minimize risk to employees and reduce delays to passengers.

Like most mainline track mileage in the United States, the majority of Metra's system qualifies as Class 4 according the Federal Railroad Administration's (FRA) track class standards. However, Metra inspects and maintains its track to meet more demanding Class 5 standards. The FRA defines track classes according to a number of criteria, including curvature, inspection frequency, and adherence to mandated parameters (for gauge, height, alignment, and

other factors), and a track segment's FRA rating determines the maximum allowable speed for passenger and freight trains operating on the segment. For example, standard track gauge of North American railroads is 4 feet 8 ½ inches between rails (as measured from 5/8 of an inch below the top of the rail). To qualify as Class 5 track, gauge cannot be less than 4 feet 8 inches or more than 4 feet 9 ½ inches. To ensure that Metra track continues to meet this and other standards, all 190 miles of Metra-owned track are visually inspected two to three times each week, and inspected twice a year using specialized rail equipment. Ongoing track and right-of-way maintenance activities also include electronic rail defect testing, right-of-way fencing repair, and vegetation control.

The availability of multiple tracks, with crossovers at strategic locations, is one factor that determines service frequency and passenger travel time. Within double or triple track segments, Metra trains can pass slower trains and meet traffic in the opposite direction without stopping, which increases throughput and allows for a greater combination of stopping patterns, including express service.

*Track work at A-5 Junction in Chicago*

The BNSF Line and MED main line offer the highest-frequency service of all Metra lines, made possible by triple or quadruple track throughout the lines, high-speed crossovers, and advanced signals that allow closer spacing of trains. Stations on these lines are divided into zones, and many peak-period trains stop at stations within a particular zone before running express to stations in or near downtown Chicago. Where track capacity is more limited, such as on the UP-N, MD-N and MD-W, schedules combine this type of "zone express" service with limited stop service that serves certain stations with alternate trains, to provide faster travel times than all-stop "local" service.

Minimizing trip times allows trainsets to be "recycled" for a greater number of trips during high-demand periods. During the AM peak period, for example, a single trainset on the BNSF completes as many as three inbound trips. Scheduling "short turns" (trips that do not extend the full length of the line), splitting a single consist (or "trainset") into two, and running "deadhead" trains (non-stop, non-passenger trains traveling in the non-peak direction), are other strategies to maximize service frequency and use rolling stock most productively.

Besides the scheduling benefits they offer, segments of multiple track are less vulnerable to blockages caused by disabled trains, and allow service to recover more quickly following disruptions. However, the costs of track expansion projects can be very high. In addition to the cost of the track and right-of-way work itself, costs of signal system modifications, with land acquisition and bridge widening, if required, must be funded before track expansion projects can be pursued.

### *Chicago Region Environmental and Transportation Efficiency (CREATE) Program*

The CREATE program consists of 70 projects designed to reduce and remove passenger and freight train congestion in the Chicago area. The program has a projected total cost of $3.8 billion. CREATE funding partners include freight railroads, Amtrak, Metra, and the Illinois and Chicago Departments of Transportation. The partners have also pursued federal funding, resulting in an American Recovery and Reinvestment Act (ARRA) high-speed rail grant, two Transportation Investment Generating Economic Recovery (TIGER) grants, and a SAFETEA-LU provision worth approximately $335 million. As of February 2015, 22 CREATE projects have been completed since 2005 and 10 projects are currently under construction. The remainder may be completed as funds become available.

A number of CREATE projects are designed to improve Metra operations and benefit riders. Road-rail grade separations at Belmont Avenue in Downers Grove (BNSF) and Roosevelt Road in West Chicago (UP-W) have been completed, and several other road-rail grade separations are planned. A rail-rail grade separation known as the Englewood Flyover, which eliminated

conflicts between RID trains and freight and Amtrak trains at a critical junction, was completed in 2014. Crews also recently completed projects to improve the connection between UP and Indiana Harbor Belt tracks near UP's Proviso freight yard in Melrose Park and to extend third main line track adjacent to the yard. These projects included the construction of new Berkeley and Bellwood Stations on Metra's UP-W Line, and the addition of pedestrian underpasses at each station.

On the MD-W, an upcoming CREATE project to install five crossovers and associated signaling in Franklin Park will reduce conflicts between Metra trains and slower- moving freight trains near the entrance to CP's Bensenville Yard. Other CREATE projects, which are currently unfunded, would allow Metra to improve both the HC service through several rail-rail grade separations and the SWS service by re-routing SWS trains from Chicago Union Station to LaSalle Street Station.


*Construction of the Englewood Flyover has eliminated conflicts between RID trains and freight and Amtrak trains at a critical rail junction near 63rd Street in Chicago*

## SIGNAL, ELECTRICAL AND COMMUNICATIONS

### *Signal*

Signals convey information to locomotive engineers about the track ahead using color lights illuminated in various configurations. Signal appliances include wayside signals and track switches that safely guide trains from one track or block to another and help prevent rear end and head on collisions. (An arrangement of signals and signal appliances so interconnected that movements made through them must succeed each other in proper sequence is an interlocking, which may be automatic or controlled by an operator.) In Metra's system, signals are controlled by dispatchers or operators working at a central control center or control tower. Signals govern the movement of trains as they travel through a series of track segments, or blocks, that make up a line. Power sources and other auxiliary equipment are housed in signal bungalows and cases along the railroad right-of-way.

Signal systems allow multiple trains traveling in the same or opposite directions to operate safely between blocks, and the spacing of signal components and the type of technology used impacts the operating efficiency and traffic capacity on a line. Metra train movements are guided by approximately 2,000 wayside signals. Due to differences in operating patterns (e.g., train length, speed, stopping frequency) and safe braking distances, optimal signal spacing and block length varies for passenger and freight trains—an issue in Chicago's dense rail hub, where Metra, freight,

*Signal maintenance worker*

and Amtrak trains frequently share the same track. Railroad signal systems are integrated with automatic warning devices, such as flashing lights and gate arms, which are activated at roadway and pedestrian crossings when track circuits detect an approaching train.

Much of Metra's signal infrastructure is outdated and in need of replacement, and Metra has prioritized the replacement of a number of aging interlockings. The A-2 interlocking, where three sets of Milwaukee District tracks cross over four sets of UP-W Line tracks near Grand and Western Avenues in Chicago, is particularly important. More than 350 Metra, freight, and Amtrak trains move through the area each day, and movements are controlled by 31 switches. A-2 failures affect a large number of Metra riders. Over one-quarter of all Metra riders travel through the crossing on a typical weekday. On-time service to many more also depends on reliable performance of the interlocking, since trains on three other Metra lines (UP-N, UP-NW, and HC) utilize A-2 on their way to and from nearby yard facilities for maintenance or servicing.

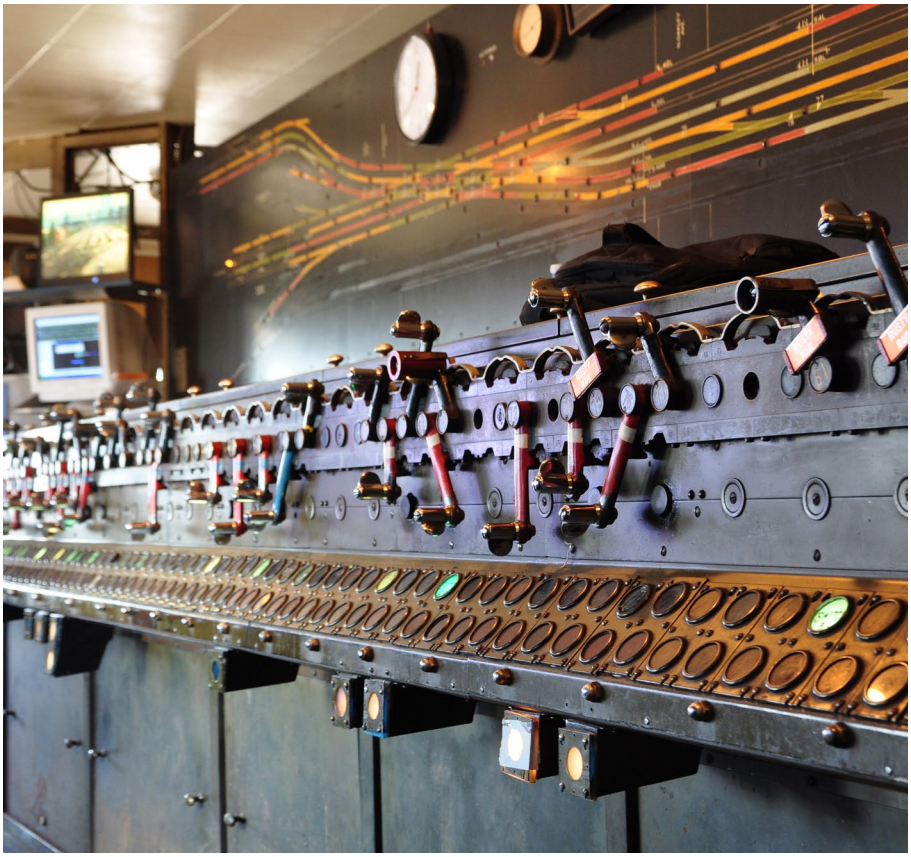
This complex crossing is controlled by a manually operated interlocking machine, so massive it occupies a large portion of the second floor of the tower next to the crossing. The tower operator activates track switches by moving levers on the machine, clearing a protected path for trains through the crossing. The interlocker's many moving parts require frequent maintenance and are vulnerable to breakdowns. The machine was state-of-the-art when it was installed in 1932, but it has reached the end of its useful life and needs to be replaced. The configuration of the junction itself is also a source of delay—Metra trains must slow to 20 miles per hour to move through the crossing, and with so much traffic utilizing the at-grade junction, trains must frequently wait for others to cross.

Several solutions to the issues at A-2 are being evaluated. Potential options—ranging from least to most expensive—include rebuilding the crossing at its current location, relocating the crossing one mile east (away from maintenance facility entrances), or grade separating some or all of the crossing (to significantly reduce or completely eliminate conflicts between cross-traffic).

At A-2 and elsewhere, many replacement parts for Metra's signal equipment are no longer available from manufacturers or resellers, and must be custom-made. Continued use of aging components also prevents Metra from taking advantage of efficiencies built into new equipment. Since modern solid-state track and signal equipment contain fewer moving parts, they require less maintenance and experience fewer breakdowns. Operating procedures for automated equipment are less complex and machines can be activated remotely. New equipment often consumes less energy than the components being retired.

*80-year-old manually operated interlocking machine inside tower at A-2 crossing*

*Photo: Mark Llanuza*



## *Signal Technology*

Centralized Traffic Control (CTC) is a technology that consolidates the use of controlled interlockings from a central location. CTC is in place on much of the track owned or leased by Metra, and on all track owned by BNSF, CN, and UP. On Metra's network, signaling in CTC territory is managed from Metra's Consolidated Control Facility (CCF), located near 15th and Canal Streets in Chicago, or from out-of-state dispatching centers operated by Metra's freight railroad partners. CTC supports full-speed bi-directional travel, even in single track territory, and allows for more than one train to occupy a single track separated by blocks at the same time, which maximizes line capacity and schedule flexibility.

Segments of Metra's system currently not served by CTC, but where demand exists for improved service, will be upgraded as funding becomes available. CTC installation on these segments, in conjunction with additional sidings or segments of double track, will allow Metra to increase frequency of service—including reverse commute service—and maximize utilization of existing track. Signal spacing will be adjusted to better accommodate the passenger/freight mix on the line. In upgraded areas, remote tower operators will be

*Metra Electric District catenary maintenance vehicle*

relocated to CCF, improving coordination and increasing efficiency.

Lightly used portions of Metra's system, including the Beverly Branch (RID) and McHenry Branch (UP-NW), are non-signalized (or dark territory). In these areas, train movements are managed by dispatchers using proper permission forms and procedures. Dark territory will be eliminated with the implementation of Positive Train Control (see page 18).

## *Electrical*

Metra's electrical needs are most demanding on the MED, Metra's only electric-powered line. Due to the significant maintenance and renewal needs of electric infrastructure, the MED consumes more capital investment than any other Metra line.

On the MED, pantographs mounted atop railcars draw direct current (DC) power from an overhead catenary wire energized at 1500 volts. Electrical substations located every five to six miles along the right-of-way provide power to the catenary system. A consistent, adequate power supply ensures that an electric rail line operates at maximum efficiency and capacity;

failure to provide adequate power limits train acceleration, speed, and consist length. Underpowered lines are vulnerable to outages and service disruptions, particularly during peak times. Since the new MED railcars are heavier and accelerate faster than the cars they are replacing, Metra is adding substations, and upgrading existing ones, to meet the power demands of the higher-performance equipment.

Metra is working on a number of projects to upgrade electric equipment throughout its system. These include replacement of aging cable reels (used to connect railcars to head-end power supplied by locomotives) and switchgear (part of the system used to power wayside equipment). In rail yards, heaters are being added to switches to keep them functioning in cold weather, and lighting in yards and repair shops will be replaced with modern, more efficient equipment.

### *Communications*

In the Chicago region, the tightly choreographed movements of approximately 700 Metra trains, 500 freight trains and 90 Amtrak and NICTD passenger trains each day depend on constant communication between rail carriers. Approximately 65% of freight trains operating in the region interact with Metra in some way, either by crossing tracks used by Metra trains or sharing track with commuter service. No other commuter railroad in North America has such a complex interface with other railroads.

Dispatchers manage train movements through an assigned territory, while control operators direct traffic through particular interlockings and determine which train has priority when multiple trains approach an interlocking at the same time. Train priority is based on the class of train (e.g., passenger or freight, and various types of each) and other factors. At rail-rail grade crossings, the railroad in control of the crossing may prioritize its own trains over those of other carriers. Lower priority trains are more vulnerable to delays, since they can be made to wait at junctions until other trains clear the crossing. Freight interference accounts for a significant amount of delay experienced by Metra riders, and Metra lines with many at-grade rail intersections controlled by other railroads, such as the HC and SWS, are most affected by this issue.

For a three-hour period twice each weekday, freight railroads in the Chicago area significantly curtail their operations on track shared with Metra in order to protect peak-period commuter schedules, but some railroads do attempt to move some of their traffic in the small windows between Metra trains. Most freight interference with Metra trains is due to conflicts with cross traffic at at-grade intersections.

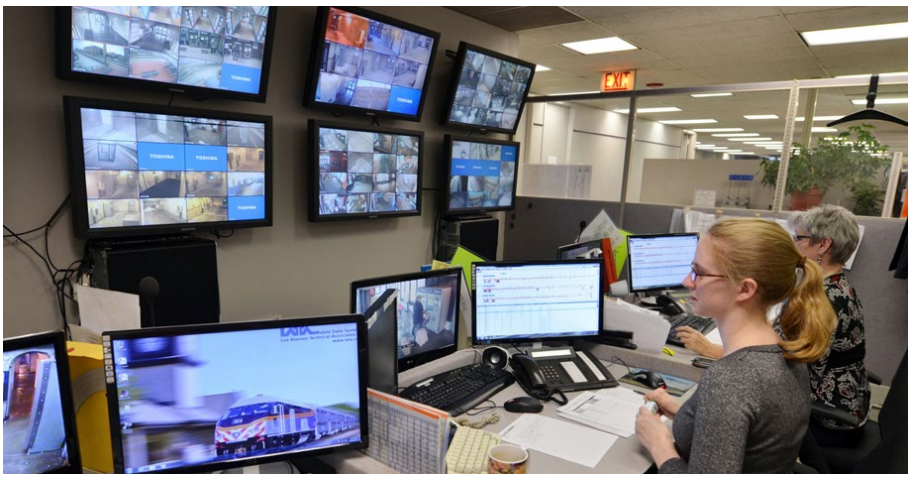
Generally, a railroad's owner is responsible for dispatching the line. Metra's BNSF Line is dispatched from Fort Worth, Texas, Metra's three UP lines from Omaha,

*Dispatching center*

Nebraska, and the NCS and HC from CN's facility in Homewood, Illinois. Metra trains near Union Station are dispatched by Amtrak from its Chicago Control Center. Different segments of the SWS, which is leased by Metra from NS, are dispatched by NS, Metra, and Amtrak. Metra dispatches its RID and MED. The Milwaukee District, owned and operated by Metra but dispatched by CP from Minneapolis, is a notable exception. CP operates freight trains over Metra-owned track and owns track beyond the extent of commuter service (north of Rondout Junction on the MD-N; west of Big Timber Road Station on the MD-W). This arrangement predates Metra's acquisition of the Milwaukee District in 1987.

Increased deployment of CTC allows Metra to shift interlocking control functions from towers located at junctions throughout the system to CCF. Uniting Metra control operators and dispatchers within the same facility improves synchronization of Metra-controlled train movements and optimizes labor allocation, and use of automated systems reduces the likelihood of human error. The Chicago Transportation Coordination Office (CTCO), which promotes cooperation among Metra, Amtrak, and private rail freight operators in the region, is housed in the same facility. Bringing Metra dispatchers and control operators under the same roof with representatives from other railroads promotes closer ties between passenger and freight rail carriers.

*Metra GPS Center*




At Metra's Global Positioning System (GPS) Center, located at Metra headquarters, technical communication specialists monitor a satellite system tracking the real-time location of each train. When delays and other service disruptions occur, GPS employees generate announcements communicated via station public address systems and electronic signage, Metra's website, and e-alerts sent to My Metra subscribers. GPS Center employees also monitor the functionality of ticket vending machines and elevators, as well as customer assistance phones and video monitoring systems on the MED.

## *Positive Train Control*

Among competing capital needs in the Signal, Electrical and Communications category, no project is more pressing for Metra than implementation of Positive Train Control (PTC). PTC is a computerized system that will prevent certain types of train-to-train collisions, avoid derailments or other accidents caused by excessive speed, and increase safety for right-of-way workers. The system integrates global positioning satellites, wayside sensors and communications units, and the centralized dispatching system at Metra's CCF. Together, these components track trains, convey operating instructions, and monitor the crew's compliance. PTC will automatically stop a train if the system detects that a violation is about to occur.

Metra is responsible for implementing PTC on the five lines it controls (MED, MD-N, MD-W, RID, SWS) and contributing a share of PTC installation costs on the six other Metra lines owned by private railroads. PTC kits must be installed on all Metra locomotives and switch engines, 187 cab cars, and 26 Electric Multiple Units (EMUs; the 160 new EMUs making up the remainder of the electric fleet are PTC-compliant). On the five lines controlled by Metra, 638 wayside devices will be installed to communicate with Metra rolling stock and with CCF. As Metra obtains funding to complete signal


*As part of signal modernization projects at locations such as A-5 interlocking, PTC-compliant equipment is installed and control operators are relocated to Metra's Consolidated Control Facility near downtown Chicago*

*Photo: Mark Llanuza*

modernization projects around its system, outdated equipment is replaced with components that are ready to integrate with PTC. To comply with the PTC mandate, all of Metra's dark territory must be signalized.

Implementation of the PTC mandate presents Metra with a number of challenges. Installing the system is very expensive, exceeding the amount Metra spends annually on its entire capital program. Since PTC technology is still being developed, systems cannot be purchased off the shelf and certain components are not yet available for purchase. To support PTC-related transmissions, railroads must acquire sufficient radio spectrum bandwidth from existing license holders. PTC systems adopted by various railroads must be able to communicate with each other, so that trains can move seamlessly between tracks controlled by different systems. Achieving PTC interoperability in Chicago is a complicated undertaking, since the region has the most complex railroad network in the country. Thus far, Metra has directed PTC resources towards the implementation efforts of its PSA partners UP and BNSF, and is working to ensure that Metra equipment is ready when PTC installation is complete on the portion of Metra's system owned by these railroads.

The 2008 Rail Safety Improvement Act required implementation of PTC by the end of 2015 on all passenger rail routes and on freight lines carrying certain hazardous materials. Due to delays caused by the complexities of PTC implementation, in late 2015 Congress passed legislation extending the PTC installation deadline to 2018. The legislation allows up to two additional years to finalize implementation and testing if certain conditions are met. In January 2016, Metra filed a plan for implementing PTC by 2020, although Metra had previously committed to implementation in the third quarter of 2019 and intends to finish by that time or earlier.

In October 2014, Metra's Board committed to a rolling stock modernization plan that calls for a $2.4 billion investment in replacing and rehabilitating the agency's aging diesel fleet. A portion of these funds will provide the remaining funding needed to implement PTC.

## ROLLING STOCK

### *Railcars*

Metra's 10 diesel lines are served by 560 trailer cars and 277 cab cars, hauled by 146 locomotives. Engineer controls in the cab car allow push-pull operation of the train: on inbound trips, the locomotive at the rear of the consist pushes the train into Chicago; on outbound trips, trains operate in pull mode with the locomotive in front, to minimize diesel emissions near passenger waiting areas at downtown terminals. (This practice was pioneered on Chicago & NorthWestern Railway's Chicago commuter lines during the 1960s, eliminating the need to back the trainset into the nearest yard at the end of each run and reposition the locomotive at the front of the train.) The number of cars in a trainset varies by line, but typically ranges from four to 11 cars. Cab cars are often strategically placed throughout Metra's system so trains can be quickly shortened for midday service, which often requires shorter consists.

The MED is served by 186 EMUs—electric-propelled cars that draw power from an overhead catenary wire system. Use of electric power allows MED trains to accelerate faster and run more quietly than the diesel-powered trains elsewhere in Metra's system. Metra's EMUs must operate in permanently coupled "married pairs," and each pair contains all controls and power systems needed to function. MED trainsets range from two to eight cars.

Metra's bi-level passenger cars are known as "gallery cars," with a single row of seating on each side of the upper level, allowing conductors on the lower level to check tickets and collect fares on both levels. This design was introduced in 1950 by the Chicago, Burlington and Quincy Railroad, a predecessor of BNSF, to increase capacity and revenue on their commuter line to Aurora. Cars serving Metra's diesel lines have approximately 150 seats, with fewer seats on bathroom-equipped cars and on cab cars. On all lines, Metra aims to provide a seat for every rider.

Metra permits bicycles to be stored in the priority seating area on reverse commute and off-peak trains (except during certain special events in downtown Chicago). The number of bicycles allowed per train is printed at the bottom of each timetable. Since accommodating passengers must remain Metra's priority, if space is needed for disabled passengers or a train is crowded, bicycles may not be allowed on board, even if otherwise

permitted. Metra trains have carried bicycles since 1995, and a new shipment of disabled-accessible cars (with flip-up seats in the designated wheelchair-priority area) allowed Metra to significantly expand its Bikes on Trains program in 2008.

Also in response to rider demand, Metra implemented a Quiet Car program on all lines in June 2011, following a successful test on the RID. Each morning inbound and evening outbound peak-period train longer than two cars has one or two designated Quiet Cars, where cell phone calls are not allowed, conversations are discouraged, and electronic devices should be muted. The program is enforced largely by peer pressure, with conductor intervention when necessary.

In early 2013, Metra completed the installation of over 400 automatic external defibrillators (AEDs) on train cars, in major work facilities and in Metra police vehicles. The portable, easy-to-use devices deliver an electrical current to those experiencing sudden cardiac arrest. Installation of the devices was funded by a grant from RTA, with maintenance and employee training made possible by a partnership with Northwestern Medicine.

All Metra trains have been compliant with Americans with Disabilities Act (ADA) standards since 1998, and today, 57% of Metra railcars on diesel lines are equipped with wheelchair lifts, as well as bathrooms to accommodate wheelchairs. Boarding platforms at all MED stations are level with the train floor, meaning that lifts are not necessary on this line. (However, not all MED stations are ADA-compliant.) All new and most recently rehabilitated Metra railcars—on the MED and diesel lines—will be equipped with LCD signs for scrolling announcements, to duplicate announcements made through the audio system.

Metra's preventive maintenance and rehabilitation programs have proven to be effective in limiting equipment failures and extending the life of rolling stock. Railcars are inspected and cleaned daily, and receive minor repairs as needed. Schedules have been established for preventative maintenance activities, and Metra implements overhaul and remanufacture programs at strategic points in the vehicle's lifespan. Metra's general practice is to perform a midlife overhaul after 15 years and complete a second rebuild at the end of a car's 25-year recommended life expectancy, extending its useful life to 35 years. However, funding constraints in recent years have caused Metra to extend midlife car rehabilitation cycles up to 19 years, which increases maintenance costs and threatens service quality.

In 2012, Metra began a six-year effort to rehabilitate 176 trailer and cab cars built between 1995 and 1998. In addition to replacing existing components—from windows to wheel assemblies—crews are adding new amenities for riders, including power outlets, intercoms, flushable toilets, and upgraded seats. Metra workers are rehabilitating the cars to like-new

*Carman Bryant Howse replaces a window in a car being rehabilitated at Metra's 49th Street Shop*


condition for $700,000 to $800,000 each, less than one-third of the cost of a new car. The work will extend each car's useful life by 12 to 15 years.

As part of an effort to improve air quality inside railcars serving diesel lines, Metra has installed new hoods over air intakes and upgraded HVAC filters inside train cars. The new high-efficiency filters are typically used in institutions requiring very clean air, such as hospitals, laboratories, LEED-certified green buildings, and other sensitive environments.

Metra recently replaced the entire EMU fleet with new vehicles. Until 2006, when 26 new EMUs entered service, the entire MED fleet predated Metra's formation. These legacy cars were too old to be cost-effectively rehabilitated. In 2012, the State of Illinois committed $585 million in Bond Program funds to purchase 160 new EMUs. From fall of 2012 until early 2016, four to six new EMUs arrived from the Rochelle, Illinois plant each month, and old cars were retired.

Half of the new cars are equipped with restrooms, an amenity missing from the retired EMUs. The new cars also include a variety of new features: larger windows, better seats with reversible seatbacks, brighter lighting, an improved public address system, and power outlets for customer use. When the complete order is filled, EMU fleet size will have increased from 171 to 186,

to accommodate projected ridership growth and compensate for lost seating capacity in the new cars (due to addition of bathrooms). Each new EMU pair has 128 seats in the restroom-equipped car, and 143 seats in the other car.

### *Locomotives*

Metra operates 146 locomotives on its diesel lines. These diesel-electric units use a 3200-horsepower diesel engine to drive the electric generator powering the traction motors. Metra distributes dual-locomotive "double header" consists throughout the system to provide quick replacement power in case of equipment failure. Federal regulations cap Metra locomotive speeds at 79 miles per hour, though speeds are typically slower due to station spacing, track conditions, and signal system limitations.

As with railcars, Metra attempts to keep locomotives in a state of good repair, and maximize their lifespan, by adhering to daily and periodic maintenance procedures and equipment rehabilitation schedules. Metra's goal is to perform a midlife overhaul after ten years, minimizing maintenance needed until locomotives reach the recommended lifespan of 25 years. However, budget constraints in recent years have delayed the midlife rehabilitation up to two years.

From 2008 to 2012, Metra's 50 oldest locomotives were remanufactured, which included the replacement of all piping, wiring, and control systems, overhaul of diesel engines, and engine upgrades to meet EPA regulatory requirements. Two used locomotives that Metra procured during this time-frame were added to the project and incorporated into Metra's fleet afterward.

Other projects focus on reducing the environmental impact of Metra's locomotive fleet. Automatic Engine Start-Stop (AESS) systems—which improve fuel efficiency by automatically shutting down an idle locomotive engine and restarting it when needed—have been installed on two-thirds of Metra's locomotive fleet. Ultimately, Metra plans to equip all locomotives with the system. To reduce emissions and fuel consumption, certain engine parts, such as fuel injectors, cylinder heads, liners, pistons and rings, are being upgraded to state-of-the-art components.

Metra continues to explore other ways to reduce diesel emissions, and is working to obtain funding to carry out necessary projects. Once funding is secured, Metra plans to repower two model F40PHM locomotives and purchase the components needed to repower an additional 11 model F40PH/F40PHM locomotives. The new diesel engines will be certified to EPA Tier III requirements—the next generation of emissions standards. Each repowered locomotive will consume approximately 18-20% less fuel than a standard F40PHM locomotive, reducing greenhouse gas emissions and improving air quality in the areas where they are used.

### *Rolling Stock Modernization Plan*

In October 2014, Metra's Board committed to pursue a ten-year, $2.4 billion rolling stock modernization plan, which will be funded in part by a series of fare increases to support bond issues or similar financing. The plan calls for phased-in purchases of new, modern railcars and locomotives for Metra's diesel lines, renewing a fleet where more than 40% of cars date from the 1950s to the 1980s. The plan would also fund a robust rehabilitation and maintenance program for remaining diesel cars and locomotives.

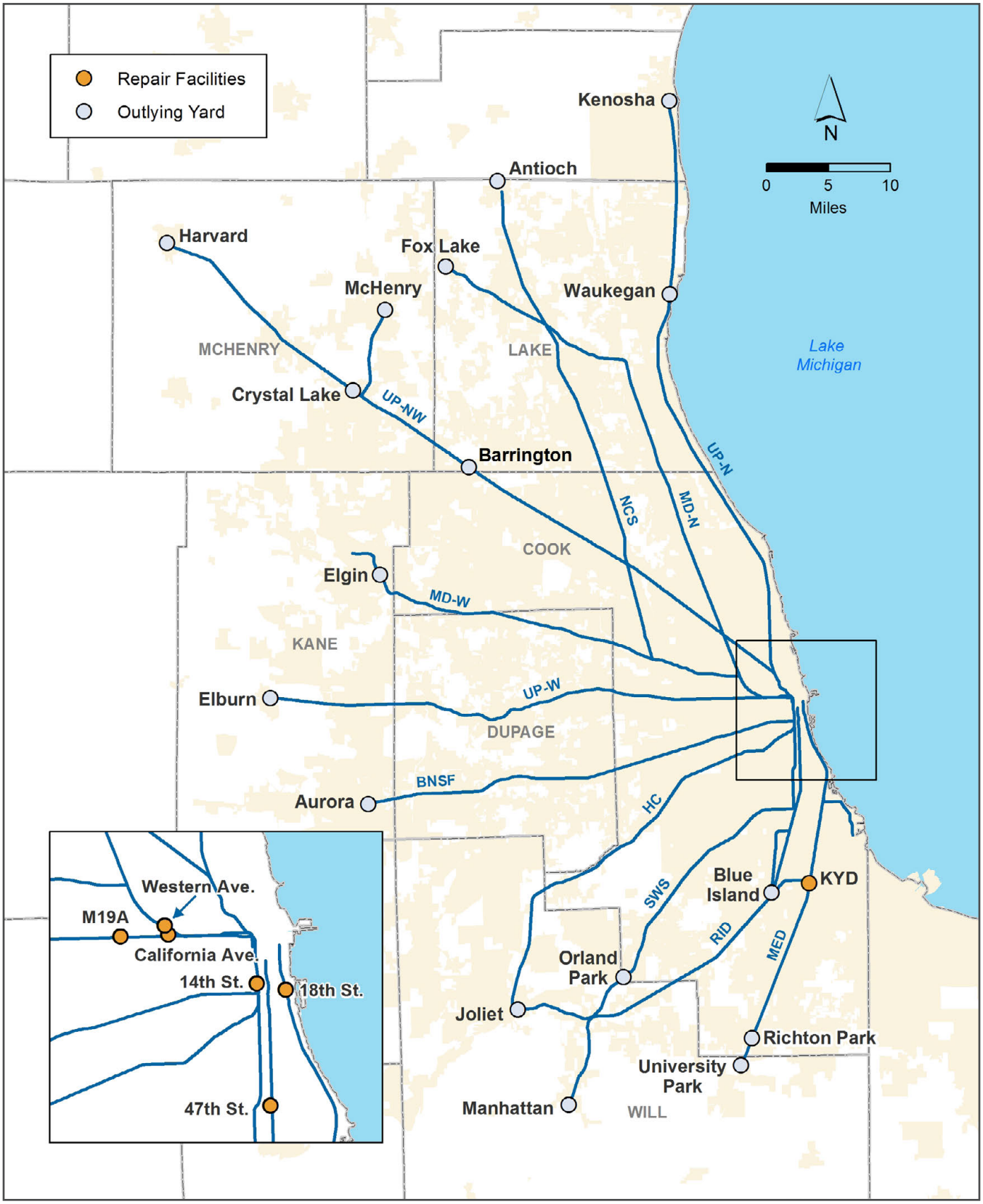
## FACILITIES AND EQUIPMENT

Maintenance, repair, and storage of Metra rolling stock takes place at 18 rail yards and seven maintenance support facilities located throughout the system. Some light maintenance can also be done at Metra's downtown terminals. Before the morning peak period, all rolling stock receives the required daily inspection, and is tested to ensure that each vehicle is ready to begin service. During the midday, trainsets not needed for service are stored at five layover yards near downtown Chicago. Here, vehicles are inspected, cleaned, and minor repairs or services are completed to prepare equipment for the afternoon peak. At the end of the service day, most trainsets are stored overnight at outlying yards, where the cycle begins the next day.

The expansive network of maintenance and storage facilities allows Metra to place equipment where it is needed and nearly eliminate the need for non-revenue deadhead movements. In addition, crews can respond quickly to equipment failures, reducing service disruptions. Metra's operating structure provides for a vehicle fleet that is highly intertwined. In some cases, train cycles are coordinated so that a single trainset operates on multiple lines over the course of one day, or multiple days, to maximize efficiencies of equipment and fuel.

Most of Metra's yards are undersized and not designed to service modern equipment, and these constraints limit the potential to expand service. In particular, maintenance facilities on the MED are not equipped to properly handle the new EMUs, nor is there adequate storage capacity to accommodate the larger fleet. In the future, Metra may extend the MED approximately eight miles from University Park to Peotone, and build a storage and maintenance facility at the new terminus, but funding is not currently available for this extension. In the meantime, current facilities are being modified to accommodate the new, larger fleet on a temporary basis.

FIGURE 1: METRA OPERATIONS



## STATIONS AND PARKING

Stations, along with rolling stock, are the most visible parts of Metra's infrastructure. Metra's 241 stations have a significant impact on the rider experience, and it is important to keep them functional and as attractive as possible. Station facilities such as depots, warming shelters, platforms, and access routes are in continual need of rehabilitation and/or replacement as they reach the end of their life cycles. Metra has invested over $1 billion since 1985 to improve station and parking facilities, and host communities have also invested substantial amounts. Since Metra's formation in 1983, 31 new stations have been added throughout the system, with significant improvements completed at 145 existing stations. Design of three new infill stations—at Auburn Park (RID) and Peterson/Ridge (UP-N) in Chicago, and at Romeoville (HC)—is currently underway.

Station and parking facilities at Metra stops are managed by a wide variety of legal arrangements. Station structures may be owned, leased, and maintained by separate entities (e.g., Metra, municipalities, freight railroads, and other private or public landowners). Additional parties may be involved in the ownership of the land on which station structures are built, and in the ownership and operation of parking areas.

In large part, the decentralized nature of Metra station ownership stems from the long history of commuter rail service in the region, and the fact that Metra's system was assembled from commuter lines that had been operated by a number of private railroads, which had each developed their own relationships with local communities. This tradition continues on the NCS, though Metra service on the line was initiated in 1996, well after the agency's formation.

Metra utilizes federal and state grants to fund the construction and expansion of station parking facilities, including the cost of land acquisition and/or construction of the parking lots themselves. Station and parking improvements partially or fully funded by these grants are subject to use restrictions and other requirements, until the grantor's interest in the property expires. In general, Metra prefers that commuter parking facilities are locally maintained, since issues that develop at individual stations can be handled more effectively by the communities rather than at an agency level. Ongoing maintenance of parking facilities is generally funded by fees paid by lot users.

At most stations, Metra has maintenance agreements with host municipalities for cleaning and small repair projects in station buildings and the nearby area. Metra is always responsible for larger repair and rehabilitation projects exceeding a cost threshold that varies among stations, and maintains all passenger communications equipment (e.g., audio equipment and LCD announcement signs). Metra forces maintain and

remove snow from all station platforms, except for those at UP stations and certain stations on the BNSF Line.

When a station reaches the end of its useful life, Metra seeks to fund the replacement or rehabilitation of station structures at a basic level, based on ridership at the station. Host communities are responsible for the cost of any upgraded materials or structures.

Currently, 180 stations are fully accessible to individuals with hearing, vision, and mobility disabilities and 17 are classified as partially accessible (meaning that ramps, ticket windows, and/or buildings and shelters at these stations may not fully conform to ADA guidelines, but customers who use wheelchairs will be able to access train platforms from the street). These represent Metra's busiest stations, used by 93% of riders. Metra brings stations into full compliance with federal standards as they are rehabilitated.

In 2009, the Illinois General Assembly approved a State Transit Bond program that has provided critical funding for Metra station and parking projects. Through 2014, nearly $135 million from the program has been allocated. Funds are obligated as they are received from the state, and a number of these projects are completed or currently underway.

### *Parking*

At the 212 Metra stations with parking facilities, more than 90,000 spaces are available to commuters. Only a small number of these spaces are owned and controlled by Metra; most commuter parking lots are managed by host municipalities, meaning that Metra has little authority to direct pricing policy or redevelopment near the vast majority of stations. However, Metra and station host communities share a common goal—meeting the mobility needs of residents—and all parties should be committed to coordination and creative thinking to ensure the best management of parking resources.

In 2014, 52% of weekday Metra riders accessed their boarding station in a car they parked at the station. This figure is high relative to other transit modes, but typical of other North American commuter rail systems due to the predominantly suburban nature of the area served by commuter rail. The percentage of Metra riders driving to stations varies widely within Metra's service area, and is based on station area density and land use, quality of connecting transportation options, and other factors. Automobile access rates rise with distance from downtown Chicago—in 2014, 68% of Metra riders boarding at a station over 25 miles from downtown drove to the station.

## CAPITAL PLANNING

Each year, Metra makes difficult decisions about which projects to fund in its capital program, since needs always far exceed available funding. New processes and tools are being incorporated into Metra's capital planning cycle, to guide the agency towards infrastructure investments with the greatest benefits to the region.

Metra is currently conducting an inventory of its capital assets, preparing a comprehensive list that includes the condition rating and estimated useful life of all infrastructure components, from locomotives to shop tools. Once complete, the inventory will be updated as Metra completes major purchases and projects. Results from the asset inventory will provide data for the Capital Optimization Support Tool (COST), developed by the RTA in conjunction with the three service boards. This software application further integrates objective criteria into the capital decision-making process. Users can evaluate alternative investment scenarios, test how a project performs under different criteria, and learn how variations in funding levels affect prioritization. For projects in Metra's existing system, COST will help ensure that the agency's capital program addresses the most pressing needs. For potential system extensions and expansions, cost-benefit analyses will help determine which projects should move forward if and when funding becomes available.

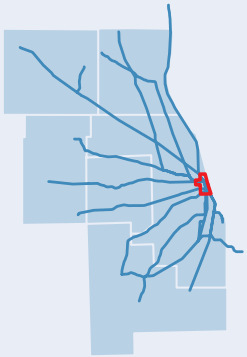
Several additional factors will influence project selection. Investments must be distributed equitably among Metra lines and across the region. Since most Metra service operates on track not owned by the agency, agreement from host railroads is required for some projects to advance. For expansion projects, a successful effort to grow the transit market in a potential new rail corridor with bus service provides real-world proof of a project's viability and builds support for a major investment. Finally, projects must be implemented in alignment with Metra's strategic plan, currently under development.

*Railcar rehabilitation at 49th Street Shop*


*Rock Island District riders at LaSalle Street Station*

# CENTRAL BUSINESS DISTRICT MARKET

Metra's network is laid out in a hub and spoke configuration, with eleven lines serving five downtown stations: Chicago Union Station (CUS), Ogilvie Transportation Center (OTC), LaSalle Street Station, Millennium Station and Van Buren Street Station. The system is oriented to serve Metra's principal customer base: suburban residents working in downtown Chicago. According to Metra's 2014 Origin-Destination Survey, 85% of all Metra riders are destined for jobs in the Central Business District (CBD) of Chicago. Approximately 73% of Metra riders alighting at the five CBD stations travel to the area known as the Loop—generally south and east of the Chicago River, north of Congress Parkway and adjacent to Grant Park—in the heart of the CBD. Figure 1 shows the CBD stations and percentage of total downtown riders' destinations by quarter section (a quarter of a square mile).

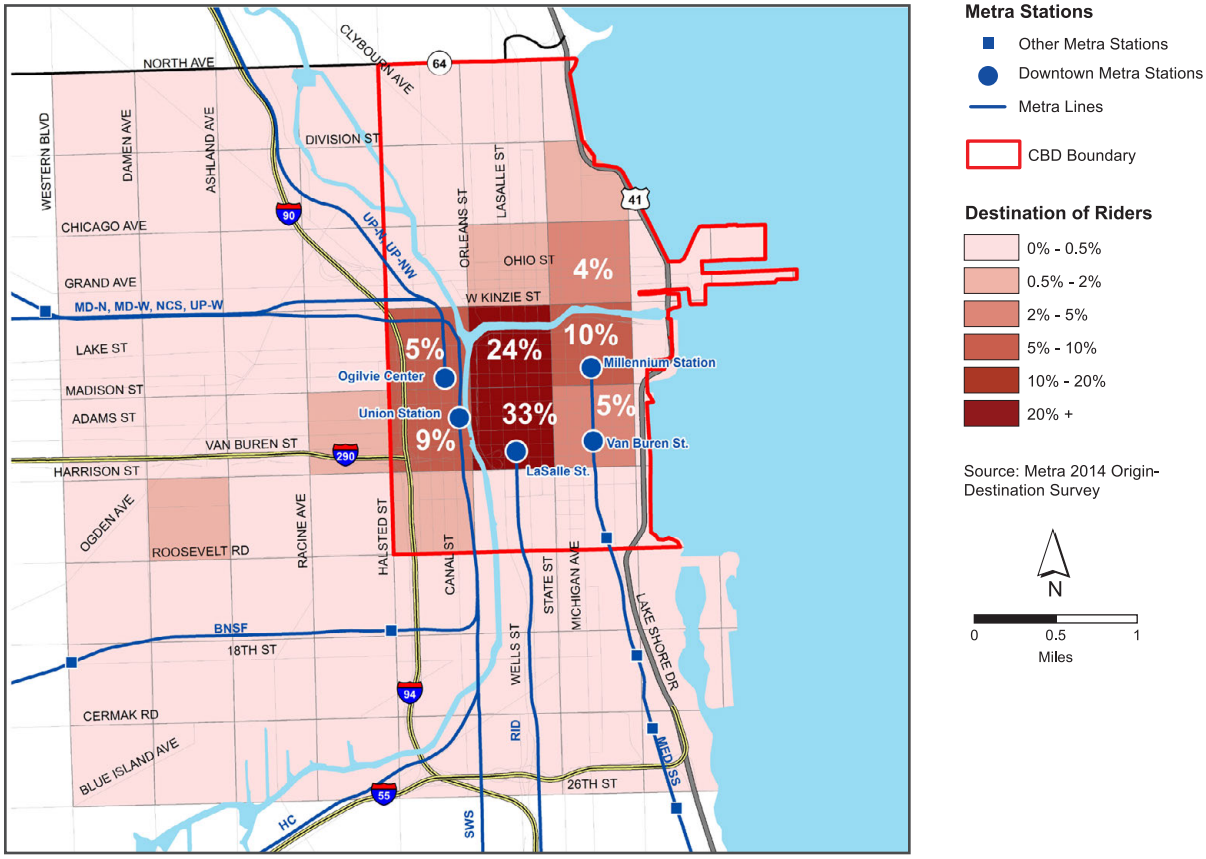


The economy of the Loop and the CBD, as a whole, is vitally important to Metra. Chicago's CBD is the second-largest in the country, after Midtown Manhattan in New York. The district is a major center for financial, legal, government, and corporate services, the headquarters of numerous Fortune 500 companies, and home of many of the region's civic, cultural, and educational institutions.

Commute trips represent 90% of Metra rides, and Metra ridership is correlated with employment rates and the general economic health of the region. This relationship is strongest in the downtown marketshed. Despite the historic migration of office growth to the suburbs and the recent recession, Chicago's CBD is expected to add nearly 165,000 jobs between 2010 and 2040. Facilitating travel from downtown Metra stations to these additional jobs will be a challenge. A number of large suburban employers, including Motorola Mobility, United Airlines, Hillshire Brands, and Capital One have relocated to the CBD or opened downtown satellite offices in recent years.

As seen in Figure 1, the highest concentration of employment destinations in the CBD for Metra riders is the west portion of the Loop. Roughly 57% of all riders alighting at Metra's downtown terminals are destined for this area, which contains the bulk of the Loop's federal government, financial industry, and business services jobs. Of the five CBD stations, LaSalle Street is the only one located within its bounds. The next most common CBD destinations for Metra riders are the east portion of the Loop, which is served by Millennium Station and Van Buren Street, and the West Loop, which is served by OTC and

FIGURE 1: DESTINATIONS OF METRA RIDERS ALIGHTING AT DOWNTOWN TERMINALS



CUS. Each of these areas accounts for roughly 15% of all CBD-bound Metra riders alighting at downtown terminals. In 2014, the Loop and West Loop added the most jobs of all the downtown employment zones, although the far West Loop, South Loop, and River North areas saw significant levels of job growth, as well. Smaller concentrations of Metra riders travel to areas near North Michigan Avenue and the Northwestern Memorial Hospital complex, and to areas west of the CBD, near the University of Illinois at Chicago (UIC) and the Illinois Medical Center complex.

## DOWNTOWN STATIONS

In terms of passenger volume, CUS is the largest Metra station downtown (and in the Metra system as a whole), accounting for 46% of alightings at the five CBD stations. It is the nation's third-busiest passenger railroad terminal, serving over 300 Metra and Amtrak trains each weekday. Ninety percent of the 120,000 people passing through the station each day are Metra riders. CUS serves six Metra lines—the Milwaukee District North and West Lines, the North Central Service, the Heritage Corridor, the SouthWest Service and the BNSF Line. CUS provides convenient access to the West Loop office market that has developed west of the Chicago River and east of the Kennedy Expressway; it is served by 13 Chicago Transit Authority (CTA) bus routes, the CTA Blue Line at Clinton Street, Chicago River water taxis, private shuttle buses, and intercity buses.

The Regional Transportation Authority, Metra, CTA, Amtrak, and BNSF recently collaborated to design and install a new wayfinding signage system for CUS. The signage guides customers transferring between transit modes, and provides information to help riders find their way to nearby attractions on foot. This improved wayfinding system could be expanded to other downtown Metra stations in the future.

The Loop Link project upgraded bus service on four downtown streets by adding dedicated bus lanes, bus-only traffic signals at selected intersections, and covered stations with raised platforms. CTA buses serving CUS—including bus routes using Loop Link—will utilize a new off-street transportation center that is currently under construction just south of CUS. The transportation center will reduce traffic congestion near the station and provide a direct, underground connection to the CUS passenger concourse. The Chicago Department of Transportation expects to complete the transportation center by the fall of 2016.

CUS operates at or close to capacity during much of the day, and the *Chicago Union Station Master Plan*, completed in 2012, made recommendations to address passenger crowding within the station,

ease street-level congestion, and accommodate additional commuter and intercity passenger service (including high-speed rail). Proposals to modify the terminal's passenger facilities are being developed during the study's second phase. In 2014, Metra, Amtrak and BNSF released a plan to alleviate the overcrowding on the South Concourse and south platforms of CUS that occurs during significant service disruptions. Nearly 20,000 Metra passengers board trains at this location each weekday during the peak period between 4:30 p.m. and 6 p.m.

OTC, located three blocks north of CUS, ranks second in Metra alightings, with 32% of the CBD total. OTC is the terminal for Metra's Union Pacific services: the UP–North, UP– Northwest and UP–West Lines. Like CUS, it also serves the flourishing West Loop market. OTC is served by 12 CTA bus routes, the CTA Green and Pink Lines at Clinton Street, private bus shuttles, and Chicago River water taxis.

LaSalle Street Station is the terminal for the Rock Island District and has the third-highest number of CBD alightings, accounting for 11% of the CBD total. The station is located near the heart of the Loop, adjacent to the Chicago Stock Exchange and near the financial district. Of Metra's CBD stations, LaSalle Street is the most connected to other transit modes—the station is

*Ogilvie Transportation Center*

served by 12 CTA bus routes, the CTA Brown, Pink, Purple and Orange Lines at LaSalle/Van Buren Station, and the CTA Blue Line at LaSalle Station. In 2011, the City of Chicago completed construction of a bus transfer center at Congress Parkway and Financial Place, enhancing the station's multi-modal connectivity.

The Metra Electric District (MED) is the only Metra line with two downtown stations: Millennium Station and Van Buren Street Station. Millennium Station is the terminal for the MED as well as the South Shore Line from Chicago to South Bend, Indiana. Previously known as Randolph Street Station, the station was rebuilt and renamed in 2005, following the construction of Millennium Park. It accounts for 9% of Metra CBD alightings (not including South Shore trains), the fourth-highest of downtown stations. Its location underneath Millennium Park and adjacent to Michigan Avenue provides access to 13 CTA bus routes as well as Chicago's pedestrian tunnel system. Of CBD Metra stations, Millennium Station has the highest share of riders using transit to travel to their final destination.

Van Buren Street Station—the only downtown Metra station that is not a terminal—is located a few blocks south of Millennium Station, at Michigan Avenue and Van Buren Street. Like Millennium Station, Van Buren Station serves both the MED and South Shore Lines and is well-connected to the CTA bus system.


*LaSalle Street Station ticket counter*

## STATION ALIGHTINGS/MODE OF EGRESS

Most Metra riders alighting at the downtown stations walk to their final destinations. However, public transit is the second most popular mode of egress at each downtown station, accounting for a modal share between 8% and 13%. CTA buses are the biggest recipient of Metra riders due to close proximity of bus stops and downtown Metra stations and a lack of direct connections between Metra stations and CTA 'L' stations (with the exception of Metra's LaSalle Street Station). To accommodate Metra riders using CTA trains and buses, both agencies offer the Link-Up pass, which provides Metra monthly pass holders unlimited peak-period access to CTA for an additional $55 a month. Table 1 shows total alightings and mode of egress for CBD Metra stations. A number of CTA bus routes provide special rush-period service linking downtown Metra stations to employment centers such as North Michigan Avenue, the Northwestern University medical complex, McCormick Place, and UIC/Illinois Medical District.

Private bus shuttles contracted by major employers fulfill a specific transit need in downtown Chicago, providing a direct connection between CBD Metra stations and various office buildings. These services are especially popular at OTC and CUS, since certain job-rich areas such as North Michigan Avenue lack fast transit access from the West Loop. These shuttle services can be fast and frequent during rush periods, when there is high demand to travel between one or more Metra stations and a particular workplace.

The Divvy bicycle sharing system, introduced in 2013, makes it feasible for more Metra riders to reach destinations throughout Chicago by bicycle. The network's initial roll-out placed bicycle docking stations near the five Metra downtown stations, and at a number of Metra stations beyond the CBD. The Divvy program has since expanded to additional Chicago neighborhoods, and Divvy stations in the suburbs of Evanston and Oak Park will be added in the future.

### TABLE 1: MODE OF EGRESS FOR CBD METRA STATIONS

| Station Name | Total Alightings | Walk/ Bike | Drive/Carpool Driver | Carpool Pass./ Picked up | Transit (Bus/Rail) | Taxi | Private Shuttle | Other |
|---|---|---|---|---|---|---|---|---|
| LaSalle St.Station | 12,536 | 82% | 2% | 1% | 11% | 2% | 2% | 1% |
| Millennium Station | 8,146 | 79% | 3% | 1% | 13% | 2% | 1% | 1% |
| Ogilvie Trans. Ctr. | 36,342 | 83% | 1% | 2% | 11% | 3% | 4% | 1% |
| Union Station | 51,074 | 81% | 1% | 3% | 9% | 2% | 5% | 1% |
| Van Buren Street | 3,865 | 82% | 3% | 0% | 11% | 1% | 2% | 0% |
| **TOTAL** | **111,963** | **82%** | **1%** | **1%** | **10%** | **2%** | **4%** | **1%** |

*Source: Metra, Spring 2014 Origin-Destination Survey*

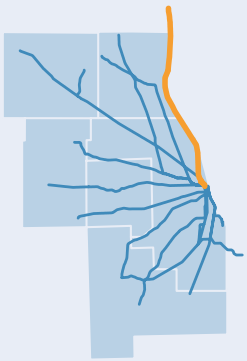

*Crews stand by as a train moves through the UP-N Line Bridge Improvement Project construction zone in fall 2012. During the first stage of this project, 22 bridges are being replaced on Chicago's north side.*

# UNION PACIFIC - NORTH LINE

## EXISTING SERVICE AND CONDITIONS

**Metra's Union Pacific-North (UP-N) Line** extends north from Ogilvie Transportation Center (OTC) in downtown Chicago through Winthrop Harbor to Kenosha, Wisconsin, serving portions of Cook, Lake, and Kenosha (Wisconsin) Counties along the shore of Lake Michigan (see Figure 1). In addition to OTC, the line serves 25 year-round stations along its 52-mile route, plus one seasonal station at the Ravinia Park outdoor concert venue. In 2014, passenger trips on the UP-N totaled 9.3 million, the fourth-highest ridership of any line in the Metra system (based on ticket sales).

Like the Union Pacific–Northwest and Union Pacific–West Lines, the UP-N is owned by Union Pacific Railroad (UP) and operated and maintained by UP employees under a purchase of service agreement with Metra. The three lines are dispatched by UP from Omaha, Nebraska. Metra owns the passenger coaches and revenue-service locomotives serving UP line riders. Daytime train storage and coach servicing takes place at the California Avenue Yard, located on the Union Pacific–West Line about three miles west of OTC. The M-19A locomotive fuel and service facility is about two miles farther west at Keeler Avenue. On the UP-N, two outlying yards (at Waukegan and Kenosha) accommodate nighttime storage and maintenance.



Metra's three UP lines were formerly owned by the Chicago and NorthWestern Railroad (C&NW), which operated commuter service on these routes for over a century until the company became part of UP in 1995. In terms of number of routes and total mileage, the C&NW once operated the most extensive commuter service in the region. Metra trains on the former C&NW lines run on the left-hand side—thought to be a function of how the first track and depots were situated when a second track was added.

The UP-N Line operates on two tracks adjacent to the Union Pacific–Northwest Line between OTC and Clybourn Junction (near Armitage and Ashland in Chicago), a distance of approximately three miles. From Clybourn north to Kenosha (49 miles), the line is double-tracked. None of the UP-N stations are more than two miles from the lakefront. Most have been in the same general locations for more than a century, with commercial centers that grew around them.

Consequently, the UP-N weekday schedule has had few changes during its history. In 1986, the North Chicago and Abbott Platform Stations were consolidated at the Abbott Platform location. In 2007, more peak-period service was added to accommodate dramatic ridership increases, especially in reverse commuting and at the stations in Evanston and Chicago. There is, and was, frequent passenger service on the line between OTC and Waukegan—almost hourly or better on weekdays. Service is less frequent to the three stations north of Waukegan, where much of the line is adjacent to large swaths of open land. There is little freight service on the UP-N, and essentially none over the 27 miles of track between Clybourn and Lake Bluff Stations. Table 1 details the service, station, and ridership characteristics of the UP-N.

2014 Average trip length:
**17.3 miles**

2014 Average fare paid:
**$3.52**

*Source: Ridership Trends Report, Dec. 2014*

Number of Stations:
**26** †

Route Length:
**51.6 miles**

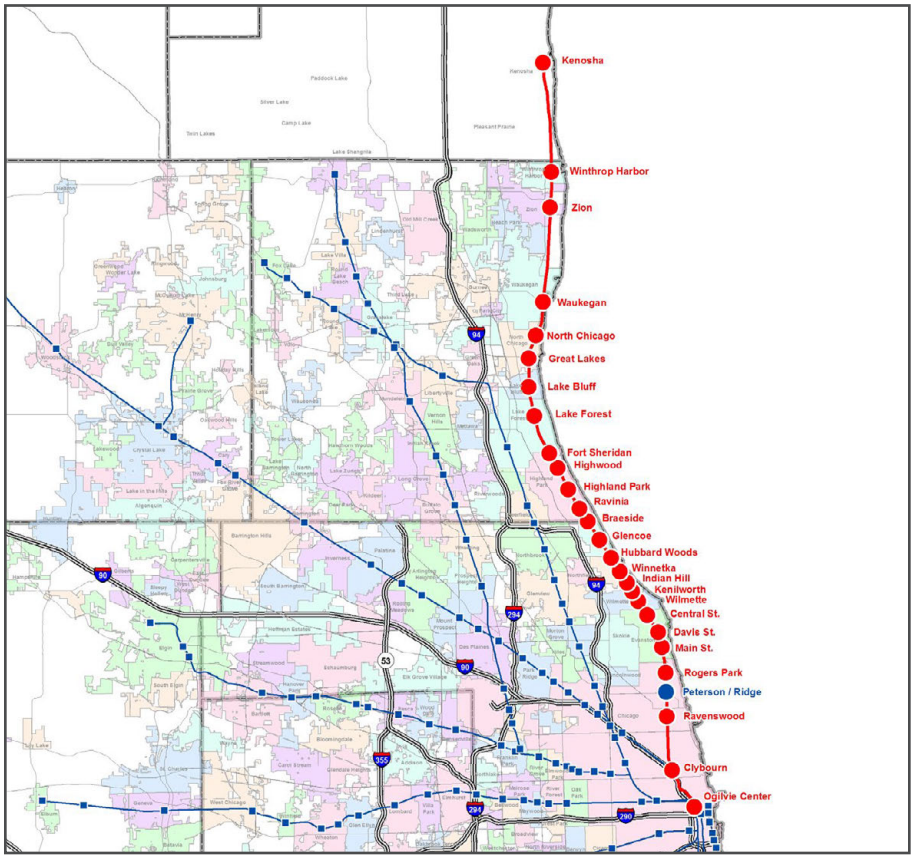
Number of weekday trains:
**70**

2014 On-time performance*:
**96.7%**

*† Does not include seasonal station at Ravinia Park*

** On-time Performance Report, Dec. 2014*

## FIGURE 1: METRA STATIONS ON THE UP-N LINE

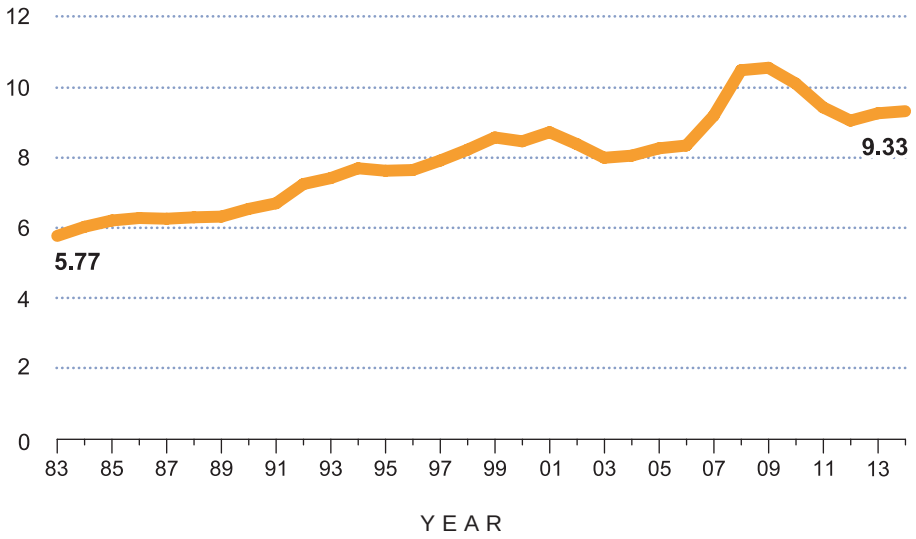


## TABLE 1A: 2014 UP-N WEEKDAY BOARDINGS

| Time of Day | Inbound | Outbound |
|---|---|---|
| AM Peak | 9,710 | 2,448 |
| Midday | 1,449 | 1,341 |
| PM Peak | 2,308 | 8,866 |
| Evening | 704 | 1,355 |
| **TOTAL** | **14,171** | **14,010** |

*Source: Metra Weekday Station Boardings and Alightings by Time-of-Day and Direction, 2014*

## TABLE 1B: UP-N ANNUAL PASSENGER TRIPS
1983 — 2014, in millions




*Note: from 2008, figures include free Circuit Permit trips. 2008-2011 figures include free senior trips; this program ended September 2011.*

## TABLE 1C: UP-N STATION CHARACTERISTICS

| Station | Fare Zone | Mile Post | Accessibility[1] | Boardings | | Station Parking (2014) | | | Time to Chicago (minutes)[1] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1983[2] | 2014[3] | Capacity (Spaces)[4] | Effective Use[5] | Observed Use[6] | Shortest Trip | Longest Trip |
| Ogilvie Trans. Center | A | 0.0 | Full | 8,437 | 10,833 | 0 | n/a | n/a | n/a | n/a |
| Clybourn[7] | A | 2.9 | None | 110 | 906 | 32 | 84% | 84% | n/a | 10 |
| Ravenswood | B | 6.5 | None | 307 | 2,363 | 0 | n/a | n/a | n/a | 17 |
| Rogers Park | B | 9.4 | Full | 464 | 1,498 | 137 | 61% | 61% | 19 | 23 |
| Main St./Evanston | C | 11.0 | Full | 481 | 1,093 | 71 | 85% | 85% | 23 | 27 |
| Davis St./Evanston | C | 12.0 | Full | 565 | 2,070 | 59 | 46% | 46% | 21 | 29 |
| Central St./Evanston | C | 13.3 | Full | 771 | 1,197 | 310 | 98% | 76% | 24 | 32 |
| Wilmette | C | 14.4 | Full | 1,175 | 1,120 | 386 | 97% | 97% | 27 | 35 |
| Kenilworth | D | 15.2 | Full | 444 | 305 | 99 | 100% | 74% | 29 | 37 |
| Indian Hill | D | 15.8 | None | 356 | 201 | 90 | 100% | 80% | 35 | 39 |
| Winnetka | D | 16.6 | Full | 673 | 485 | 231 | 95% | 82% | 32 | 41 |
| Hubbard Woods | D | 17.7 | None | 511 | 245 | 117 | 100% | 61% | 36 | 44 |
| Glencoe | D | 19.2 | Full | 748 | 457 | 443 | 87% | 76% | 36 | 47 |
| Braeside | E | 20.5 | Partial | 301 | 373 | 142 | 76% | 76% | 43 | 50 |
| Ravinia | E | 21.5 | Full | 366 | 238 | 135 | 59% | 42% | 43 | 52 |
| Highland Park | E | 23.0 | Full | 970 | 875 | 416 | 83% | 83% | 42 | 55 |
| Highwood | E | 24.5 | Full | 230 | 314 | 123 | 18% | 18% | 52 | 58 |
| Ft. Sheridan | F | 25.7 | Full | 311 | 266 | 288 | 35% | 29% | 63 | 61 |
| Lake Forest | F | 28.3 | Full | 644 | 727 | 765 | 98% | 69% | 50 | 66 |
| Lake Bluff | G | 30.2 | Full | 307 | 626 | 216 | 83% | 75% | 53 | 69 |
| Great Lakes | G | 32.0 | Full | 76 | 264 | 144 | 19% | 19% | 57 | 73 |
| North Chicago | G | 33.7 | Full | 175 | 232 | 56 | 59% | 59% | 60 | 77 |
| Waukegan | H | 35.9 | Full | 553 | 910 | 438 | 55% | 55% | 63 | 80 |
| Zion | I | 42.1 | Full | 81 | 155 | 100 | 78% | 78% | 71 | 88 |
| Winthrop Harbor | I | 44.5 | Full | 21 | 70 | 107 | 50% | 33% | 76 | 93 |
| Kenosha | K | 51.5 | Full | 142 | 358 | 155 | 71% | 54% | 84 | 101 |
| **TOTAL UP-N** | | | | **19,233** | **28,181** | **5,060** | **77%** | **66%** | | |

[1] Union Pacific-North Line Schedule

[2] Metra 1983 Boarding/Alighting Counts. Total includes 14 boardings from Abbott Platform Station, which closed in 1986.

[3] Metra, "Commuter Rail System Station Boarding/Alighting Counts," Spring 2014.

[4] Metra Station Parking Capacity and Use

[5] Effective use: all sold permit spaces are assumed to be used, even if unoccupied during parking survey

[6] Observed use: spaces physically occupied during parking survey

[7] Parking area at this station serves UP-N and UP-NW Lines

[8] Ravinia Park station is not shown; this station open during Ravinia Park summer outdoor concert season only.

## TABLE 1D: MODE OF ACCESS AT UP-N METRA STATIONS

| Station Name | Walk/Bike | Drive/Carpool Driver | Carpool Passenger/ Dropped Off | Transit | Other |
|---|---|---|---|---|---|
| Ogilvie Trans. Center[1] | 46% | 4% | 12% | 29% | 9% |
| Clybourn | 48% | 18% | 11% | 20% | 3% |
| Ravenswood | 76% | 8% | 7% | 8% | 1% |
| Rogers Park | 59% | 22% | 13% | 5% | 0% |
| Main St./Evanston | 76% | 14% | 7% | 3% | 1% |
| Davis St./Evanston | 65% | 14% | 11% | 9% | 0% |
| Central St./Evanston | 57% | 27% | 12% | 3% | 1% |
| Wilmette | 44% | 36% | 16% | 3% | 1% |
| Kenilworth | 62% | 23% | 14% | 0% | 2% |
| Indian Hill | 67% | 27% | 6% | 0% | 0% |
| Winnetka | 47% | 33% | 18% | 2% | 0% |
| Hubbard Woods | 65% | 20% | 14% | 1% | 0% |
| Glencoe | 33% | 53% | 12% | 0% | 2% |
| Braeside | 37% | 53% | 10% | 0% | 0% |
| Ravinia | 63% | 27% | 9% | 2% | 0% |
| Highland Park | 28% | 57% | 14% | 1% | 0% |
| Highwood | 60% | 15% | 22% | 1% | 1% |
| Ft. Sheridan | 19% | 59% | 22% | 0% | 0% |
| Lake Forest | 26% | 50% | 23% | 0% | 1% |
| Lake Bluff | 31% | 47% | 20% | 0% | 1% |
| Great Lakes | 24% | 24% | 45% | 0% | 8% |
| North Chicago | 25% | 41% | 29% | 2% | 4% |
| Waukegan | 8% | 49% | 30% | 9% | 4% |
| Zion | 12% | 60% | 26% | 1% | 1% |
| Winthrop Harbor | 24% | 50% | 26% | 0% | 0% |
| Kenosha | 12% | 51% | 34% | 2% | 2% |
| **TOTAL UP-N[2]** | **53%** | **27%** | **14%** | **5%** | **1%** |
| **SYSTEM TOTAL** | **25%** | **52%** | **17%** | **3%** | **3%** |

[1] Includes riders boarding on all Metra lines departing from station

[2] Line total does not include downtown terminal

*Source: Metra, Spring 2014 Origin-Destination Survey*

TABLE 2: METRA CAPITAL INVESTMENT HISTORY
1985 — June 2015, in millions of dollars

| Asset | UP-N | System |
|---|---|---|
| Rolling stock | $171 | $2,449 |
| Track and structure | 190 | 1,329 |
| Signal, electrical, and mechanical | 46 | 777 |
| Facilities and equipment | 19 | 548 |
| Stations and parking | 121 | 1,084 |
| Acquisitions, extensions, and expansions | 3 | 599 |
| Support activities | 24 | 348 |
| **TOTAL** | **$574** | **$7,134** |
| **PERCENTAGE** | **8.0%** | **100.0%** |

*Notes: 1) Excludes South Shore, preventative maintenance, new lines, and pending grants. 2) Prior expenses are not adjusted for subsequent inflation. 3) Data is subject to budget revisions, audit adjustments, etc. at any time. 4) For many projects, work locations and associated costs have not been identified, so budget amounts have been allocated among lines by various criteria.*

## IMPROVEMENTS SINCE THE START OF METRA

Since 1985, Metra has invested $574 million (in year of expenditure dollars) in improvements to the UP-N corridor, as shown in Table 2. Metra has completed improvements at a number of UP-N stations since 1985 (see right).

Currently, a major project to replace 22 aging UP-N Line bridges is underway, funded in part by an American Recovery and Reinvestment Act (ARRA) award. These bridges, on Chicago's north side, are more than a century old and can no longer be economically repaired and maintained. As part of the project, the Ravenswood Station—the busiest outlying station on the UP-N Line—is being reconstructed, expanded, and made accessible to disabled riders. Construction is taking place in stages. During the first stage (2010–2018), the bridges carrying UP-N tracks over 11 streets (between Balmoral and Grace) are being rebuilt, and the Ravenswood station is being improved. A phased approach is necessary to keep two tracks in operation throughout the project (and maintain regular UP-N service): first, the bridges and the portion of the Ravenswood station on the west/outbound side of the right-of-way were replaced, and work on the opposite side is expected to begin in 2016.

In the next stage of the UP-N bridge project, bridges over 11 additional streets (between Addison and Fullerton) will be rebuilt. During a third stage, three bridges at the south end of the project area will be rehabilitated. These two stages are not yet funded, and Metra will work with federal, state and local officials to secure funding.

**Depots and warming houses constructed since 1985 at:**

Great Lakes
Highwood
North Chicago
Waukegan

**Other significant improvements completed since 1985 at:**

Central Street/Evanston
Davis Street/Evanston
Main Street/Evanston
Fort Sheridan
Glencoe
Highland Park
Hubbard Woods
Indian Hill
Kenosha
Lake Bluff
Lake Forest
Ravinia
Wilmette
Winnetka
Winthrop Harbor
Zion

**Improvements planned for:**

Hubbard Woods
Peterson/Ridge (new station)

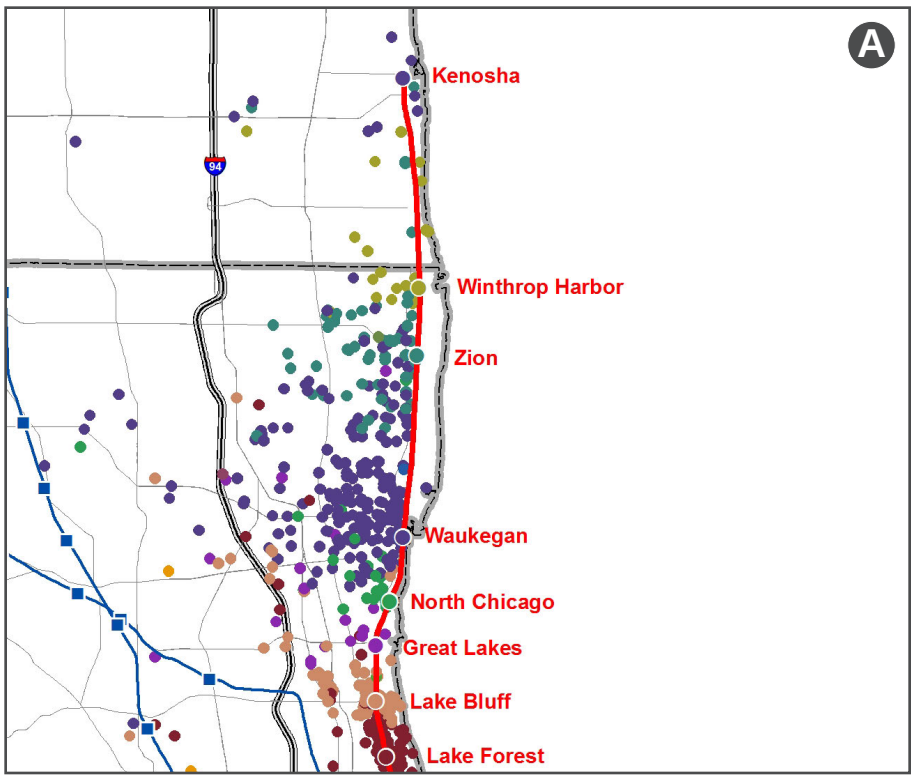
Most UP-N stations now comply with the accessibility requirements of the Americans with Disabilities Act (ADA), and approximately 86% of UP-N weekday boardings take place at these accessible stations. Metra's station compliance program started with designating eight of the busiest UP-N stations, including OTC in downtown Chicago, as "key stations", all of which were made fully accessible by 2004. Since 1985, Metra has completed access improvements at a number of non-downtown UP-N stations, and 20 outlying UP-N stations are fully accessible to disabled riders. Metra will bring the remaining stations into full ADA compliance as they are rehabilitated, so that eventually all will be accessible.

Construction of a new station stop on the UP-N Line at Peterson Avenue, between the Edgewater and West Ridge neighborhoods in the City of Chicago, is planned.

## PRESENT AND FUTURE DEMAND

In 2014, more than 28,000 boardings took place each weekday on the UP-N, with 66% of boardings occurring on peak-period, peak-direction trains. At UP-N

FIGURE 2A: ORIGINS OF RIDERS USING NON-CBD UP-N STATIONS

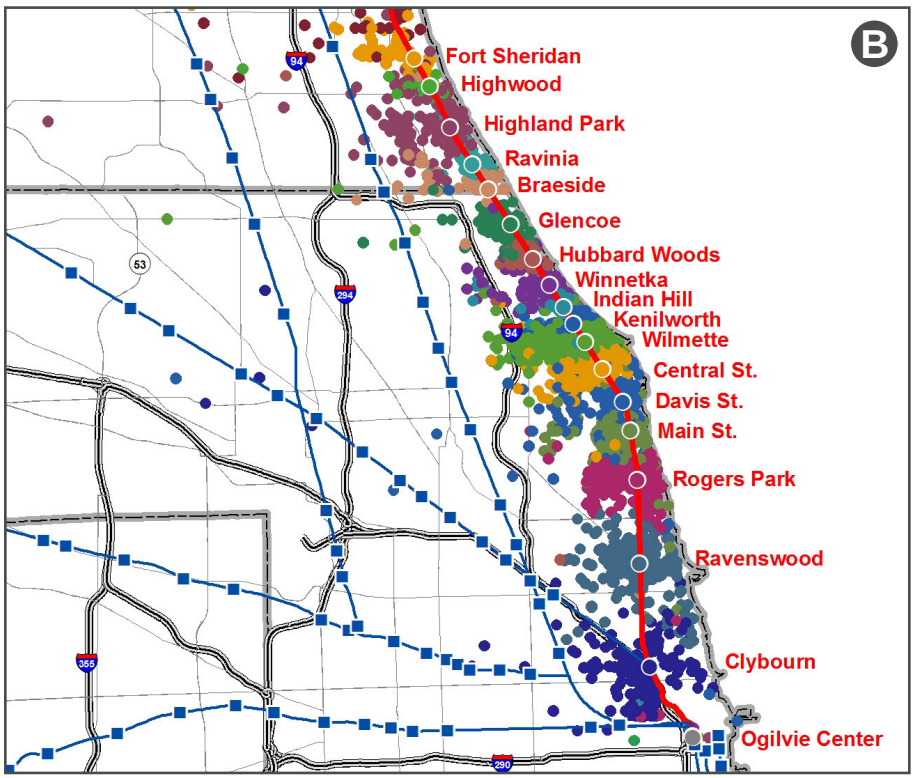


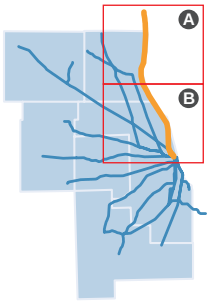
stations, ridership has increased 47% since 1983 (see Table 1c). Growth has been most dramatic at stations on Chicago's north side and in Evanston, where boardings increased an average of 238% since 1983. Figure 2 shows the origins of UP-N riders who board at stations outside of Chicago's Central Business District (CBD). Overall passenger ridership on the UP-N totaled 9.3 million in 2014.

Approximately 5,000 parking spaces serve UP-N riders, as shown in Table 1c. According to parking counts conducted in 2014, the effective rate of parking space utilization at all stations on the line averages 77%. At eight stations, effective parking utilization exceeds 85%. This indicates a demand for increased parking on the line, since Metra considers lots over 85% occupied to be approaching full capacity.

Demographic forecasts anticipate continued growth in population and employment along the UP-N, as shown in Tables 3, 4, and 5, suggesting that demand for commuter rail service in the corridor will continue to rise. The Chicago Metropolitan Agency for Planning (CMAP) forecasts that the UP-N corridor will attract nearly 250,000 new residents between 2010 and 2040, a 24% increase. Employment growth will be a significant factor in stimulating ridership growth. A 23% increase in employment is projected for marketsheds within the UP-N corridor from 2010 to 2040.

FIGURE 2B: ORIGINS OF RIDERS USING NON-CBD UP-N STATIONS




**Metra Lines**

UP-N Line

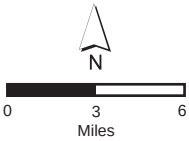
Other Metra Lines

**Major Roads**

Expressways

U.S./State Highways

Source: Metra 2014 Origin-Destination Survey



## TABLE 3: UP-N CORRIDOR POPULATION

| Station | Fare Zone | Area Sq. Mi. | Population in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Ogilvie Trans. Center, Clybourn | A | 12.6 | 217,022 | 237,400 | 296,087 | 9.4% | 24.7% |
| Ravenswood, Rogers Park | B | 18.3 | 383,769 | 367,136 | 445,992 | -4.3% | 21.5% |
| Main St., Davis St., Central St., Wilmette | C | 16.4 | 115,569 | 122,933 | 143,531 | 6.4% | 16.8% |
| Kenilworth, Indian Hill, Winnetka, Hubbard Woods, Glencoe | D | 14.2 | 39,370 | 38,528 | 55,406 | -2.1% | 43.8% |
| Braeside, Ravinia, Highland Park, Highwood | E | 14.3 | 32,179 | 32,057 | 48,355 | -0.4% | 50.8% |
| Fort Sheridan, Lake Forest | F | 11.4 | 15,541 | 16,212 | 22,714 | 4.3% | 40.1% |
| Lake Bluff, Great Lakes, N. Chicago | G | 25.1 | 68,234 | 78,102 | 91,370 | 14.5% | 17.0% |
| Waukegan | H | 26.1 | 84,286 | 86,173 | 106,783 | 2.2% | 23.9% |
| Zion, Winthrop Harbor | I | 46.4 | 47,559 | 53,813 | 71,901 | 13.1% | 33.6% |
| Kenosha[1] | K | n/a | n/a | n/a | n/a | n/a | n/a |
| **UP-N TOTAL** | | **184.8** | **1,003,529** | **1,032,354** | **1,282,139** | **2.9%** | **24.2%** |
| **REGION TOTAL** | | **3,748.0** | **8,091,717** | **8,456,762** | **11,717,936** | **4.5%** | **38.6%** |

[1] Station is not located in Illinois, and marketshed data is not available.

## TABLE 4: UP-N CORRIDOR HOUSEHOLDS

| Station | Fare Zone | Area Sq. Mi. | Households in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Ogilvie Trans. Center, Clybourn | A | 12.6 | 112,854 | 122,915 | 160,216 | 8.9% | 30.3% |
| Ravenswood, Rogers Park | B | 18.3 | 169,194 | 163,940 | 197,148 | -3.1% | 20.3% |
| Main St., Davis St., Central St., Wilmette | C | 16.4 | 44,346 | 44,845 | 56,355 | 1.1% | 25.7% |
| Kenilworth, Indian Hill, Winnetka, Hubbard Woods, Glencoe | D | 14.2 | 13,829 | 13,467 | 19,028 | -2.6% | 41.3% |
| Braeside, Ravinia, Highland Park, Highwood | E | 14.3 | 11,883 | 11,677 | 17,664 | -1.7% | 51.3% |
| Fort Sheridan, Lake Forest | F | 11.4 | 5,290 | 5,369 | 7,317 | 1.5% | 36.3% |
| Lake Bluff, Great Lakes, N. Chicago | G | 25.1 | 18,570 | 17,049 | 25,434 | -8.2% | 49.2% |
| Waukegan | H | 26.1 | 27,866 | 27,759 | 34,024 | -0.4% | 22.6% |
| Zion, Winthrop Harbor | I | 46.4 | 16,211 | 18,336 | 24,698 | 13.1% | 34.7% |
| Kenosha[1] | K | n/a | n/a | n/a | n/a | n/a | n/a |
| **UP-N TOTAL** | | **184.8** | **420,043** | **425,357** | **541,884** | **1.3%** | **27.4%** |
| **REGION TOTAL** | | **3,748.0** | **2,906,924** | **3,050,134** | **4,224,349** | **4.9%** | **38.5%** |

[1] Station is not located in Illinois, and marketshed data is not available.

TABLE 5: UP-N CORRIDOR EMPLOYMENT

| Station | Fare Zone | Area Sq. Mi. | Employment in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Ogilvie Trans. Center, Clybourn | A | 12.6 | 257,635 | 259,322 | 352,184 | 0.7% | 35.8% |
| Ravenswood, Rogers Park | B | 18.3 | 71,269 | 84,439 | 97,844 | 18.5% | 15.9% |
| Main St., Davis St., Central St., Wilmette | C | 16.4 | 76,407 | 72,573 | 63,216 | -5.0% | -12.9% |
| Kenilworth, Indian Hill, Winnetka, Hubbard Woods, Glencoe | D | 14.2 | 15,953 | 16,898 | 20,838 | 5.9% | 23.3% |
| Braeside, Ravinia, Highland Park, Highwood | E | 14.3 | 20,972 | 26,211 | 34,774 | 25.0% | 32.7% |
| Fort Sheridan, Lake Forest | F | 11.4 | 11,056 | 10,732 | 15,767 | -2.9% | 46.9% |
| Lake Bluff, Great Lakes, N. Chicago | G | 25.1 | 46,817 | 44,039 | 44,809 | -5.9% | 1.7% |
| Waukegan | H | 26.1 | 35,349 | 31,423 | 37,328 | -11.1% | 18.8% |
| Zion, Winthrop Harbor | I | 46.4 | 7,863 | 9,163 | 16,893 | 16.5% | 84.4% |
| Kenosha[1] | K | n/a | n/a | n/a | n/a | n/a | n/a |
| **UP-N TOTAL** | | **184.8** | **543,321** | **554,800** | **683,653** | **2.1%** | **23.2%** |
| **REGION TOTAL** | | **3,748.0** | **4,340,215** | **3,786,224** | **5,267,696** | **-12.8%** | **39.1%** |

[1] Station is not located in Illinois, and marketshed data is not available.

## REVERSE COMMUTE AND NON-DOWNTOWN MARKETS

Although Metra's primary market involves commuters who follow the traditional suburb-to-CBD trip pattern, in recent years Metra has seen a demand for city-to-suburb reverse-commute options (Metra's primary commuter market is discussed in the Central Business District Market chapter). The UP-N Line hosts a substantial amount of reverse commute traffic. Twenty percent of UP-N boardings during the AM peak are in the reverse (outbound) direction, the highest percentage of any line in the Metra system and well above the system average of 6.5%. Nearly 85% of these outbound boardings take place at the four stations in Chicago, from OTC to Rogers Park. Ravenswood is Metra's busiest reverse commute station outside downtown. During the AM peak, 689 riders at this station board outbound trains—more than the total number of boardings in either direction at 161 of Metra's 241 stations.

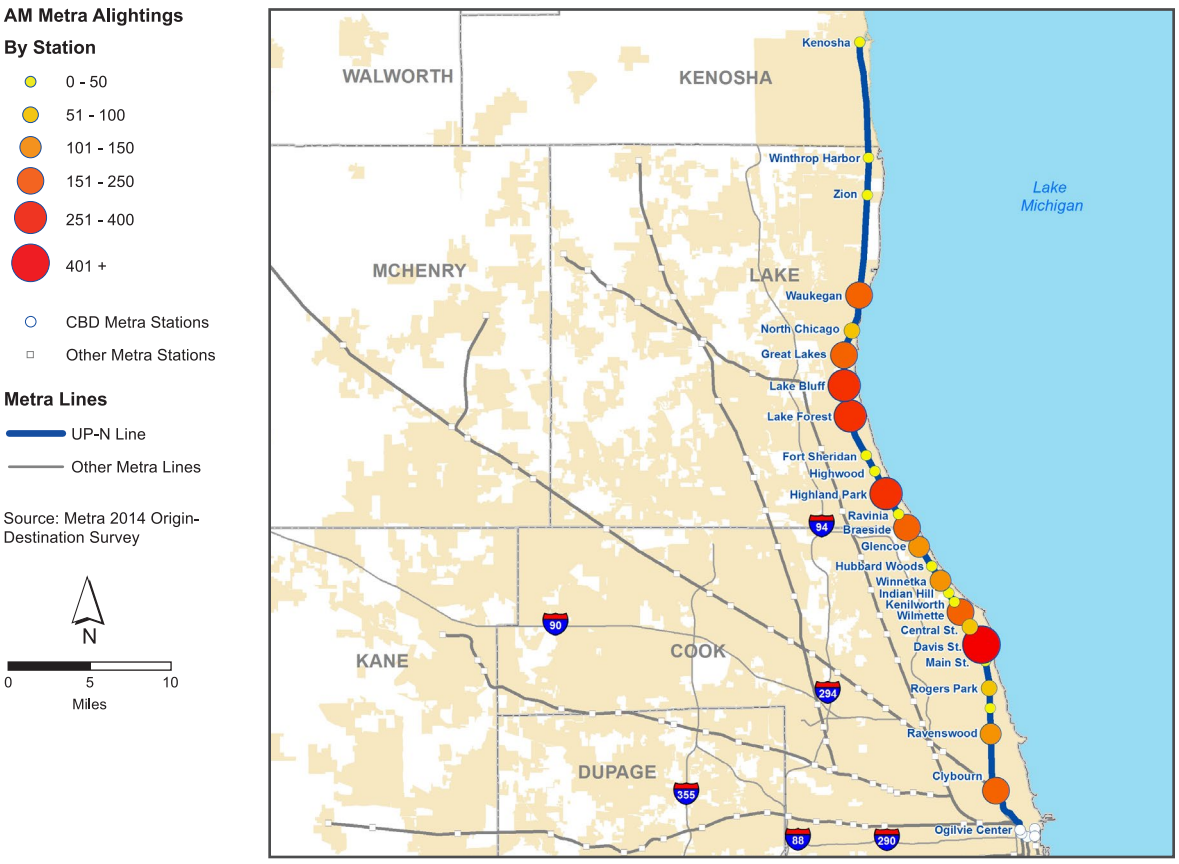
Dense development along the UP-N Line, in Chicago and lakefront suburbs to the north, has led to heavy use of outlying UP-N stations as destination stations. (Figure 3 shows AM alightings at non-CBD UP-N stations.) According to Metra's 2014 Boarding and Alighting Count, 26% of AM peak-period UP-N alightings take place at outlying stations. The proximity of stations to residences, employment centers, and cultural attractions makes it possible for many Metra riders—even those using stations far outside the CBD—to walk to and from stations at both ends of their trip. In fact, the UP-N Line has the highest walk and bike mode of access (53%) of any Metra line, well above the system average of 25%. (see Table 1d).

A significant number of riders utilize stations in suburban downtowns along the UP-N in order to reach nearby jobs. For example, at the Davis Street Station in Evanston, which serves the downtown Evanston business district and Northwestern University, approximately 680 riders—nearly 22% of the station's users during the AM peak—alight rather than board. At the Lake Forest and Braeside Stations, bus routes that are part of the Shuttle Bug service connect Metra riders with employers at nearby corporate campuses. (The Shuttle Bug service is discussed further in the Milwaukee District–North Line chapter.) A significant number of riders are attracted to stations in less dense areas as well, as domestic workers commute to jobs in residential areas and workers at larger employers, such as New Trier High School in Winnetka and Abbott Laboratories in North Chicago, utilize nearby stations. (Table 6 shows major trip generators along the UP-N.)

Ravinia Festival is an important non-downtown destination on the UP-N. Ravinia Park station, adjacent to the park's front gate, is only served during the summer concert season, when Metra runs additional trains and offers a special discounted round-trip pass for riders traveling to the venue.

Indicators suggest that travel to outlying stations, including reverse-commute travel, will increase in the UP-N corridor. Significant employment growth is

## FIGURE 3: AM ALIGHTINGS AT NON-CBD UP-N STATIONS



projected by 2040 in marketsheds from Kenilworth to Lake Forest, and in the Zion and Winthrop Harbor marketsheds (see Table 5). Such suburban employment growth, accompanied by an increase in population and households in the city and inner suburbs (as shown in Tables 3 and 4), has been linked to increased demand for reverse-commute travel. Population growth of 22% by 2040 is projected in the marketsheds for the eight UP-N stations serving Chicago, Evanston, and Wilmette.

## TABLE 6: MAJOR TRIP GENERATORS IN THE UP-N CORRIDOR

| Generator Type | Name | Comments | Municipality |
|---|---|---|---|
| **Colleges and Universities** | Loyola University Chicago | 15,500 students | Chicago |
| | St. Augustine College | 600 students | Chicago |
| | Truman College | 24,000 students | Chicago |
| | Northwestern University | 15,100 full-time students, 1,100 part-time students | Evanston |
| | Lake Forest College | 1,400 students | Lake Forest |
| | Rosalind Franklin University | 1,700 students | North Chicago |
| | College of Lake County | Lakeshore Campus | Waukegan |
| | Carthage College | 2,200 full-time students, 750 part-time students | Kenosha, WI |
| | Gateway Technical College | 5,000 full-time students, 24,000 part-time students | Kenosha, WI |
| | University of Wisconsin | Parkside Campus; 5,000 students | Kenosha, WI |
| **Culture and Entertainment** | Wrigley Field | Chicago Cubs baseball stadium; capacity 41,100 | Chicago |
| | Ryan Field | Northwestern Univ. football stadium; capacity 47,100 | Evanston |
| | Welsh-Ryan Arena | Northwestern Univ. basketball arena, capacity 8,100 | Evanston |
| | Chicago Botanic Garden | 385-acre living plant museum | Glencoe |
| | Ravinia Park | Performing arts facility; 3,200-seat open air theater | Highland Park |
| | Genesee Theatre | Performing arts venue; capacity 2,400 | Waukegan |
| | Anderson Arts Center | 9,000 sq. ft. arts center | Kenosha, WI |
| **Government** | U.S. Navy | Naval Station Great Lakes; 4,500 employees | North Chicago |
| | Lake County Courthouse | County administrative offices | Waukegan |
| | Kenosha Co. Admin. Building | County administrative offices | Kenosha, WI |
| | Kenosha County Courthouse | Circuit court for Kenosha County | Kenosha, WI |
| **Hospitals** | Bethany Methodist Hospital | 235 beds; 525 employees | Chicago |
| | Evanston Hospital | 377 beds; 4,200 employees | Evanston |
| | Saint Francis Hospital | 375 beds; 1,300 employees | Evanston |
| | Highland Park Hospital | 155 beds; 1,700 employees | Highland Park |
| | Lake Forest Hospital | 215 beds; 1,600 employees | Lake Forest |
| | Lovell Federal Health Care Ctr. | 503 beds; 2,650 employees | North Chicago |
| | Vista Medical Ctr. (East & West) | Total: 200 beds; 1,900 employees | Waukegan |
| | Midwestern Regional Med. Ctr. | 70 beds; 950 employees | Zion |
| | Kenosha Medical Center | 189 beds; 1,800 employees | Kenosha, WI |
| **Top Private Employers** | S&C Electric | Manf./service of elec. pwr. systems; 2,000 employees | Chicago |
| | Abbott Laboratories | Pharmaceutical company | North Chicago |
| | Jockey | Clothing manufacturer; 1,000 employees | Kenosha, WI |
| | Snap-on | Tool developer and manufacturer; 500-900 employees | Kenosha, WI |

*Significant shopping areas exist at several stations along the line.


*MD-N train travels north through Rondout Junction toward the MD-N Fox Lake Branch*

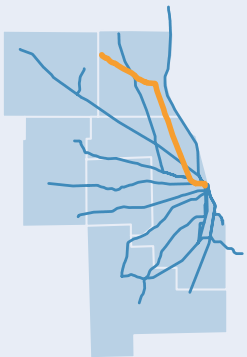
*Photo: Mark Llanuza*

# MILWAUKEE DISTRICT - NORTH LINE

## EXISTING SERVICE AND CONDITIONS

**Metra's Milwaukee District-North (MD-N) Line** extends 49.5 miles north-northwest from Chicago's Union Station (CUS or "Union Station") to Fox Lake. The MD-N Line provides service to 20 intermediate stations between CUS and Fox Lake with service to the northwest side of Chicago, northern Cook County, and Lake County (see Figure 1). In 2014, passenger trips on the MD-N totaled 7.2 million, ranking seventh among the eleven Metra lines (based on ticket sales).

The Milwaukee District–North and Milwaukee District–West (MD-W) Lines were acquired by Metra following the demise of the Milwaukee Road (the Chicago, Milwaukee, St. Paul and Pacific Railroad). Both the MD-N and MD-W are operated and maintained by Metra employees and trains on both lines are dispatched from Minneapolis by Canadian Pacific (CP), which operates freight service over Metra-owned Milwaukee District track. Wisconsin & Southern Railroad also moves freight traffic over portions of the MD-N, and the main line segment of the MD-N (from CUS to Rondout Junction, which is located between the Lake Forest and Libertville Stations) handles Amtrak's Hiawatha and Empire Builder trains, which originate at CUS and also stop in Glenview.



Maintenance and daytime storage of all Milwaukee District trainsets, as well as trainsets serving Metra's North Central Service (NCS) and Heritage Corridor

lines, takes place at the Western Avenue Yard, located approximately three miles west of CUS. Overnight storage of trainsets serving the MD-N Line takes place at the Fox Lake Yard, just east of the station in Fox Lake.

Both Milwaukee District lines as well as the NCS share the Western Avenue Station in Chicago and Metra's three main tracks for the five miles between CUS and A-5 Junction, where the MD-N splits from the MD-W/NCS. The MD-N has three distinct segments: a triple-track main line from CUS to A-5, a double-track main line north from A-5 to Rondout Junction, and a single-track branch line (the Fox Lake Subdivision northwest from Rondout to Fox Lake) (Figure 1). The main line north of Rondout is owned by CP while the branch line beyond Fox Lake is owned by the Wisconsin River Rail Transit Commission.

Service levels are higher on the double-track main line than the single-track Fox Lake Subdivision. The variety of train operations on the main line, as well as limited crossovers and lack of a second track on the Subdivision, preclude the maximization of reverse-commute service and additional recycling of trains for peak-period trips.

Table 1 details the service, station, and ridership characteristics of the MD-N.

2014 Average trip length:
**23.2 miles**

2014 Average fare paid:
**$3.93**

*Source: Ridership Trends Report, Dec. 2014*

Number of Stations:
**22**

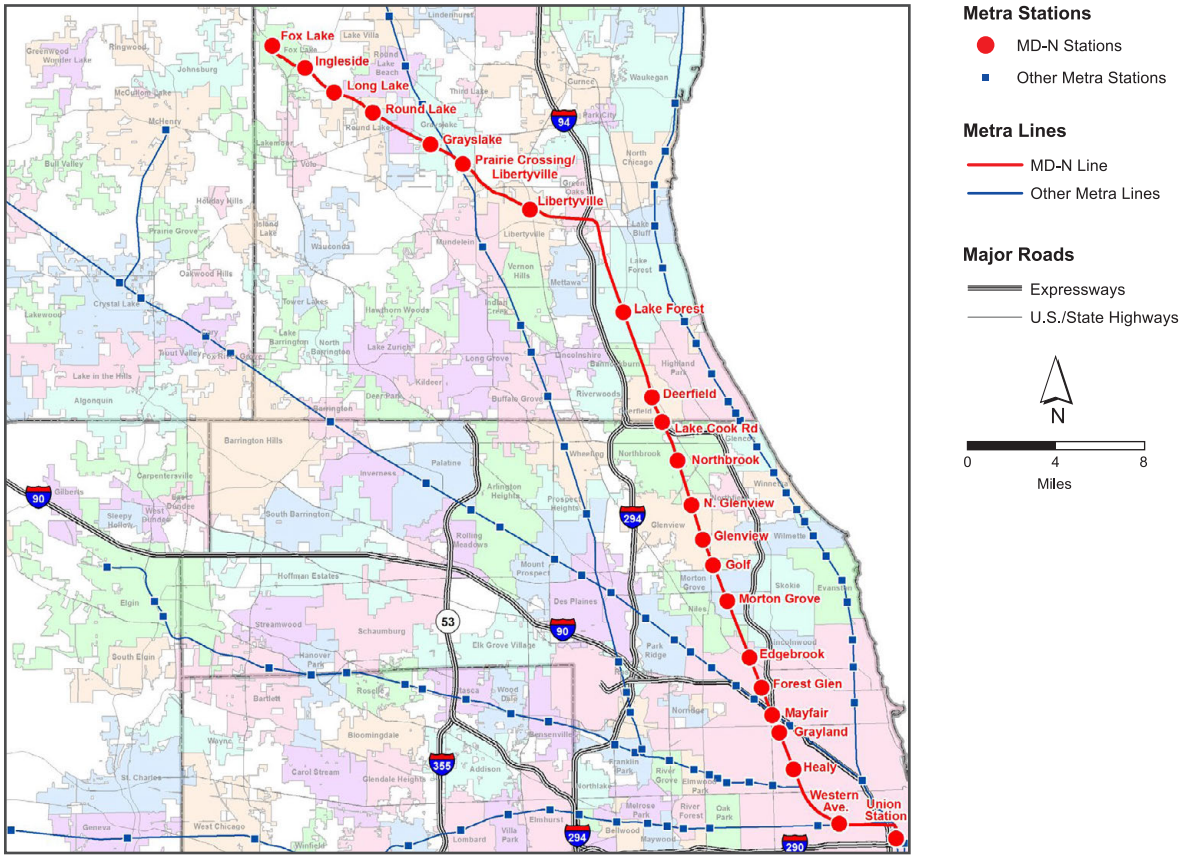
Route Length:
**49.5 miles**

Number of weekday trains:
**60**

2014 On-time performance*:
**91.7%**

** On-time Performance Report, Dec. 2014*

## FIGURE 1: METRA STATIONS ON THE MD-N LINE

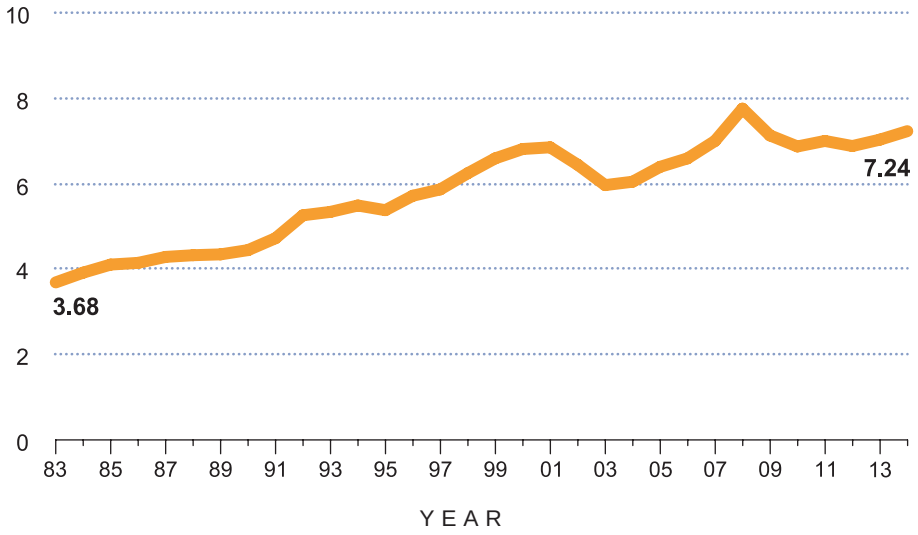


## TABLE 1A: 2014 MD-N WEEKDAY BOARDINGS

| Time of Day | Inbound | Outbound |
|---|---|---|
| AM Peak | 8,429 | 1,133 |
| Midday | 1,338 | 883 |
| PM Peak | 1,649 | 7,913 |
| Evening | 329 | 1,583 |
| **TOTAL** | **11,745** | **11,512** |

*Source: Metra Weekday Station Boardings and Alightings by Time-of-Day and Direction, 2014*

## TABLE 1B: MD-N ANNUAL PASSENGER TRIPS
1983 — 2014, in millions




*Note: from 2008, figures include free Circuit Permit trips. 2008-2011 figures include free senior trips; this program ended September 2011.*

## TABLE 1C: MD-N STATION CHARACTERISTICS

| Station | Fare Zone | Mile Post | Accessibility[1] | Boardings | | Station Parking (2014) | | | Time to Chicago (minutes)[1] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1983[2] | 2014[3] | Capacity (Spaces)[4] | Effective Use[5] | Observed Use[6] | Shortest Trip | Longest Trip |
| Union Station | A | 0.0 | Full | 5,805 | 9,870 | 0 | n/a | n/a | n/a | n/a |
| Western Ave.[7] | A | 2.9 | Full | 136 | 411 | 20 | 100% | 100% | n/a | 14 |
| Healy | B | 6.4 | Full | 226 | 322 | 13 | 92% | 92% | n/a | 20 |
| Grayland | B | 8.2 | None | 78 | 314 | 21 | 76% | 76% | n/a | 23 |
| Mayfair | B | 9.0 | None | 53 | 340 | 0 | n/a | n/a | n/a | 25 |
| Forest Glen | C | 10.2 | None | 73 | 351 | 101 | 70% | 70% | n/a | 28 |
| Edgebrook | C | 11.6 | Partial | 197 | 504 | 193 | 90% | 90% | n/a | 31 |
| Morton Grove | C | 14.3 | Full | 451 | 1,054 | 464 | 97% | 91% | 26 | 36 |
| Golf | D | 16.2 | Full | 131 | 201 | 35 | 100% | 100% | 30 | 39 |
| Glenview | D | 17.4 | Full | 1,218 | 1,444 | 696 | 99% | 98% | 31 | 42 |
| Glen/N. Glenview[8] | D | 18.8 | Full | -- | 1,097 | 1,150 | 56% | 56% | 34 | 45 |
| Northbrook | E | 21.1 | Full | 1,213 | 1,334 | 697 | 100% | 100% | 38 | 49 |
| Lake Cook Rd.[8] | E | 23.0 | Full | -- | 1,263 | 655 | 56% | 56% | 41 | 53 |
| Deerfield | E | 24.2 | Full | 1,185 | 1,247 | 621 | 97% | 93% | 44 | 56 |
| Lake Forest | F | 28.4 | Full | 193 | 570 | 548 | 76% | 59% | 50 | 62 |
| Libertyville | H | 35.5 | Full | 702 | 826 | 449 | 96% | 79% | 60 | 72 |
| Prairie Crossing[8, 9] | H | 39.2 | Full | -- | 451 | 647 | 61% | 61% | 66 | 78 |
| Grayslake | I | 41.0 | Full | 196 | 509 | 663 | 48% | 48% | 72 | 82 |
| Round Lake | I | 44.0 | Full | 317 | 513 | 485 | 51% | 49% | 77 | 88 |
| Long Lake | J | 46.0 | Partial | 45 | 105 | 47 | 85% | 85% | 81 | 91 |
| Ingleside | J | 47.8 | Full | 15 | 89 | 119 | 43% | 43% | 84 | 94 |
| Fox Lake | J | 49.5 | Full | 405 | 442 | 452 | 72% | 65% | 84 | 97 |
| **TOTAL MD-N** | | | | **12,670** | **23,257** | **8,076** | **74%** | **71%** | | |

[1] Milwaukee District-North Line Schedule

[2] Metra's 1983 Boarding/Alighting Counts. Total includes 14 boardings at Wilson Road station, which closed in 1984.

[3] Metra, "Commuter Rail System Station Boarding/Alighting Counts," Fall 2014

[4] Metra Station Parking Capacity and Use

[5] Effective use: all sold permit spaces are assumed to be used, even if unoccupied during parking survey

[6] Observed use: spaces physically occupied during parking survey

[7] Parking area at this station serves MD-N, MD-W and NCS Lines

[8] Glen/North Glenview opened in 2001. Prairie Crossing/Libertyville opened in 2004. Lake Cook Rd. opened in 1996.

[9] Parking area at this station serves MD-N and NCS Lines

## TABLE 1D: MODE OF ACCESS AT MD-N METRA STATIONS

| Station Name | Walk/Bike | Drive/Carpool Driver | Carpool Passenger/ Dropped Off | Transit | Other |
|---|---|---|---|---|---|
| Union Station[1] | 40% | 4% | 9% | 39% | 8% |
| Western Ave. | 34% | 38% | 13% | 14% | 1% |
| Healy | 50% | 12% | 13% | 24% | 1% |
| Grayland | 64% | 25% | 6% | 6% | 0% |
| Mayfair | 45% | 16% | 12% | 26% | 0% |
| Forest Glen | 34% | 49% | 14% | 3% | 0% |
| Edgebrook | 35% | 41% | 20% | 3% | 0% |
| Morton Grove | 20% | 59% | 20% | 1% | 0% |
| Golf | 43% | 27% | 30% | 0% | 0% |
| Glenview | 29% | 50% | 19% | 1% | 1% |
| Glen/N. Glenview | 8% | 77% | 14% | 0% | 1% |
| Northbrook | 17% | 66% | 16% | 0% | 1% |
| Lake Cook Rd. | 2% | 86% | 11% | 0% | 1% |
| Deerfield | 20% | 60% | 19% | 0% | 1% |
| Lake Forest | 5% | 74% | 21% | 0% | 0% |
| Libertyville | 15% | 53% | 31% | 1% | 0% |
| Prairie Crossing | 7% | 78% | 15% | 0% | 0% |
| Grayslake | 14% | 65% | 19% | 1% | 1% |
| Round Lake | 8% | 63% | 29% | 1% | 0% |
| Long Lake | 15% | 61% | 25% | 0% | 0% |
| Ingleside | 17% | 59% | 24% | 0% | 0% |
| Fox Lake | 7% | 69% | 21% | 0% | 3% |
| **TOTAL MD-N** | **21%** | **58%** | **19%** | **3%** | **1%** |
| **SYSTEM TOTAL** | **25%** | **52%** | **17%** | **3%** | **3%** |

[1] Includes riders boarding on all Metra lines departing from station

[2] Line total does not include downtown terminal

*Source: Metra, Spring 2014 Origin-Destination Survey*

TABLE 2: METRA CAPITAL INVESTMENT HISTORY
1985 — June 2015, in millions of dollars

| Asset | MD-N | System |
|---|---|---|
| Rolling stock | $152 | $2,449 |
| Track and structure | 72 | 1,329 |
| Signal, electrical, and mechanical | 87 | 777 |
| Facilities and equipment | 77 | 548 |
| Stations and parking | 68 | 1,084 |
| Acquisitions, extensions, and expansions | 2 | 599 |
| Support activities | 41 | 348 |
| **TOTAL** | **$498** | **$7,134** |
| **PERCENTAGE** | **7.0%** | **100.0%** |

*Notes: 1) Excludes South Shore, preventative maintenance, new lines, and pending grants. 2) Prior expenses are not adjusted for subsequent inflation. 3) Data is subject to budget revisions, audit adjustments, etc. at any time. 4) For many projects, work locations and associated costs have not been identified, so budget amounts have been allocated among lines by various criteria.*

## IMPROVEMENTS SINCE THE START OF METRA

Since 1985, Metra has invested nearly $500 million (in year of expenditure dollars) in improvements to the MD-N Line. Table 2 indicates the amount of investment in different asset categories.

Metra has completed improvements at a number of MD-N stations, including the addition of three new infill stations and improvements at a number of existing stations (see right). Over the years, Metra has partnered with Amtrak, owner of CUS, to complete a number of upgrades to the terminal's commuter facilities.

Additional infrastructure improvements since 1992 include bridge repair and replacements, rehabilitated crossovers at Mayfair Interlocking—where the MD-N crosses Union Pacific-Northwest Line (UP-NW) tracks—and upgrades to the tower at A-5 Junction.

Most MD-N stations now comply with the accessibility requirements of the Americans with Disabilities Act (ADA), and approximately 93% of MD-N weekday boardings took place at these accessible stations. Metra's station ADA-compliance program started with designating ten of the busiest MD-N stations, including CUS, as "key stations," all of which were made fully accessible by 2007. Since 1985, Metra has completed access improvements at 11 non-downtown MD-N stations, and 16 outlying stations on the line are now fully accessible to disabled riders. Metra will bring the remaining stations into full ADA compliance as they are rehabilitated so that eventually all stations will be accessible.

**Depots and warming houses constructed since 1985 at:**

Glenview
Ingleside
Lake Cook Road (new station)
Lake Forest
Glen/North Glenview (new station)
Northbrook
Prairie Crossing (new station)

**Other significant improvements completed since 1985 at:**

Deerfield
Fox Lake
Golf
Healy
Western Avenue

**Improvements planned for:**

Grayland
Healy
Mayfair

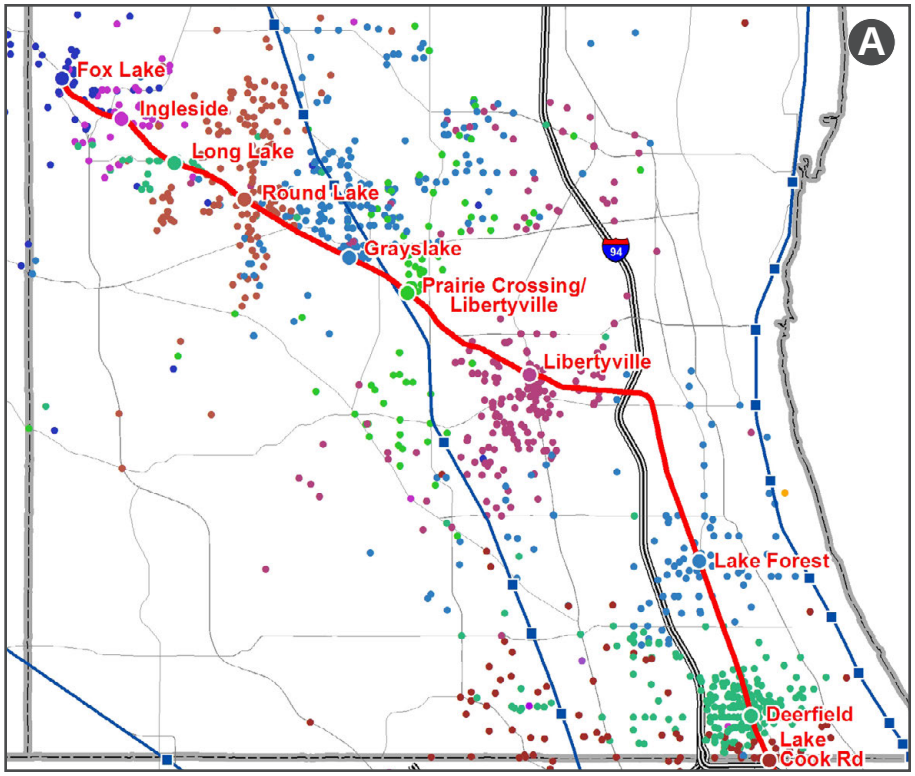
## PRESENT AND FUTURE DEMAND

Due to substantial increases in population along the MD-N corridor, demand for commuter rail service is expected to grow. Figure 2 shows the origins of MD-N riders using stations outside the Central Business District (CBD).

According to the 2014 Metra Boarding and Alighting Count, the MD-N had over 23,000 boardings, with 70% of boardings on peak period, peak-direction trains. Overall, the MD-N has seen a 84% increase in boardings since 1983 (see Table 1c). Significant ridership growth has been experienced at stations in Chicago (194% at non-CBD stations) and at a number of stations in Lake County, and no MD-N stations have declined in boardings. Despite considerable population and ridership growth in northwest Lake County along the Fox Lake Subdivision, approximately 65% of weekday non-CBD boardings on the MD-N take place in Cook County (including Lake Cook Road Station). Overall passenger ridership on the MD-N totaled 7.2 million in 2014.

Over 8,000 parking spaces serve MD-N riders. According to parking counts conducted in 2014, the effective parking utilization rate on the MD-N as a whole is 74%. Nine stations have effective utilization rates above 85%, which

FIGURE 2A: ORIGINS OF RIDERS USING NON-CBD MD-N STATIONS

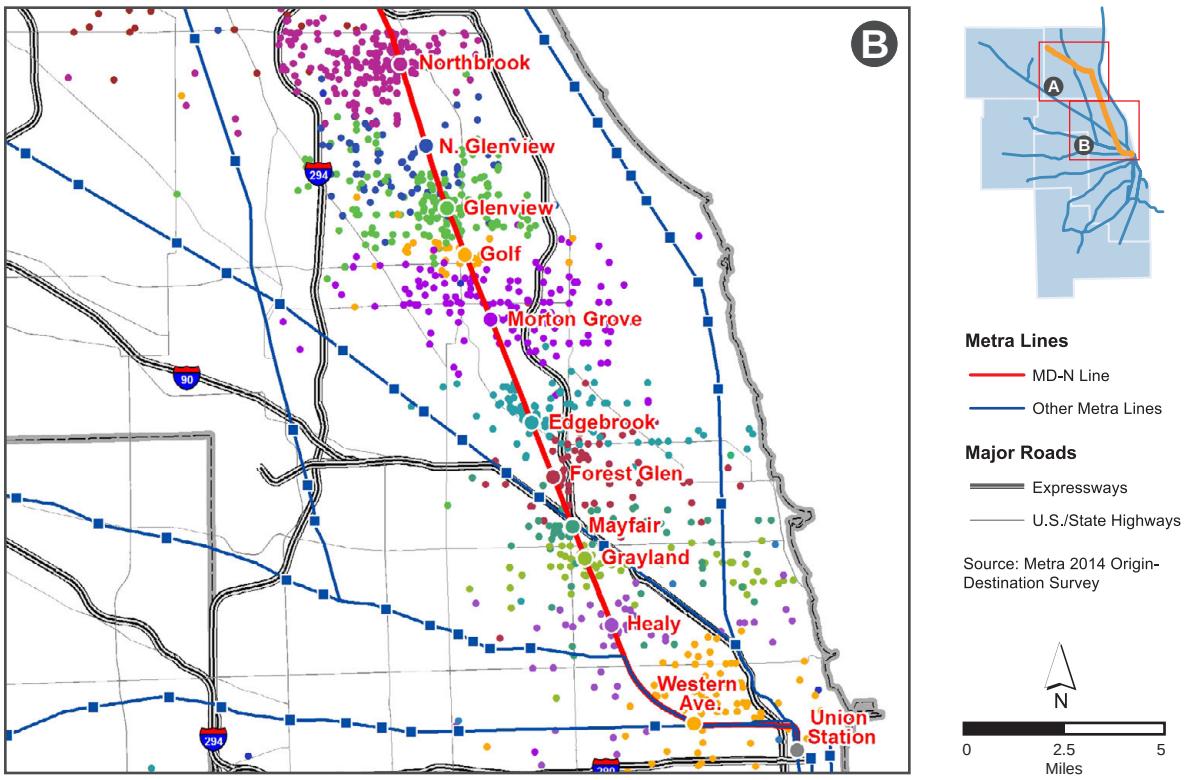


indicates a demand for increased parking on the line, since Metra considers lots over 85% occupied to be approaching full capacity.

In 2010, the population of the entire MD-N corridor was 653,000. By 2040, the population of the corridor is expected to increase by 32% to 860,000. Stations along the Fox Lake Subdivision are estimated to have the greatest percent increase in population, with projected growth of 50%. In contrast, the main line station marketshed population is estimated to increase by 26%. With heavy population and household growth along the MD-N corridor, it is likely that the MD-N will continue to see ridership gains and increased service demands in the future, particularly along the Fox Lake Subdivision. Tables 3, 4 and 5 describe the population, household and employment demographics for stations along the MD-N corridor.

Employment growth is likely to be a factor that drives increased ridership. A 42% increase in employment is projected for marketsheds within the MD-N corridor from 2010 to 2040. By 2040, significant job growth is expected to occur in the Lake Cook Road corridor (near the Northbrook, Lake Cook Road, and Deerfield Stations), which is already one of the region's significant non-CBD employment centers. Significant suburban employment expansion is also anticipated along the Fox Lake Subdivision (Libertyville to Fox Lake

FIGURE 2B: ORIGINS OF RIDERS USING NON-CBD MD-N STATIONS



Stations). Here, employment is projected to increase by 135% over 2010 levels, compared with a 28% increase in employment in main line station marketsheds. However, main line station marketsheds outside of downtown Chicago are still projected to have over three times as many jobs as Fox Lake Subdivision marketsheds by 2040.

## REVERSE COMMUTE AND NON-DOWNTOWN MARKETS

Although Metra's primary market involves commuters who follow the traditional suburb-to-CBD trip pattern, in recent years Metra has seen a demand for city-to-suburb reverse-commute options (Metra's primary commuter market is discussed in the Central Business District Market chapter). The shift of employment to suburban locations has left many commuters with limited transit accessibility to jobs. Figure 3 shows AM alightings at non-CBD MD-N stations.

In the Lake Cook Road corridor, the Shuttle Bug system of buses links the MD-N's Lake Cook Road and Deerfield Stations with nearby corporate campuses. Shuttle Bug service is managed by the Lake Cook Transportation Management Association—a non-profit association of employers in Lake and Cook Counties—in cooperation with Pace and Metra. Shuttle Bugs from the Glen/North Glenview and Lake Forest MD-N stations connect to the Willow Road and Townline Road corridors, respectively, and Shuttle Bug routes also serve stations on the UP-N and UP-NW Lines and the Chicago Transit Authority Yellow Line. (In spring 2015, the Shuttle Bug brand expanded into DuPage County, with the introduction of a new route linking the BNSF Line Belmont Station and a nearby office park.) In northern Cook and southern Lake Counties, a total of 13 Shuttle Bug routes serve over 16 firms, providing a viable transit solution for reverse commuters. By concentrating the routes around a dense employment cluster and focusing service on peak times and directions, the Shuttle Bugs have attracted the critical mass of riders needed for cost-effectiveness.

As evidence of the Shuttle Bug system's success, Lake Cook Road has the second-highest number (after the UP-N Davis Street/Evanston Station) of AM peak alightings of any Metra station outside downtown Chicago, and is one of the few outlying stations where more riders alight than board during the AM peak period. On the MD-N Line, 12% of AM peak boardings are in the reverse (outbound) direction, the second-highest percentage on the Metra system (after the UP-N Line) and well above the system average of 6.5%.

## TABLE 3: MD-N CORRIDOR POPULATION

| Station | Fare Zone | Area Sq. Mi. | Population in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Union Station, Western Ave. | A | 3.6 | 61,046 | 56,719 | 76,351 | -7.1% | 34.6% |
| Healy, Grayland, Mayfair | B | 9.2 | 207,047 | 189,203 | 230,090 | -8.6% | 21.6% |
| Forest Glen, Edgebrook, Morton Grv. | C | 19.4 | 110,958 | 114,518 | 140,560 | 3.2% | 22.7% |
| Golf, Glenview, Glen/N. Glenview | D | 20.5 | 63,705 | 68,695 | 82,471 | 7.8% | 20.1% |
| Northbrook, Lake Cook Rd, Deerfield | E | 22.9 | 55,891 | 56,654 | 78,132 | 1.4% | 37.9% |
| Lake Forest | F | 14.6 | 11,480 | 12,087 | 19,539 | 5.3% | 61.7% |
| Libertyville, Prarie Crossing | H | 35.3 | 45,702 | 48,881 | 62,614 | 7.0% | 28.1% |
| Grayslake, Round Lake | I | 30.8 | 28,718 | 42,917 | 70,023 | 49.4% | 63.2% |
| Long Lake, Ingleside, Fox Lake | J | 83.6 | 46,282 | 63,097 | 100,166 | 36.3% | 58.7% |
| **MD-N TOTAL** | | **239.9** | **630,829** | **652,771** | **859,946** | **3.5%** | **31.7%** |
| **REGION TOTAL** | | **3,748** | **8,091,717** | **8,456,762** | **11,717,936** | **4.5%** | **38.6%** |

## TABLE 4: MD-N CORRIDOR HOUSEHOLDS

| Station | Fare Zone | Area Sq. Mi. | Households in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Union Station, Western Ave. | A | 3.6 | 24,349 | 26,143 | 29,606 | 7.4% | 13.2% |
| Healy, Grayland, Mayfair | B | 9.2 | 64,824 | 63,481 | 68,608 | -2.1% | 8.1% |
| Forest Glen, Edgebrook, Morton Grv. | C | 19.4 | 42,165 | 42,399 | 50,910 | 0.6% | 20.1% |
| Golf, Glenview, Glen/N. Glenview | D | 20.5 | 23,429 | 25,370 | 29,179 | 8.3% | 15.0% |
| Northbrook, Lake Cook Rd, Deerfield | E | 22.9 | 20,117 | 20,985 | 27,632 | 4.3% | 31.7% |
| Lake Forest | F | 14.6 | 3,513 | 3,766 | 6,373 | 7.2% | 69.2% |
| Libertyville, Prarie Crossing | H | 35.3 | 16,477 | 17,901 | 22,872 | 8.6% | 27.8% |
| Grayslake, Round Lake | I | 30.8 | 9,788 | 14,366 | 24,084 | 46.8% | 67.6% |
| Long Lake, Ingleside, Fox Lake | J | 83.6 | 16,793 | 23,771 | 35,442 | 41.6% | 49.1% |
| **MD-N TOTAL** | | **239.9** | **221,455** | **238,182** | **294,706** | **7.6%** | **23.7%** |
| **REGION TOTAL** | | **3,748** | **2,906,924** | **3,050,134** | **4,224,349** | **4.9%** | **38.5%** |

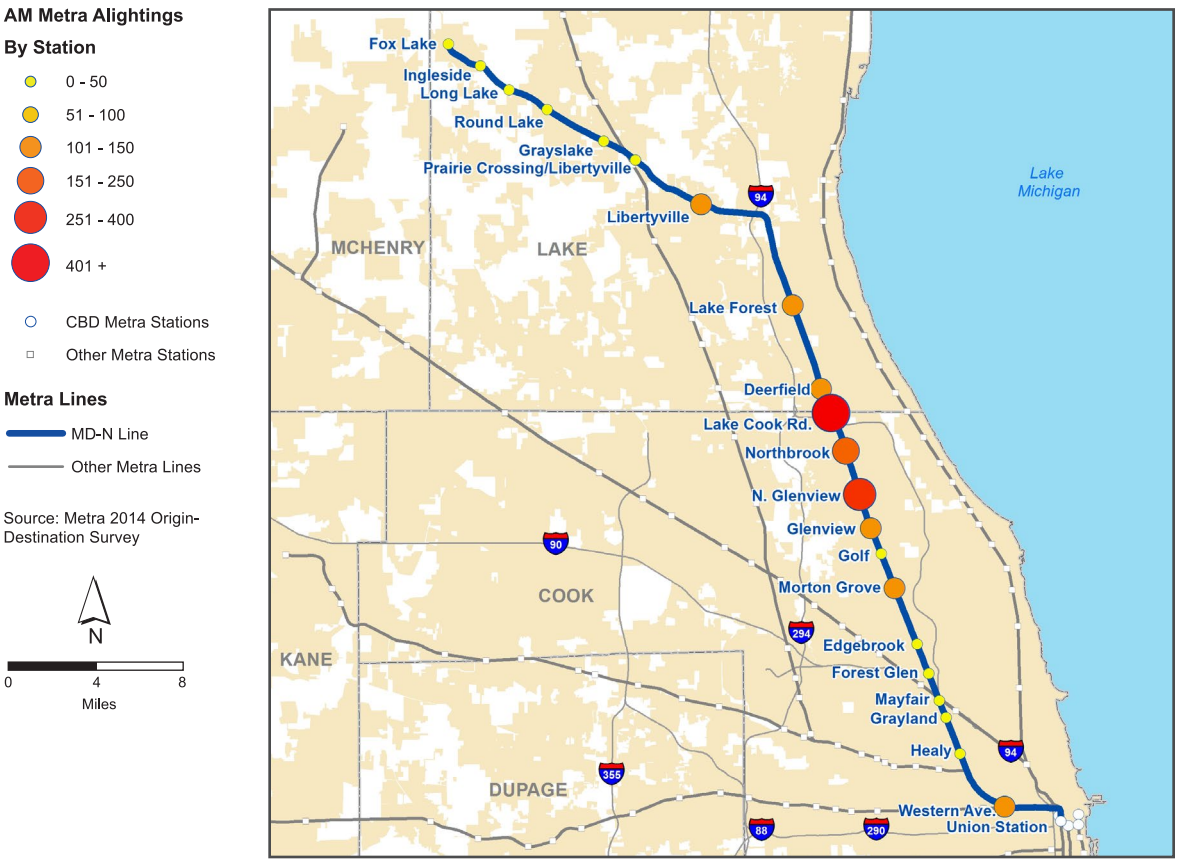
## TABLE 5: MD-N CORRIDOR EMPLOYMENT

| Station | Fare Zone | Area Sq. Mi. | Employment in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Union Station, Western Ave. | A | 3.6 | 50,855 | 40,907 | 53,328 | -19.6% | 30.4% |
| Healy, Grayland, Mayfair | B | 9.2 | 30,054 | 29,878 | 35,449 | -0.6% | 18.6% |
| Forest Glen, Edgebrook, Morton Grv. | C | 19.4 | 81,007 | 71,143 | 88,636 | -12.2% | 24.6% |
| Golf, Glenview, Glen/N. Glenview | D | 20.5 | 48,557 | 36,192 | 43,021 | -25.5% | 18.9% |
| Northbrook, Lake Cook Rd, Deerfield | E | 22.9 | 75,327 | 59,412 | 85,705 | -21.1% | 44.3% |
| Lake Forest | F | 14.6 | 18,923 | 19,819 | 24,527 | 4.7% | 23.8% |
| Libertyville, Prarie Crossing | H | 35.3 | 26,253 | 18,554 | 41,736 | -29.3% | 124.9% |
| Grayslake, Round Lake | I | 30.8 | 14,315 | 9,897 | 21,204 | -30.9% | 114.2% |
| Long Lake, Ingleside, Fox Lake | J | 83.6 | 5,517 | 10,107 | 27,654 | 83.2% | 173.6% |
| **MD-N TOTAL** | | **239.9** | **350,808** | **295,909** | **421,260** | **-15.6%** | **42.4%** |
| **REGION TOTAL** | | **3,748** | **4,340,215** | **3,786,224** | **5,267,696** | **-12.8%** | **39.1%** |

Employment in outer MD-N marketsheds, from Northbrook north, is expected to increase 70% between 2010 and 2040 (see Table 5). Meanwhile, population growth of 36% is forecast for the two station marketsheds closest to downtown Chicago (see Table 3). Growth in suburban employment and growth of population in the city and inner suburbs have been linked to increased reverse commuting, suggesting that this type of trip pattern will continue to increase on the MD-N Line.

A list of major trip generators along the MD-N corridor, including top employers, is shown in Table 6.

## FIGURE 3: AM ALIGHTINGS AT NON-CBD MD-N STATIONS



## TABLE 6: MAJOR TRIP GENERATORS IN THE MD-N CORRIDOR

| Generator Type | Name | Comments | Municipality |
|---|---|---|---|
| **Airports** | Campbell Airport | General aviation | Grayslake |
| **Colleges and Universities** | Northwestern College | Jefferson Park campus | Chicago |
| | St. Augustine College | West Town satellite campus, 400 students | Chicago |
| | University of Illinois at Chicago | 25,000 students | Chicago |
| | Hebrew Theological College | 200 students | Skokie |
| | Trinity International University | 3,000 students | Deerfield |
| | College of Lake County | 16,000 students | Grayslake |
| **Culture and Entertainment** | Kohl Children's Museum | 46,700 sq. ft. children's museum | Glenview |
| | Marytown | Catholic shrine and retreat center | Libertyville |
| | Lake County Fairgrounds | Hosts several events throughout the year | Grayslake |
| | Chain O'Lakes State Park | 2,800-acre state park on Fox River | Spring Grove |
| **Shopping*** | Golf Mill Shopping Center | Regional shopping center; 120 stores, 4 anchors | Niles |
| | Village Crossing | Regional shopping center; 40 stores, 7 anchors | Skokie |
| | The Glen Town Center | Lifestyle center; 50 stores, 3 anchors | Glenview |
| | Northbrook Court | Super-regional shopping center; 125 stores, 3 anchors | Northbrook |
| | Deerfield Square | Lifestyle center; 30 stores, 2 anchors | Deerfield |
| | Westfield Hawthorn Mall | Super-regional shopping center; 180 stores, 4 anchors | Vernon Hills |
| | Gurnee Mills | Super-regional shopping ctr.; 200 stores, 16 anchors | Gurnee |
| **Government** | Cook County Juvenile Court | 28 courtrooms and juvenile temporary detention center | Chicago |
| | Cook County District 2 Courthouse | Cook County courthouse and administrative offices | Skokie |
| | U.S. Export Assistance Center | U.S. Department of Commerce offices | Libertyville |
| **Hospitals** | Kindred Chicago Central Hospital | 114 beds; 150 employees | Chicago |
| | Norwegian American Hospital | 200 beds; 800 employees | Chicago |
| | St. Mary and Elizabeth Med. Ctr. | 246 beds; 2,100 employees | Chicago |
| | Swedish Covenant Hospital | 337 beds; 3,000 employees | Chicago |
| | Glenbrook Hospital | 125 beds; 1,400 employees | Glenview |
| | Northwestern Lake Forest Hospital | 215 beds; 1,600 employees | Lake Forest |
| | Advocate Condell Medical Ctr. | 304 beds; 2,500 employees | Libertyville |
| **Top Private Employers** | John Crane | Mechanical seal manufacturer; 1,400 employees | Morton Grove |
| | Aon Hewitt | Insurance provider; 900 employees | Glenview |
| | Allstate | Personal lines insurer; 5,300 employees | Northbrook |
| | Astellas Pharma | Pharmaceutical company; 1,000 employees | Northbrook |
| | Underwriters Laboratories | Product safety certification; 1,500 employees | Northbrook |
| | Baxter International | Global healthcare company; 1,100 employees | Deerfield |
| | Mondelez international | Food and beverage company; 600 employees | Deerfield |
| | Takeda | Pharmaceutical company; 1,100 employees | Deerfield |
| | Walgreens | Pharmacy chain; 1,800 employees | Deerfield |
| | Discover | Financial services; 2,000 employees | Riverwoods |
| | Wolters Kluwer | Information services; 1,000 employees | Riverwoods |
| | Hospira | Pharmaceutical company; 1,500 employees | Lake Forest |
| | W.W. Grainger | Industrial supply company; 1,500 employees | Lake Forest |
| | Abbvie | Phamaceutical company | Mettawa |

*Significant shopping areas exist at several stations along the line.


*Metra train arrives at NCS O'Hare Transfer Station*

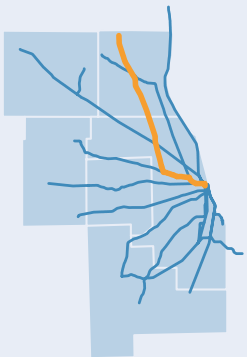
*Photo: Mark Llanuza*

# NORTH CENTRAL SERVICE

## EXISTING SERVICE AND CONDITIONS

**Metra's North Central Service (NCS) Line** extends north from Chicago Union Station (CUS, or "Union Station") in downtown Chicago to Antioch, near the Wisconsin state line, serving portions of Cook and Lake Counties (see Figure 1). In addition to CUS, the line serves 17 other stations along its 53-mile route. In 2014, passenger trips on the NCS totaled nearly 1.8 million, ranking tenth among the eleven Metra lines (based on ticket sales).

In August 1996, when Metra initiated the NCS almost from scratch, it was the first new commuter rail line in the Chicago region in 70 years. Service began with 10 trains each weekday, and 10 years later Metra increased the total number of weekday trains to 22 and added four more intermediate stations.



The NCS route includes 40 miles owned by Canadian National (CN; formerly Wisconsin Central 1987-2001, and Soo Line before that) and 13 miles using Metra's own Milwaukee District. Before 1996, the CN portion of the line had never had commuter service, and its very limited intercity passenger operation had ended in 1965. None of the old Soo Line passenger stations and yards remained in usable form, and former double-tracked sections had reverted to single track.

Today, CN and Metra maintain their respective tracks, signals, and rights-of-way, while Metra owns and operates the NCS trains and commuter yards. Daytime NCS train storage and servicing takes place at the Western Avenue Yard, located on the Milwaukee District Line about three miles west of CUS. The outlying NCS Antioch Yard accommodates nighttime storage and maintenance.

The NCS and the Milwaukee District–North and West Lines (MD-N and MD-W) share the Western Avenue Station in Chicago and Metra's three main tracks for the first five miles from CUS to A-5 Junction (where the MD-N and MD-W/NCS separate). Metra's next seven miles between A-5 and B-12 Junction (where the NCS diverges towards Antioch) are shared by MD-W and NCS trains. Metra upgraded the third main track between the two junctions for commuter service in 2006, allowing NCS and MD-W trains to run express through this segment. Canadian Pacific and Wisconsin & Southern also operate freight trains over these tracks, paying Metra for the trackage rights.

CN owns and maintains the track and operates freight trains over the 40 route miles between B-12 and Antioch that it shares with NCS commuter trains. (CN also owns and operates the track north of Antioch and south of B-12.)

2014 Average trip length:
**31.9 miles**

2014 Average fare paid:
**$4.55**

*Source: Ridership Trends Report, Dec. 2014*

Number of Stations:
**18**

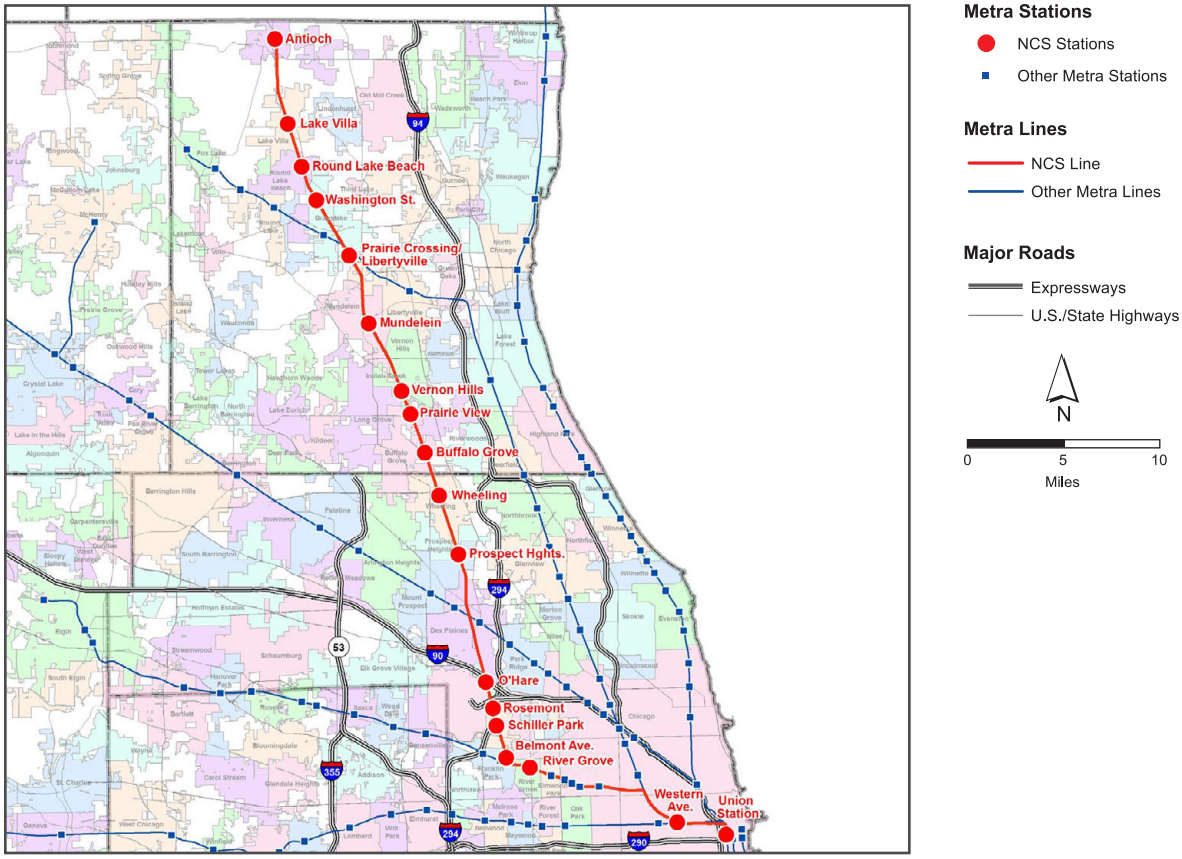
Route Length:
**52.8 miles**

Number of weekday trains:
**22**

2014 On-time performance*:
**89.9%**

** On-time Performance Report, Dec. 2014*

## FIGURE 1: METRA STATIONS ON THE NCS LINE

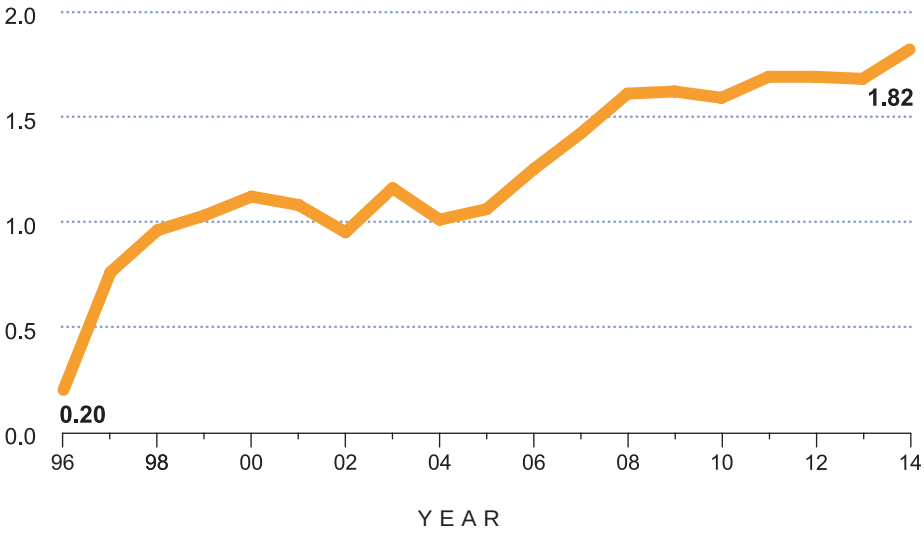


## TABLE 1A: 2014 NCS WEEKDAY BOARDINGS

| Time of Day | Inbound | Outbound |
|---|---|---|
| AM Peak | 2,823 | 163 |
| Midday | 185 | 297 |
| PM Peak | 187 | 2,526 |
| Evening | 1 | 234 |
| **TOTAL** | **3,196** | **3,220** |

*Source: Metra Weekday Station Boardings and Alightings by Time-of-Day and Direction, 2014*

## TABLE 1B: NCS ANNUAL PASSENGER TRIPS
1996 — 2014, in millions




*Note: from 2008, figures include free Circuit Permit trips. 2008-2011 figures include free senior trips; this program ended September 2011.*

## TABLE 1C: NCS STATION CHARACTERISTICS

| Station | Fare Zone | Mile Post | Accessibility[1] | Boardings | | Station Parking (2014) | | | Time to Chicago (minutes)[1] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1983[2] | 2014[3] | Capacity (Spaces)[4] | Effective Use[5] | Observed Use[6] | Shortest Trip | Longest Trip |
| Union Station | A | 0.0 | Full | -- | 2,799 | 0 | n/a | n/a | n/a | n/a |
| Western Ave.[7] | A | 2.9 | Full | -- | 92 | 20 | 100% | 100% | n/a | 13 |
| River Grove[8] | C | 11.4 | Full | -- | 168 | 171 | 95% | 85% | n/a | 24 |
| Belmont Ave./Franklin Park | C | 13.0 | Full | -- | 29 | 88 | 10% | 10% | 30 | 30 |
| Schiller Park | C | 14.8 | Full | -- | 29 | 102 | 24% | 24% | 34 | 34 |
| Rosemont | D | 15.6 | Full | -- | 33 | 100 | 6% | 6% | 37 | 37 |
| O'Hare Transfer | D | 17.1 | Full | -- | 144 | 0 | n/a | n/a | 33 | 40 |
| Prospect Heights | E | 24.0 | Full | -- | 277 | 326 | 46% | 46% | 45 | 51 |
| Wheeling | F | 27.2 | Full | -- | 333 | 482 | 37% | 37% | 51 | 56 |
| Buffalo Grove | F | 29.5 | Full | -- | 621 | 1,065 | 39% | 39% | 53 | 61 |
| Prairie View | G | 31.6 | Full | -- | 345 | 405 | 80% | 79% | 58 | 66 |
| Vernon Hills | G | 33.0 | Full | -- | 435 | 649 | 36% | 36% | 59 | 69 |
| Mundelein | H | 36.9 | Full | -- | 304 | 516 | 37% | 35% | 65 | 75 |
| Prairie Crossing[9] | H | 40.7 | Full | -- | 125 | 647 | 61% | 61% | 69 | 81 |
| Washington St./ Grayslake | I | 43.9 | Full | -- | 122 | 149 | 43% | 43% | 74 | 86 |
| Round Lake Beach | J | 45.9 | Full | -- | 157 | 358 | 22% | 22% | 76 | 89 |
| Lake Villa | J | 48.2 | Full | -- | 176 | 234 | 40% | 40% | 80 | 93 |
| Antioch | K | 52.8 | Full | -- | 227 | 318 | 44% | 44% | 86 | 99 |
| **TOTAL NCS** | | | | **--** | **6,416** | **5,630** | **44%** | **44%** | | |

[1] North Central Service Schedule
[2] NCS service began in 1996
[3] Metra, "Commuter Rail System Station Boarding/Alighting Counts," Spring 2014
[4] Metra Station Parking Capacity and Use
[5] Effective use: all sold permit spaces are assumed to be used, even if unoccupied during parking survey
[6] Observed use: spaces physically occupied during parking survey
[7] Western Ave. Station serves MD-N, MD-W and NCS Lines
[8] River Grove Station serves MD-W and NCS Lines
[9] Parking area at Prairie Crossing Station serves MD-N and NCS Lines

## TABLE 1D: MODE OF ACCESS AT NCS METRA STATIONS

| Station Name | Walk/Bike | Drive/Carpool Driver | Carpool Passenger/ Dropped Off | Transit | Other |
|---|---|---|---|---|---|
| Chicago Union Station[1] | 40% | 4% | 9% | 39% | 8% |
| Western Ave.[1] | 34% | 38% | 13% | 14% | 1% |
| River Grove[1] | 24% | 55% | 17% | 4% | 0% |
| Belmont Ave./Franklin Park[2] | 0% | 38% | 25% | 38% | 0% |
| Schiller Park[2] | 19% | 56% | 25% | 0% | 0% |
| Rosemont | 0% | 100% | 0% | 0% | 0% |
| O'Hare Transfer[2] | 8% | 25% | 25% | 0% | 42% |
| Prospect Heights | 16% | 58% | 26% | 0% | 0% |
| Wheeling | 11% | 68% | 20% | 1% | 0% |
| Buffalo Grove | 12% | 73% | 15% | 0% | 0% |
| Prairie View | 19% | 57% | 24% | 0% | 1% |
| Vernon Hills | 19% | 60% | 20% | 0% | 0% |
| Mundelein | 10% | 63% | 27% | 0% | 0% |
| Prairie Crossing | 0% | 74% | 18% | 8% | 0% |
| Washington St./Grayslake | 12% | 54% | 33% | 0% | 0% |
| Round Lake Beach | 6% | 70% | 23% | 0% | 0% |
| Lake Villa | 5% | 72% | 22% | 0% | 0% |
| Antioch | 11% | 60% | 28% | 0% | 1% |
| **TOTAL NCS[3]** | **16%** | **60%** | **21%** | **2%** | **0%** |
| **SYSTEM TOTAL** | **25%** | **52%** | **17%** | **3%** | **3%** |

[1] Includes riders boarding on all Metra lines departing from station

[2] Data not statistically significant due to number of survey responses received.

[3] Line total does not include downtown terminal

*Source: Metra, Spring 2014 Origin-Destination Survey*

TABLE 2: METRA CAPITAL INVESTMENT HISTORY
1985 — June 2015, in millions of dollars

| Asset | NCS | System |
|---|---|---|
| Rolling stock | $26 | $2,449 |
| Track and structure | 33 | 1,329 |
| Signal, electrical, and mechanical | 27 | 777 |
| Facilities and equipment | 18 | 548 |
| Stations and parking | 9 | 1,084 |
| Acquisitions, extensions, and expansions | 233 | 599 |
| Support activities | 18 | 348 |
| **TOTAL** | **$364** | **$7,134** |
| **PERCENTAGE** | **5.1%** | **100.0%** |

*Notes: 1) Excludes South Shore, preventative maintenance, new lines, and pending grants. 2) Prior expenses are not adjusted for subsequent inflation. 3) Data is subject to budget revisions, audit adjustments, etc. at any time. 4) For many projects, work locations and associated costs have not been identified, so budget amounts have been allocated among lines by various criteria.*

## IMPROVEMENTS SINCE THE START OF METRA

Since 1985, Metra has invested $364 million (in year of expenditure dollars) in improvements to the NCS corridor, as shown in Table 2. Since the line's 1996 inauguration, numerous adjustments have been made to the schedule, increasing service and reducing delays. On the NCS Line, a new depot was added at Prospect Heights and the depot at Buffalo Grove was expanded after the initial stations were constructed in 1996. Four additional new stations opened in 2006. That year, the number of weekday trains was doubled, which required that Metra and CN partner to double-track all but eight miles of the 40-mile shared route and upgrade its signals. Metra and CN have each contributed to a number of bridge repair or replacement projects on the NCS north of B-12. In addition, Metra has made other bridge improvements on the portion of the Milwaukee District that is used by NCS trains (these costs are counted as Milwaukee District investments, and are not reflected in Table 2). Over the years, Metra has partnered with Amtrak, owner of CUS, to complete a number of upgrades to the terminal's commuter facilities.

All NCS stations comply with the accessibility requirements of the Americans with Disabilities Act (ADA). The NCS-specific stations north of River Grove were fully accessible to disabled riders when they opened for service. As part of the 2006 NCS/MD-W upgrade, all of the remaining inaccessible stations between CUS and River Grove were also brought into ADA compliance.

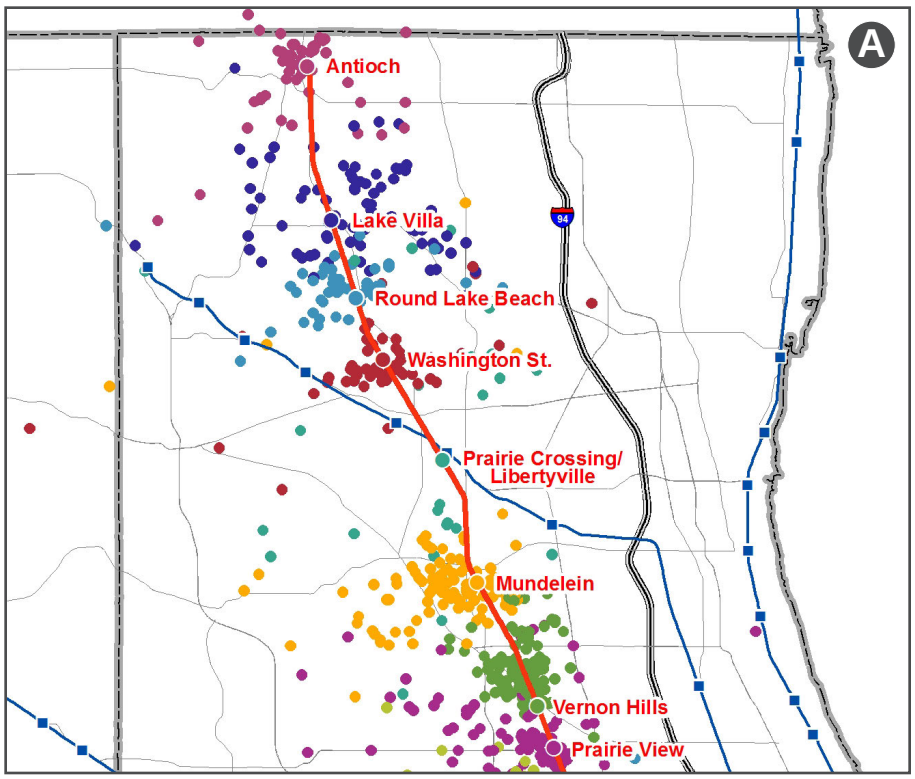
## PRESENT AND FUTURE DEMAND

In 2014, more than 5,300 boardings took place each weekday on the NCS, with 84% of boardings occurring on peak-period, peak-direction trains. Figure 2 shows the origins of NCS riders who board at stations outside of Chicago's Central Business District (CBD). Overall passenger ridership on the NCS totaled nearly 1.8 million in 2014.

Over 5,600 parking spaces serve the riders of the NCS, as shown in Table 1c. According to parking counts conducted in 2014, the effective rate of utilization at all stations on the line averages 44%. Because parking was expanded substantially as part of the 2006 NCS/MD-W upgrade to accommodate anticipated future demand, there is not an immediate need for more commuter parking on the NCS. Metra considers that lots more than 85% occupied are approaching full capacity and in need of expanded parking, and Western Avenue and River Grove are the only NCS stations to meet this standard.

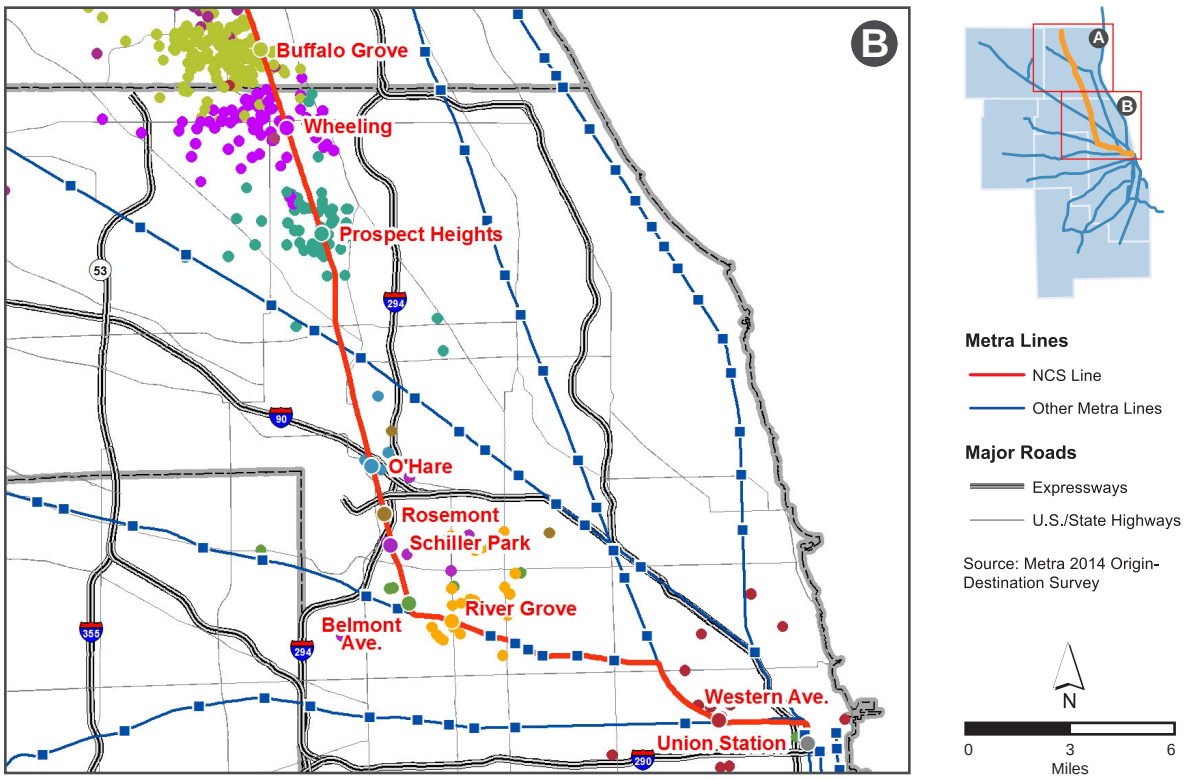
Tables 3, 4, and 5 show that NCS station marketsheds in Chicago or inner-ring suburbs experienced negative or little growth in population and households between 2000 and 2010, though healthy growth was experienced in

FIGURE 2A: ORIGINS OF RIDERS USING NON-CBD NCS STATIONS



marketsheds furthest from the CBD. However, the Chicago Metropolitan Agency for Planning (CMAP) forecasts significant population growth by 2040 along the NCS—an overall increase of 30% in the corridor. Employment expansion will also be a factor in stimulating ridership growth. Substantial job growth is projected in all but one zone (encompassing the Rosemont and O'Hare Transfer Station marketsheds), and is expected to be particularly strong near the outer end of the NCS corridor in northern Lake County.

FIGURE 2B: ORIGINS OF RIDERS USING NON-CBD NCS STATIONS



## TABLE 3: NCS CORRIDOR POPULATION

| Station | Fare Zone | Area Sq. Mi. | Population in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Union Station, Western Ave. | A | 3.6 | 61,046 | 56,719 | 76,351 | -7.1% | 34.6% |
| River Grove, Belmont Ave./Franklin Park, Schiller Park | C | 10.2 | 45,485 | 44,664 | 52,070 | -1.8% | 16.6% |
| Rosemont, O'Hare Transfer | D | 12.5 | 20,956 | 22,133 | 24,290 | 5.6% | 9.7% |
| Prospect Heights | E | 11.8 | 36,565 | 35,342 | 43,338 | -3.3% | 22.6% |
| Wheeling, Buffalo Grove | F | 25.9 | 89,757 | 90,898 | 112,750 | 1.3% | 24.0% |
| Prairie View, Vernon Hills | G | 30.1 | 41,516 | 45,188 | 62,251 | 8.8% | 37.8% |
| Mundelein, Prairie Crossing | H | 36.5 | 44,105 | 48,325 | 61,049 | 9.6% | 26.3% |
| Washington St./Grayslake | I | 14.0 | 29,196 | 32,255 | 42,072 | 10.5% | 30.4% |
| Round Lake Beach, Lake Villa | J | 43.0 | 44,960 | 52,826 | 74,867 | 17.5% | 41.7% |
| Antioch | K | 35.5 | 16,461 | 21,415 | 35,975 | 30.1% | 68.0% |
| **NCS TOTAL** | | **223.1** | **430,047** | **449,765** | **585,013** | **4.6%** | **30.1%** |
| **REGION TOTAL** | | **3,748.0** | **8,091,717** | **8,456,762** | **11,717,936** | **4.5%** | **38.6%** |

## TABLE 4: NCS CORRIDOR HOUSEHOLDS

| Station | Fare Zone | Area Sq. Mi. | Households in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Union Station, Western Ave. | A | 3.6 | 24,349 | 26,143 | 29,606 | 7.4% | 13.2% |
| River Grove, Belmont Ave./Franklin Park, Schiller Park | C | 10.2 | 17,940 | 17,529 | 20,089 | -2.3% | 14.6% |
| Rosemont, O'Hare Transfer | D | 12.5 | 9,107 | 9,204 | 10,137 | 1.1% | 10.1% |
| Prospect Heights | E | 11.8 | 13,533 | 13,304 | 15,803 | -1.7% | 18.8% |
| Wheeling, Buffalo Grove | F | 25.9 | 33,949 | 35,486 | 41,088 | 4.5% | 15.8% |
| Prairie View, Vernon Hills | G | 30.1 | 14,017 | 16,332 | 20,726 | 16.5% | 26.9% |
| Mundelein, Prairie Crossing | H | 36.5 | 14,369 | 15,998 | 20,037 | 11.3% | 25.2% |
| Washington St./Grayslake | I | 14.0 | 9,673 | 10,936 | 13,884 | 13.1% | 27.0% |
| Round Lake Beach, Lake Villa | J | 43.0 | 14,829 | 17,454 | 24,756 | 17.7% | 41.8% |
| Antioch | K | 35.5 | 6,164 | 7,893 | 13,298 | 28.0% | 68.5% |
| **NCS TOTAL** | | **223.1** | **157,930** | **170,279** | **209,424** | **7.8%** | **23.0%** |
| **REGION TOTAL** | | **3,748.0** | **2,906,924** | **3,050,134** | **4,224,349** | **4.9%** | **38.5%** |

TABLE 5: NCS CORRIDOR EMPLOYMENT

| Station | Fare Zone | Area Sq. Mi. | Employment in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Union Station, Western Ave. | A | 3.6 | 50,855 | 40,907 | 53,328 | -19.6% | 30.4% |
| River Grove, Belmont Ave./Franklin Park, Schiller Park | C | 10.2 | 27,319 | 22,476 | 25,446 | -17.7% | 13.2% |
| Rosemont, O'Hare Transfer | D | 12.5 | 130,803 | 70,157 | 52,641 | -46.4% | -25.0% |
| Prospect Heights | E | 11.8 | 42,048 | 21,168 | 35,029 | -49.7% | 65.5% |
| Wheeling, Buffalo Grove | F | 25.9 | 42,997 | 46,618 | 52,774 | 8.4% | 13.2% |
| Prairie View, Vernon Hills | G | 30.1 | 60,964 | 34,641 | 44,154 | -43.2% | 27.5% |
| Mundelein, Prairie Crossing | H | 36.5 | 18,151 | 19,589 | 36,341 | 7.9% | 85.5% |
| Washington St./Grayslake | I | 14.0 | 9,824 | 11,430 | 15,699 | 16.3% | 37.3% |
| Round Lake Beach, Lake Villa | J | 43.0 | 4,911 | 7,625 | 14,767 | 55.3% | 93.7% |
| Antioch | K | 35.5 | 4,052 | 4,116 | 8,428 | 1.6% | 104.8% |
| **NCS TOTAL** | | **223.1** | **391,924** | **278,727** | **338,607** | **-28.9%** | **21.5%** |
| **REGION TOTAL** | | **3,748.0** | **4,340,215** | **3,786,224** | **5,267,696** | **-12.8%** | **39.1%** |

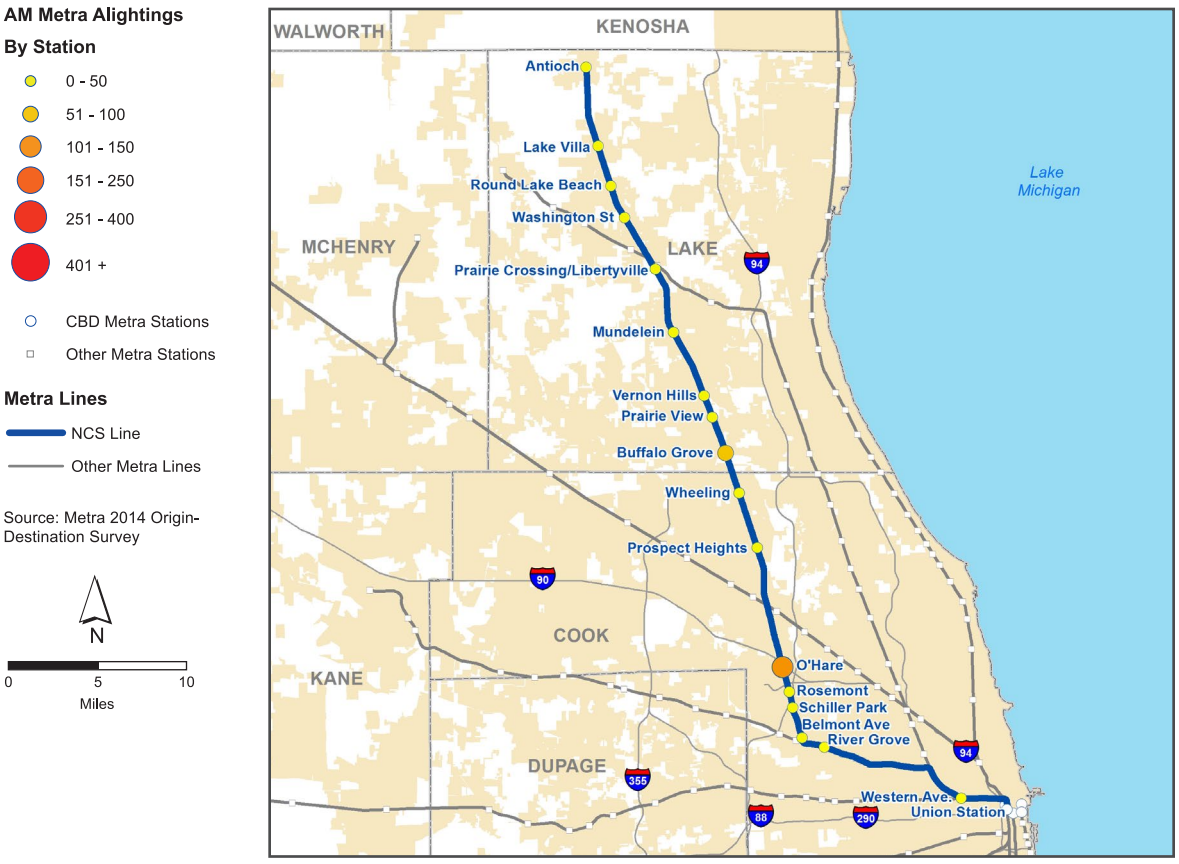
## REVERSE COMMUTE AND NON-DOWNTOWN MARKETS

Although Metra's primary market involves commuters who follow the traditional suburb-to-CBD trip pattern, in recent years Metra has seen a demand for city-to-suburb reverse-commute options (Metra's primary commuter market is discussed in the Central Business District Market chapter). The shift of employment to suburban locations has left many commuters with limited transit accessibility to jobs. Figure 3 shows AM alightings at non-CBD NCS stations.

Beyond downtown Chicago, a number of employment centers are located near the NCS Line. For instance, at four O'Hare-area stations (Belmont Ave./ Franklin Park to O'Hare Transfer), the share of AM peak station users who alight at the station is 10% or greater. At Rosemont and O'Hare Transfer Stations in particular, more passengers alight rather than board during the AM peak, reflecting that these stations serve airport travelers and employees, and others who work nearby. Dense employment areas further north, such as the Lake Cook Road corridor, have potential to attract reverse-commute riders to the NCS, but infrastructure limitations and freight traffic demands have precluded the expansion of this type of service on the line.

Major trip generators along the NCS, including top employers, are shown in Table 6.

## FIGURE 3: AM ALIGHTINGS AT NON-CBD NCS STATIONS



## TABLE 6: MAJOR TRIP GENERATORS IN THE NCS CORRIDOR

| Generator Type | Name | Comments | Municipality |
|---|---|---|---|
| **Airports** | O'Hare International Airport | Second-busiest airport in U.S. | Chicago |
| | Chicago Executive Airport | General and business aviation | Wheeling |
| **Colleges and Universities** | Triton College | 17,000 students | River Grove |
| | DePaul Univ. O'Hare Campus | Branch campus serving adult/continuing education | Des Plaines |
| | Oakton Community College | 10,800 students | Des Plaines |
| | University of St. Mary of the Lake | 400 students | Mundelein |
| | College of Lake County | 16,000 students | Grayslake |
| **Culture and Entertainment** | Allstate Arena | Sports arena; capacity 17,500 | Rosemont |
| | Donald E. Stephens Convention Center | 840,000 sq. ft. convention center | Rosemont |
| | Rosemont Theatre | Performing arts venue; capacity 4,400 | Rosemont |
| | Marytown | Catholic shrine and retreat center | Libertyville |
| | Lake County Fairgrounds | Hosts several events throughout the year | Grayslake |
| **Shopping*** | Fashion Outlets Chicago | 150-store outlet mall | Rosemont |
| | Randhurst Village | Lifestyle center; 3 anchor stores | Mt. Prospect |
| | Westfield Hawthorn Mall | Super-regional shopping center; 180 stores, including 4 anchor department stores | Vernon Hills |
| **Government** | Cook County Juvenile Court | 28 courtrooms; juvenile temporary detention center | Chicago |
| **Hospitals** | Norwegian American Hospital | 200 beds; 800 employees | Chicago |
| | St. Mary and Elizabeth Medical Center | 246 beds; 2,100 employees | Chicago |
| | Gottlieb Memorial Hospital | 250 beds; 1,200 employees | Melrose Park |
| | Resurrection Holy Family Medical Center | 184 beds; 1,200 employees | Des Plaines |
| | Condell Medical Center | 304 beds; 2,500 employees | Libertyville |
| **Top Private Employers** | Siemens Building Technology | Building automation and technology firm; 1,100 employees | Buffalo Grove |
| | Aon Hewitt | Management consulting services; 1,500 employees | Lincolnshire |
| | American Hotel Register | Hospitality product manufacturer; 400 employees | Vernon Hills |
| | Zebra Technologies HQ | Bar code label and receipt printers manufacturer; 1,000 employees | Vernon Hills |
| | Medline Industries | Hospital supply distribution center; 950 employees | Mundelein |

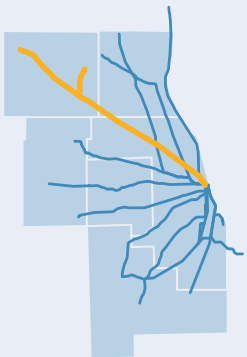
*Significant shopping areas exist at several stations along the line.

*Arlington Heights Station*
*Photo: Mark Llanuza*

# UNION PACIFIC - NORTHWEST LINE

## EXISTING SERVICE AND CONDITIONS

**Metra's Union Pacific-Northwest (UP-NW) Line** extends northwest from Ogilvie Transportation Center (OTC) in downtown Chicago to Harvard, serving portions of Cook, Lake, and McHenry Counties (see Figure 1). The line is the longest in the Metra system, with 23 outlying stations along its 63-mile route. A 7.5-mile single-track branch of the UP-NW extends north from Crystal Lake to the City of McHenry. This branch is only served during weekday peak periods, while the main line offers a full schedule on weekdays and weekends. In 2014, passenger trips on the UP-NW totaled 11.6 million, the second-highest ridership of any line in the Metra system (based on ticket sales).



Like the Union Pacific-North and Union Pacific-West Lines, the UP-NW Line is owned by Union Pacific Railroad (UP) and operated by its employees under a purchase of service agreement with Metra. The three lines are dispatched by UP from its dispatching center in Omaha, Nebraska. Metra owns the passenger coaches and revenue service locomotives serving UP line riders. Daytime train storage and servicing takes place at the California Avenue Yard, located on the Union Pacific-West Line about three miles west of OTC. UP-NW locomotives are fueled and serviced at the M-19A facility about two miles west of California Avenue Yard. On the UP-NW, four outlying yards (at Barrington, Crystal Lake, Harvard, and McHenry) accommodate nighttime storage and maintenance.

Metra's three UP lines were formerly owned by the Chicago and NorthWestern Railroad (C&NW), which operated commuter service on these routes for over a century until the company became part of UP in 1995. In terms of number of routes and total mileage, the C&NW operated the most extensive commuter service in the region. Commuter service on the line's McHenry Branch once extended to Williams Bay, Wisconsin, but was gradually reduced in distance beginning in the mid-1960s. In 1975, after the RTA was formed, service was cut back from Lake Geneva, Wisconsin to Richmond, Illinois, and further cut to its present terminus at McHenry in 1980.

The UP-NW Line operates on two tracks adjacent to the Union Pacific-North Line between OTC and Clybourn Junction (near Armitage and Ashland in Chicago), a distance of approximately three miles. Metra trains on the former C&NW lines run on the left-hand side—thought to be a function of how the first track and depots were situated when a second track was added. From Clybourn to Barrington (29 miles) the line is triple-track, followed by double-track from Barrington to Harvard (31 miles), and a single-track branch line from Crystal Lake to McHenry (7.4 miles). Present operations have outbound

2014 Average trip length:
**25.4 miles**

2014 Average fare paid:
**$4.01**

*Source: Ridership Trends Report, Dec. 2014*

Number of Stations:
**23**

Route Length*:
**70.5 miles**

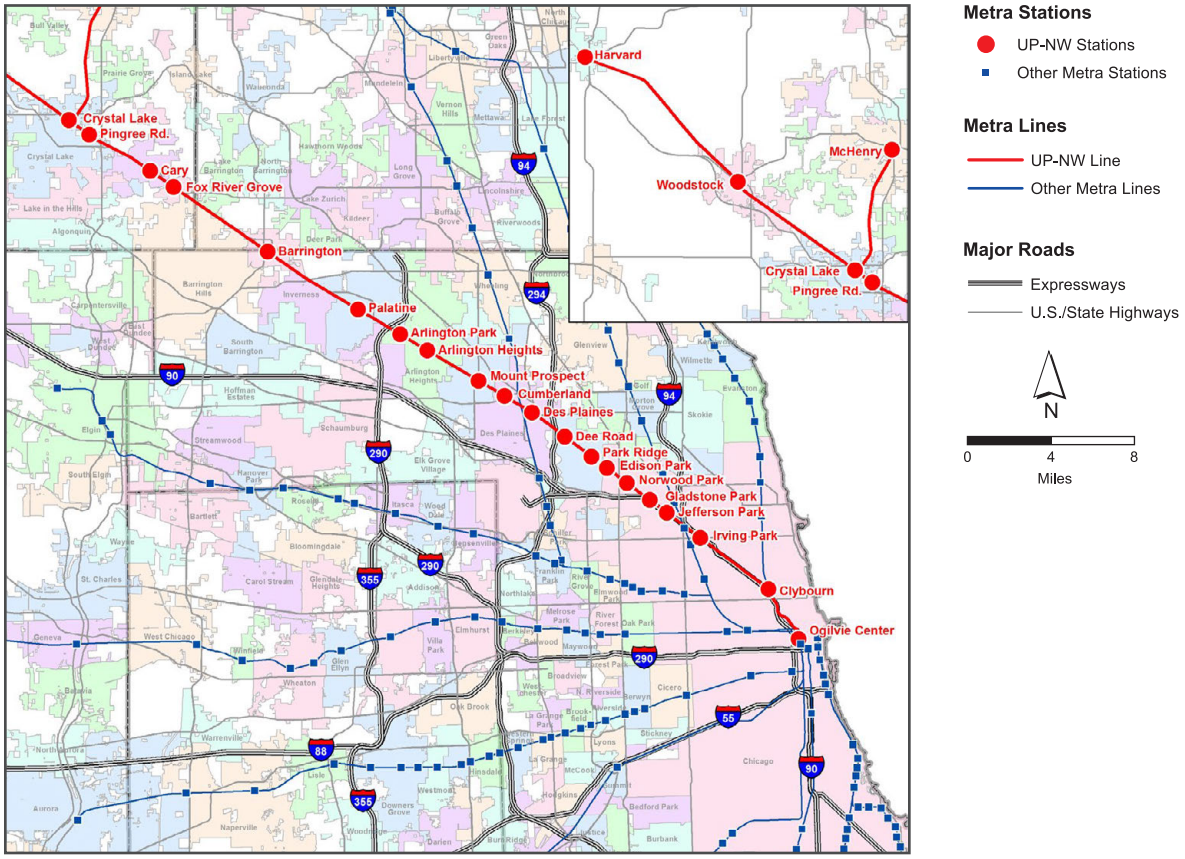
Number of weekday trains:
**65**

2014 On-time performance**:
**95.2%**

**63.1-mile main line to Harvard and 7.4-mile branch to McHenry*

*** On-time Performance Report, Dec. 2014*

## FIGURE 1: METRA STATIONS ON THE UP-NW LINE



traffic on one track and inbound traffic on the other track, with the center track in triple-track territory available for express movements in either direction. With only two sets of automated track crossovers in the 29 miles of triple-track, the ability to recycle trainsets for additional peak-period trips, or to bypass slower-moving trains, is severely limited. In addition, the line's signaling system limits train speed and operating flexibility. There is very limited freight traffic on this line.

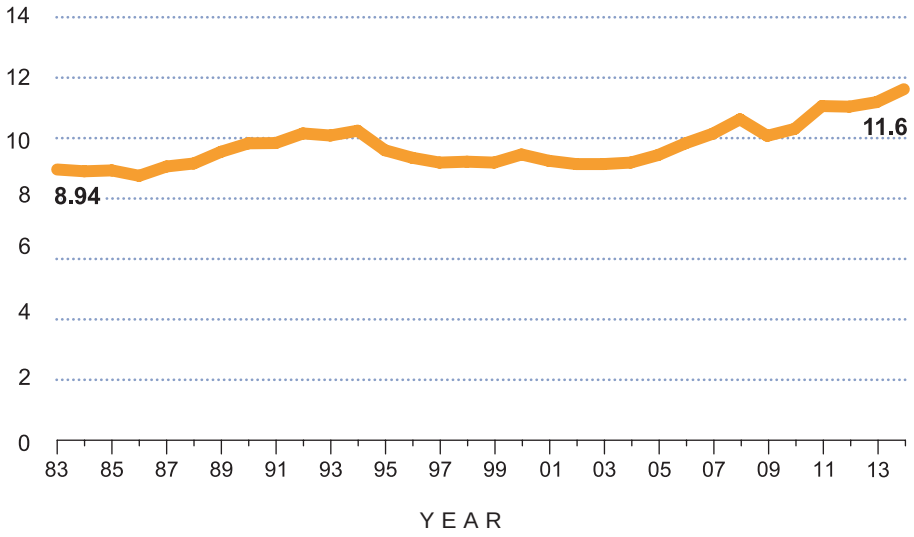
Table 1 details the service, station, and ridership characteristics of the UP-NW.

## TABLE 1A: 2014 UP-NW WEEKDAY BOARDINGS

| Time of Day | Inbound | Outbound |
|---|---|---|
| AM Peak | 14,081 | 890 |
| Midday | 2,462 | 1,564 |
| PM Peak | 1,158 | 13,697 |
| Evening | 445 | 1,685 |
| **TOTAL** | **18,146** | **17,836** |

*Source: Metra Weekday Station Boardings and Alightings by Time-of-Day and Direction, 2014*

## TABLE 1B: UP-NW ANNUAL PASSENGER TRIPS
1983 — 2014, in millions




*Note: from 2008, figures include free Circuit Permit trips. 2008-2011 figures include free senior trips; this program ended September 2011.*

## TABLE 1C: UP-NW STATION CHARACTERISTICS

| Station | Fare Zone | Mile Post | Accessibility[1] | Boardings | | Station Parking (2014) | | | Time to Chicago (minutes)[1] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1983[2] | 2014[3] | Capacity (Spaces)[4] | Effective Use[5] | Observed Use[6] | Shortest Trip | Longest Trip |
| Ogilvie Trans. Center | A | 0.0 | Full | 13,737 | 15,938 | 0 | n/a | n/a | -- | -- |
| Clybourn[7] | A | 2.9 | None | 272 | 693 | 32 | 84% | 84% | -- | 11 |
| Irving Park | B | 7.0 | Full | 175 | 474 | 89 | 88% | 88% | -- | 18 |
| Jefferson Park | B | 9.1 | Full | 441 | 599 | 122 | 100% | 100% | -- | 22 |
| Gladstone Park | B | 10.1 | None | 81 | 169 | 34 | 74% | 74% | -- | 25 |
| Norwood Park | C | 11.4 | Full | 218 | 350 | 100 | 75% | 75% | 26 | 28 |
| Edison Park | C | 12.6 | Full | 383 | 646 | 261 | 68% | 68% | 29 | 31 |
| Park Ridge | C | 13.5 | Full | 908 | 954 | 503 | 86% | 72% | 24 | 34 |
| Dee Rd. | C | 15.0 | Full | 397 | 570 | 172 | 100% | 100% | 28 | 37 |
| Des Plaines | D | 17.1 | Partial | 1,145 | 1,221 | 314 | 84% | 80% | 28 | 41 |
| Cumberland | D | 18.6 | None | 685 | 431 | 257 | 85% | 85% | 29 | 44 |
| Mount Prospect | D | 20.0 | Full | 2,146 | 1,774 | 668 | 99% | 97% | 34 | 47 |
| Arlington Heights | E | 22.8 | Full | 2,764 | 2,349 | 2,238 | 91% | 69% | 35 | 52 |
| Arlington Park | E | 24.4 | Full | 1,430 | 1,672 | 1,031 | 100% | 100% | 40 | 55 |
| Palatine | F | 26.4 | Full | 1,632 | 2,334 | 1,391 | 98% | 94% | 41 | 59 |
| Barrington | G | 31.9 | Full | 1,564 | 1,717 | 951 | 100% | 98% | 46 | 66 |
| Fox River Grove | H | 37.3 | Full | 209 | 410 | 298 | 78% | 78% | 56 | 74 |
| Cary | H | 38.6 | Full | 457 | 873 | 596 | 88% | 88% | 59 | 77 |
| Pingree Rd.[8] | I | 41.7 | Full | n/a[8] | 744 | 709 | 68% | 68% | 59 | 83 |
| Crystal Lake | I | 43.2 | Full | 907 | 1,238 | 1,097 | 72% | 72% | 66 | 86 |
| Woodstock | K | 51.6 | Full | 166 | 437 | 437 | 45% | 45% | 78 | 95 |
| Harvard | M | 63.1 | Full | 84 | 275 | 221 | 81% | 81% | 93 | 108 |
| McHenry | K | 50.6 | Full | 101 | 114 | 106 | 72% | 72% | 73 | 87 |
| **TOTAL UP-NW** | | | | **29,909** | **36,257** | **11,848** | **87%** | **81%** | | |

[1] Union Pacific-Northwest Line Schedule
[2] Metra 1983 Boarding/Alighting Counts; total includes 7 boardings from Hartland Station, which closed in 1984.
[3] Metra 2014 Boarding/Alighting Counts
[4] Metra Station Parking Capacity and Use
[5] Effective use: all sold permit spaces are assumed to be used, even if unoccupied during parking survey
[6] Observed use: spaces physically occupied during parking survey
[7] Parking area at this station serves UP-N and UP-NW Lines
[8] Pingree Road Station opened in 2005

## TABLE 1D: MODE OF ACCESS AT UP-NW METRA STATIONS

| Station Name | Walk/Bike | Drive/Carpool Driver | Carpool Passenger/ Dropped Off | Transit | Other |
|---|---|---|---|---|---|
| Ogilvie Trans. Center[1] | 46% | 4% | 12% | 29% | 9% |
| Clybourn | 55% | 15% | 13% | 14% | 3% |
| Irving Park | 61% | 15% | 13% | 11% | 1% |
| Jefferson Park | 39% | 30% | 13% | 18% | 1% |
| Gladstone Park | 66% | 22% | 12% | 0% | 0% |
| Norwood Park | 46% | 39% | 15% | 0% | 0% |
| Edison Park | 55% | 37% | 8% | 0% | 0% |
| Park Ridge | 34% | 45% | 18% | 1% | 2% |
| Dee Rd. | 35% | 45% | 17% | 1% | 1% |
| Des Plaines | 55% | 29% | 13% | 3% | 0% |
| Cumberland | 22% | 55% | 22% | 0% | 0% |
| Mount Prospect | 27% | 53% | 17% | 2% | 0% |
| Arlington Heights | 29% | 52% | 18% | 0% | 1% |
| Arlington Park | 7% | 75% | 17% | 0% | 0% |
| Palatine | 14% | 68% | 18% | 0% | 0% |
| Barrington | 11% | 68% | 20% | 0% | 0% |
| Fox River Grove | 15% | 63% | 22% | 0% | 0% |
| Cary | 9% | 70% | 21% | 0% | 0% |
| Pingree Rd. | 5% | 81% | 14% | 0% | 1% |
| Crystal Lake | 12% | 62% | 24% | 1% | 0% |
| Woodstock | 13% | 68% | 19% | 0% | 0% |
| Harvard | 7% | 64% | 29% | 0% | 0% |
| McHenry | 3% | 74% | 21% | 1% | 0% |
| **TOTAL UP-NW[2]** | **24%** | **56%** | **18%** | **2%** | **0%** |
| **SYSTEM TOTAL** | **25%** | **52%** | **17%** | **3%** | **3%** |

[1] Includes riders boarding on all Metra lines departing from station

[2] Line total does not include downtown terminal

*Source: Metra, Spring 2014 Origin-Destination Survey*

TABLE 2: METRA CAPITAL INVESTMENT HISTORY
1985 — June 2015, in millions of dollars

| Asset | UP-NW | System |
|---|---|---|
| Rolling stock | $212 | $2,449 |
| Track and structure | 164 | 1,329 |
| Signal, electrical, and mechanical | 53 | 777 |
| Facilities and equipment | 27 | 548 |
| Stations and parking | 144 | 1,084 |
| Acquisitions, extensions, and expansions | 6 | 599 |
| Support activities | 28 | 348 |
| **TOTAL** | **$635** | **$7,134** |
| **PERCENTAGE** | **8.9%** | **100.0%** |

*Notes: 1) Excludes South Shore, preventative maintenance, new lines, and pending grants. 2) Prior expenses are not adjusted for subsequent inflation. 3) Data is subject to budget revisions, audit adjustments, etc. at any time. 4) For many projects, work locations and associated costs have not been identified, so budget amounts have been allocated among lines by various criteria.*

## IMPROVEMENTS SINCE THE START OF METRA

Since 1985, Metra has invested $635 million (in year of expenditure dollars) in improvements to the UP-NW corridor. Table 2 indicates the amount of investment in different asset categories. Metra has completed improvements at a number of UP-NW stations since 1985 (see right).

In the last 20 years, numerous adjustments have been made to the UP-NW's schedule, increasing speed and service, reducing delay and crowding during peaks, accommodating reverse commuters, and improving service reliability.

Most UP-NW stations now comply with the accessibility requirements of the Americans with Disabilities Act (ADA), and approximately 93% of UP-NW weekday boardings take place at these accessible stations. Metra's station compliance program started with designating ten of the busiest UP-NW stations, including OTC in downtown Chicago, as "key stations", all of which were made fully accessible by 2007. Since 1985, Metra has completed access improvements at a number of non-downtown UP-NW stations, and 18 outlying stations on the line are fully accessible to disabled riders. Metra will bring the remaining stations into full ADA compliance as they are rehabilitated, so that eventually all will be accessible.

**Depots and warming houses constructed since 1985 at:**

Arlington Heights
Dee Road
Edison Park
Fox River Grove
Jefferson Park
Palatine
Pingree Road (new station)

**Other significant improvements completed since 1985 at:**

Arlington Park
Barrington
Crystal Lake
Des Plaines
Irving Park
Mount Prospect
Park Ridge
Woodstock

**Station improvements planned for:**

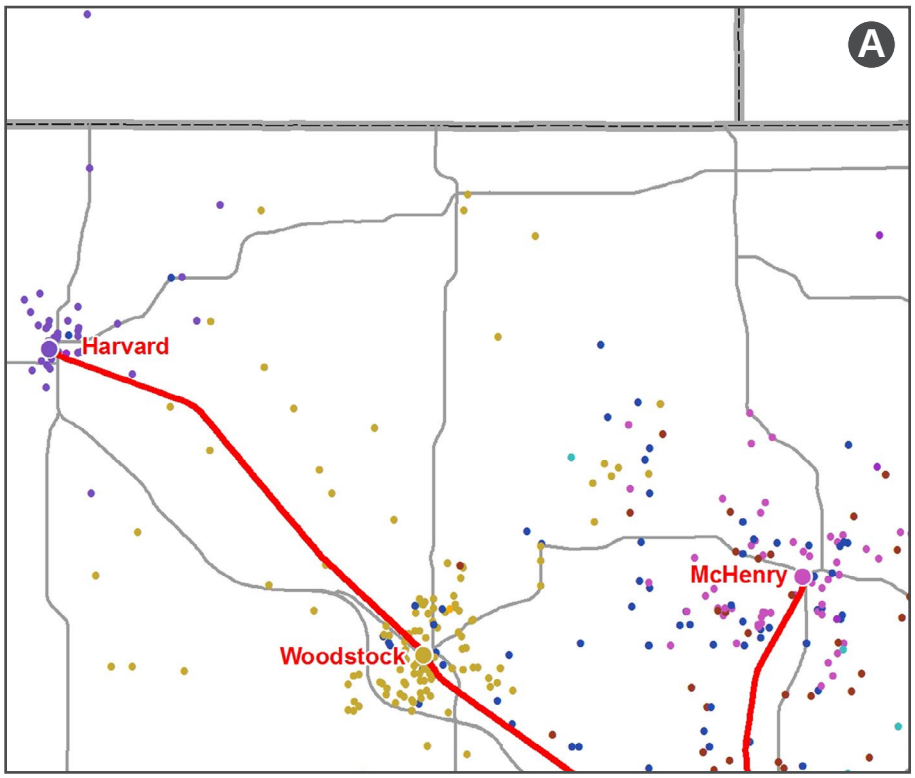
Cary
Cumberland
Woodstock

## PRESENT AND FUTURE DEMAND

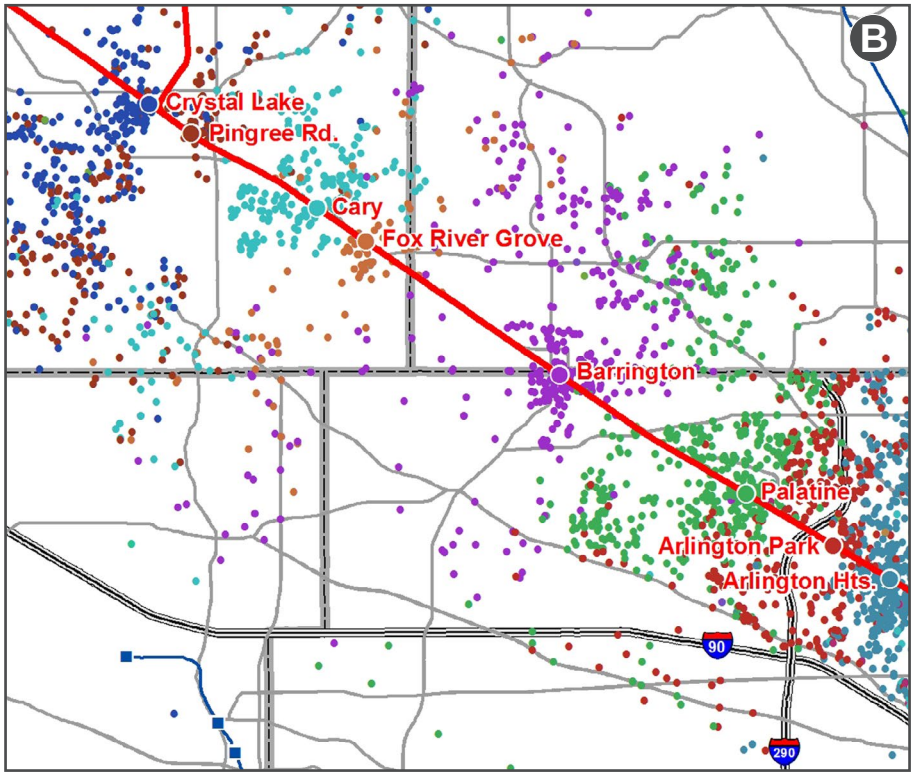
In 2014, nearly 36,000 boardings took place each weekday on the UP-NW, with 77% of boardings occurring on peak-period, peak-direction trains. At UP-NW stations, ridership has increased 21% since 1983 (see Table 1c). However, at the six McHenry County stations built before 2005, boardings increased an average of 108% between 1983 and 2014. Chicago stations close to the Central Business District (CBD) have also experienced significant ridership gains, with boardings at the Clybourn and Irving Park Stations increasing 155% during the same period. Figure 2 shows the origins of UP-NW riders who board at stations outside the CBD. Overall passenger ridership on the UP-NW totaled 11.6 million in 2014.

Approximately 11,800 parking spaces serve the riders of the UP-NW. According to parking counts conducted in 2014, many of the existing parking lots serving the UP-NW Line are at or near capacity. At 10 stations, effective parking utilization exceeds 85%, indicating a demand for increased parking, since Metra considers lots over 85% occupied to be approaching full capacity. Due to residential growth in the UP-NW corridor, the demand for parking is expected to grow. Expanded parking is vital to Metra's success in distant suburbs, as 68% of Metra riders who board at stations more than 25 miles

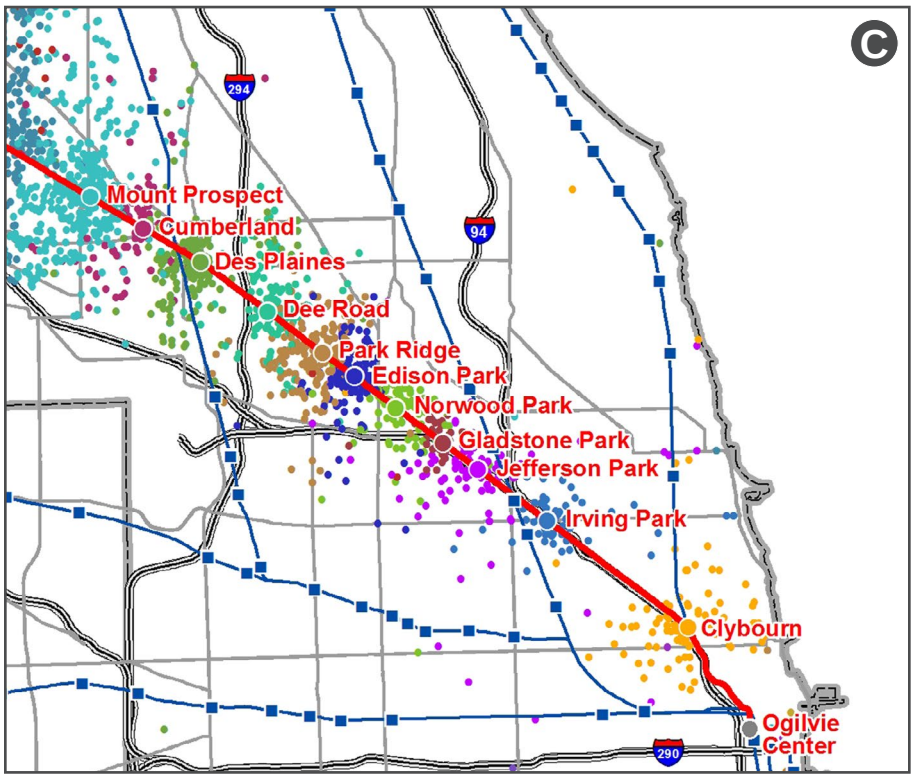
FIGURE 2A: ORIGINS OF RIDERS USING NON-CBD UP-NW STATIONS

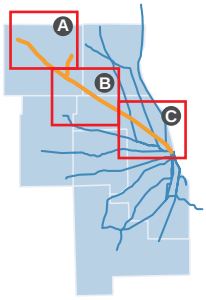


## FIGURE 2B: ORIGINS OF RIDERS USING NON-CBD UP-NW STATIONS




## FIGURE 2C: ORIGINS OF RIDERS USING NON-CBD UP-NW STATIONS




**Metra Lines**

UP-NW Line

Other Metra Lines

**Major Roads**

Expressways

U.S./State Highways

Source: Metra 2014 Origin-Destination Survey

N

0 2 4

Miles

## TABLE 3: UP-NW CORRIDOR POPULATION

| Station | Fare Zone | Area Sq. Mi. | Population in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Ogilvie Transportation Center, Clybourn | A | 12.6 | 217,022 | 237,400 | 296,087 | 9.4% | 24.7% |
| Irving Park, Jefferson Park, Gladstone Park | B | 9.5 | 160,611 | 152,218 | 171,845 | -5.2% | 12.9% |
| Norwood Park, Edison Park, Park Ridge, Dee Rd. | C | 17.1 | 111,198 | 112,724 | 128,606 | 1.4% | 14.1% |
| Des Plaines, Cumberland, Mount Prospect | D | 15.6 | 71,556 | 72,225 | 82,149 | 0.9% | 13.7% |
| Arlington Heights, Arlington Park | E | 37.8 | 145,779 | 146,225 | 165,234 | 0.3% | 13.0% |
| Palatine | F | 32.2 | 93,081 | 94,621 | 110,430 | 1.7% | 16.7% |
| Barrington | G | 56.8 | 54,873 | 57,886 | 65,720 | 5.5% | 13.5% |
| Fox River Grove, Cary | H | 68.1 | 91,639 | 97,574 | 127,202 | 6.5% | 30.4% |
| Pingree Rd., Crystal Lake | I | 85.5 | 90,414 | 120,737 | 205,670 | 33.5% | 70.3% |
| McHenry, Woodstock | K | 295.7 | 86,937 | 104,004 | 183,370 | 19.6% | 76.3% |
| Harvard | M | 156.7 | 15,742 | 16,505 | 28,329 | 4.8% | 71.6% |
| **UP-NW TOTAL** | | **787.6** | **1,138,852** | **1,212,119** | **1,564,642** | **6.4%** | **29.1%** |
| **REGION TOTAL** | | **3,748.0** | **8,091,717** | **8,456,762** | **11,717,936** | **4.5%** | **38.6%** |

## TABLE 4: UP-NW CORRIDOR HOUSEHOLDS

| Station | Fare Zone | Area Sq. Mi. | Households in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Ogilvie Transportation Center, Clybourn | A | 12.6 | 97,822 | 112,854 | 160,216 | 15.4% | 42.0% |
| Irving Park, Jefferson Park, Gladstone Park | B | 9.5 | 53,323 | 57,037 | 58,702 | 7.0% | 2.9% |
| Norwood Park, Edison Park, Park Ridge, Dee Rd. | C | 17.1 | 41,768 | 43,324 | 49,830 | 3.7% | 15.0% |
| Des Plaines, Cumberland, Mount Prospect | D | 15.6 | 25,937 | 28,091 | 31,136 | 8.3% | 10.8% |
| Arlington Heights, Arlington Park | E | 37.8 | 55,175 | 58,476 | 63,951 | 6.0% | 9.4% |
| Palatine | F | 32.2 | 32,397 | 35,282 | 41,103 | 8.9% | 16.5% |
| Barrington | G | 56.8 | 15,724 | 18,162 | 22,054 | 15.5% | 21.4% |
| Fox River Grove, Cary | H | 68.1 | 23,653 | 30,744 | 43,520 | 30.0% | 41.6% |
| Pingree Rd., Crystal Lake | I | 85.5 | 16,906 | 30,274 | 71,372 | 79.1% | 135.8% |
| McHenry, Woodstock | K | 295.7 | 24,819 | 31,120 | 65,546 | 25.4% | 110.6% |
| Harvard | M | 156.7 | 4,500 | 5,332 | 9,649 | 18.5% | 81.0% |
| **UP-NW TOTAL** | | **787.6** | **392,024** | **450,696** | **617,079** | **15.0%** | **36.9%** |
| **REGION TOTAL** | | **3,748.0** | **2,906,924** | **3,050,134** | **4,224,349** | **4.9%** | **38.5%** |

## TABLE 5: UP-NW CORRIDOR EMPLOYMENT

| Station | Fare Zone | Area Sq. Mi. | Employment in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Ogilvie Transportation Center, Clybourn | A | 12.6 | 257,635 | 259,322 | 352,184 | 0.7% | 35.8% |
| Irving Park, Jefferson Park, Gladstone Park | B | 9.5 | 60,744 | 32,948 | 45,615 | -45.8% | 38.4% |
| Norwood Park, Edison Park, Park Ridge, Dee Rd. | C | 17.1 | 42,349 | 52,218 | 65,717 | 23.3% | 25.9% |
| Des Plaines, Cumberland, Mount Prospect | D | 15.6 | 49,918 | 36,571 | 40,670 | -26.7% | 11.2% |
| Arlington Heights, Arlington Park | E | 37.8 | 166,984 | 124,089 | 181,157 | -25.7% | 46.0% |
| Palatine | F | 32.2 | 45,332 | 52,107 | 54,900 | 14.9% | 5.4% |
| Barrington | G | 56.8 | 22,466 | 23,473 | 35,522 | 4.5% | 51.3% |
| Fox River Grove, Cary | H | 68.1 | 20,046 | 18,542 | 31,735 | -7.5% | 71.2% |
| Pingree Rd., Crystal Lake | I | 85.5 | 38,236 | 36,494 | 75,904 | -4.6% | 108.0% |
| McHenry, Woodstock | K | 295.7 | 45,951 | 38,674 | 73,414 | -15.8% | 89.8% |
| Harvard | M | 156.7 | 4,818 | 3,607 | 6,526 | -25.1% | 80.9% |
| **UP-NW TOTAL** | | **787.6** | **754,479** | **678,045** | **963,344** | **-10.1%** | **42.1%** |
| **REGION TOTAL** | | **3,748.0** | **4,340,215** | **3,786,224** | **5,267,696** | **-12.8%** | **39.1%** |

from downtown Chicago drive to the station (compared to the systemwide average of 52%).

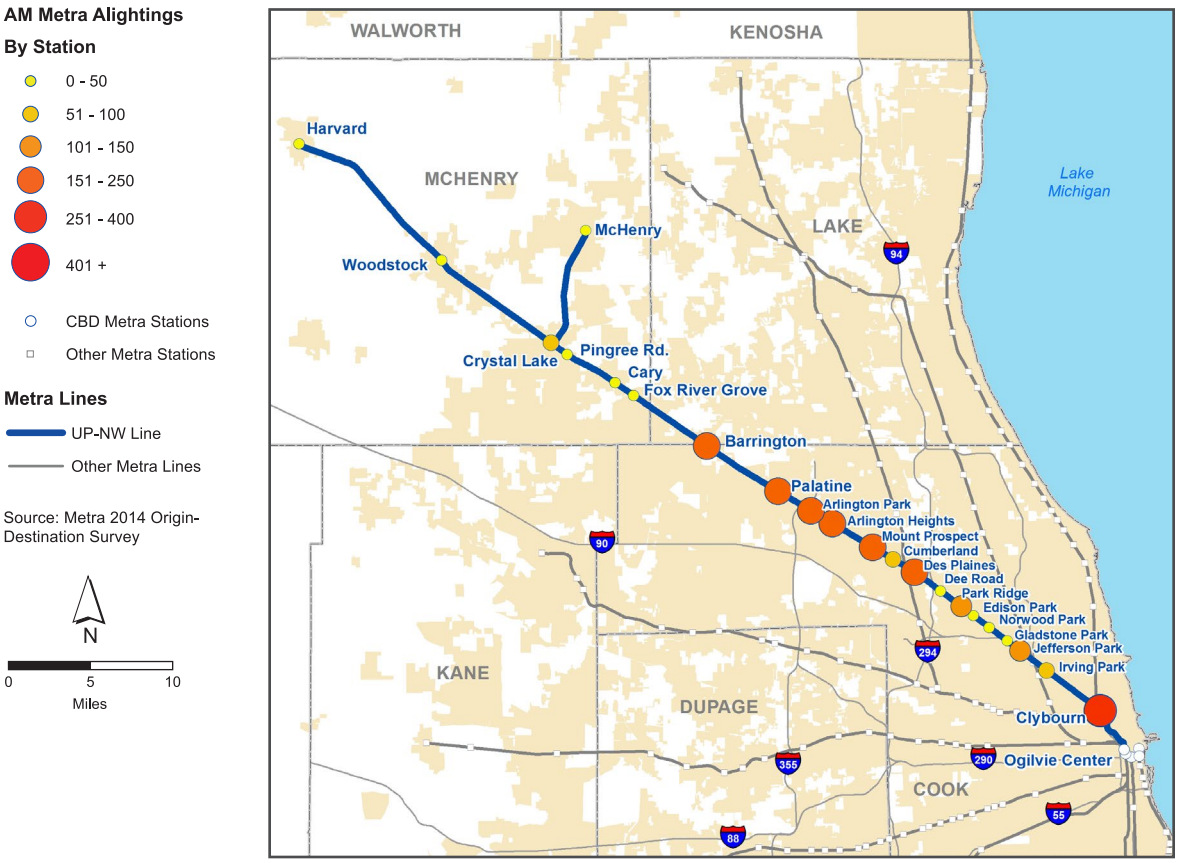
A number of indicators suggest that demand for commuter rail service will continue to rise in the UP-NW corridor, as shown in Tables 3, 4, and 5. The corridor has grown in population and households in recent decades, and demographic forecasts anticipate continued growth. The Chicago Metropolitan Agency for Planning (CMAP) forecasts that the UP-NW corridor will attract over 350,000 new residents between 2010 and 2040, a 29% increase. The projected population growth is greatest near the outer edge of the corridor in eastern McHenry County. For instance, population in the McHenry and Woodstock station marketsheds is expected to increase 76% by 2040, and the population in Harvard's station marketshed is projected to increase nearly 72% in the same time period. Though 76,000 jobs were lost in the UP-NW corridor between 2000 and 2010, a period that coincided with the economic downturn, projections indicate that 285,000 jobs will be added by 2040, a 42% increase.

## REVERSE COMMUTE AND NON-DOWNTOWN MARKETS

Although Metra's primary market involves commuters who follow the traditional suburb-to-CBD trip pattern, in recent years Metra has seen a demand for city-to-suburb reverse-commute options (Metra's primary commuter market is discussed in the Central Business District Market chapter). The shift of employment to suburban locations has left many commuters with limited transit accessibility to jobs. Figure 3 shows AM alightings at non-CBD UP-NW stations.

A number of substantial employment centers are located near the UP-NW Line. Though many station marketsheds experienced a net employment loss between 2000 and 2010, CMAP forecasts job growth in every UP-NW marketshed by 2040, with an increase of 42%, or 285,000 jobs. Certain areas on the route are projected to experience phenomenal job growth. For instance, employment is expected to more than double in the Pingree Road and Crystal Lake marketsheds between 2000 and 2040, adding nearly 40,000 jobs. In addition, since the UP-NW is Metra's longest line, it has greater

FIGURE 3: AM ALIGHTINGS AT NON-CBD UP-NW STATIONS



## TABLE 6: MAJOR TRIP GENERATORS IN THE UP-NW CORRIDOR

| Generator Type | Name | Comments | Municipality |
|---|---|---|---|
| **Airports** | O'Hare International Airport | Second-busiest airport in U.S. | Chicago |
| **Colleges and Universities** | DePaul Univ. O'Hare Campus | Branch campus serving adult/continuing education | Chicago |
| | Northeastern Illinois University | 13,000 students | Chicago |
| | Northwestern College | Jefferson Park campus | Chicago |
| | Wright College | 19,000 students | Chicago |
| | Oakton Community College | 10,800 students | Des Plaines |
| | North Park University | Branch campus of Chicago liberal arts college | Arlington Heights |
| | Harper College | 15,000 students | Palatine |
| | Roosevelt University | 3,000 students | Schaumburg |
| | Columbia College | Branch campus of Missouri-based liberal arts college | Crystal Lake |
| | McHenry County College | 11,000 students | Crystal Lake |
| **Culture and Entertainment** | Allstate Arena | Concert/sports venue; capacity 18,500 | Rosemont |
| | Mystic Waters Aquatic Center | Public water park | Des Plaines |
| | Arlington Park Racecourse | Mile oval horse track; capacity 50,000 | Arlington Heights |
| | Raue Center | Performing arts venue; capacity 800 | Crystal Lake |
| | Woodstock Opera House | Performing arts venue; capacity 700 | Woodstock |
| | Illinois Railway Museum | Largest railway museum in US | Union |
| **Shopping*** | Golf Mill Mall | Regional center; 120 stores including 4 anchors | Niles |
| | Randhurst Village | Lifestyle center; 3 anchors | Mount Prospect |
| | Streets of Woodfield | Regional center; 29 stores including 3 anchors | Schaumburg |
| | Woodfield Mall | Super-regional center; 280 stores including 5 anchors | Schaumburg |
| **Government** | Cook County Dist. 3 Courthouse | Circuit Court, County Clerk's office | Rolling Meadows |
| | McHenry County Govt. Center | Circuit Court, County Clerk's office | Crystal Lake |
| **Hospitals** | Resurrection Medical Center | 443 beds; 2,700 employees | Chicago |
| | Advocate Lutheran General Hospital | 617 beds; 4,800 employees | Park Ridge |
| | Resurrection Holy Family Medical Center | 184 beds; 1,200 employees | Des Plaines |
| | Northwest Community Hospital | 488 beds; 3,700 employees | Arlington Heights |
| | Advocate Good Shepherd Hospital | 154 beds; 600 employees | Barrington |
| | Centegra Memorial Med. Ctr. | 150 beds; 700 employees | Woodstock |
| | Mercy Harvard Hospital | 32 beds; 200 employees | Harvard |
| | Centegra Northern Ill. Med. Ctr. | 139 beds; 3,300 employees | McHenry |
| **Top Private Employers** | Symons Corp. | Manf. of concrete forming equipment; 800 employees | Des Plaines |
| | Universal Oil Products | Chemical engineering services; 2,000 employees | Des Plaines |
| | Caremark | Pharmaceutical services; 800 employees | Mount Prospect |
| | Capital One | Banking and financial services; 1,000 employees | Arlington Heights |
| | Tec, Inc. | Adhesive manufacturer; 1,600 employees | Palatine |
| | UPS | Parcel shipper; 1,000 employees | Palatine |
| | Weber Stephens | Barbecue grill manufacturer; 1,000 employees | Palatine |
| | Sears | International headquarters of retailer; 6,000 employees | Hoffman Estates |
| | Catalent | Pharmaceutical services; 1,000 employees | Woodstock |

*Significant shopping areas exist at several stations along the line.

potential for growth of ridership to locations outside of downtown Chicago than other Metra lines. While few riders will choose to travel by train rather than automobile for a short suburb-to-suburb commute, they are more likely to do so for a longer, non-CBD commute. See Table 6 for a list of major trip generators in the UP-NW corridor, including top employers.

## PROPOSED LINE IMPROVEMENTS

Despite the significant economic and population growth expected to take place within the UP-NW corridor, the line's capacity is currently constrained on several fronts, including rail capacity, rolling stock capacity, and commuter parking capacity. Operations on the line are affected by the existing track configuration and the lack of a signal system on the McHenry Branch, the aged signal system on other portions of the corridor, and a lack of capacity at the existing outlying yards to support expansion. These limitations prevent further incremental improvements in the system needed to support future demand increases beyond those substantial investments in the UP-NW Line that have been already made by Metra. In order to address these issues, Metra plans to implement a series of upgrades to the UP-NW Line, and is in the process of seeking funding for the project from the federal New Starts program.

This project consists of a core capacity upgrade of the entire UP-NW Line, a 1.6-mile extension of the McHenry Branch from its existing terminus at McHenry to Johnsburg, and the addition of three new stations. Two new coach yards—at Woodstock and Johnsburg—would be constructed, and the existing Harvard Yard would be rebuilt. New rolling stock would be acquired. The existing signal system would be upgraded from OTC to Crystal Lake, and signalization would be added on the McHenry Branch. New crossovers would be added, and track, ties and ballast would be added in portions of the line. Track from McHenry to Johnsburg would be improved in order to accommodate regular commuter service.

These improvements would make it possible to add six inbound trains during the morning peak period, as well as additional express service. Eight outbound morning peak trains would serve reverse commuters, a doubling of current service. Riders in McHenry and northwest Cook Counties would benefit from a significant improvement in service levels near the northwest end of the line.


*Des Plaines Station*
*Photo: Mark Llanuza*


*Metra locomotive pushes through snowdrifts at Elgin Yard following the blizzard of 2011*

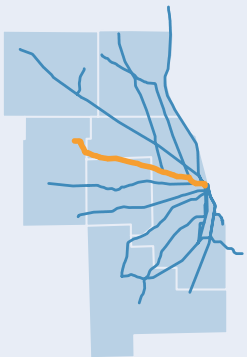
*Photo: Mark Llanuza*

# MILWAUKEE DISTRICT - WEST LINE

## EXISTING SERVICE AND CONDITIONS

**Metra's Milwaukee District-West (MD-W) Line** extends west from Chicago Union Station (CUS or "Union Station") to the City of Elgin. The line serves portions of Cook, DuPage, and Kane Counties with 21 outlying stations along its 40-mile route (see Figure 1). In 2014, 6.9 million trips were taken on the MD-W, the eighth-highest number of Metra's 11 lines (based on ticket sales).

The Milwaukee District-North (MD-N) and MD-W Lines were acquired by Metra following the demise of the Milwaukee Road, the Chicago, Milwaukee, St. Paul and Pacific Railroad. Both the MD-N and MD-W are operated and maintained by Metra employees. Trains on both lines are dispatched from Minneapolis by Canadian Pacific (CP), which operates freight service over Metra-owned Milwaukee District track. CP owns the track west of the Big Timber Road Station in Elgin, beyond the extent of MD-W service. Wisconsin & Southern Railroad, Canadian National, and CP subsidiary Dakota, Minnesota and Eastern Railroad also operate freight service over portions of the MD-W.



Both Milwaukee District Lines as well as Metra's North Central Service (NCS) share the Western Avenue Station in Chicago and Metra's three main tracks

for the five miles between CUS and A-5 Junction (where the MD-N splits from the MD-W/NCS). The next seven miles of triple main line track between A-5 and B-12 Junction in Franklin Park (where the NCS diverges toward Antioch) are shared by MD-W and NCS trains. Metra upgraded the third main track between the two junctions for commuter service in 2006, allowing NCS and MD-W trains to run express through this segment. The MD-W is double-tracked from B-12 to Big Timber Road, except for a single-track bridge across the Fox River, east of the National Street Station in Elgin. Trains must proceed one at a time across the bridge, precluding extensive reverse-commute operations or recycling of peak-period trains from Elgin. Metra has secured funding to replace the aging bridge with a modern, double-track structure, which will eliminate this "choke point."

Daytime storage and servicing of all Milwaukee District trains, as well as trains serving the NCS and Heritage Corridor, takes place at the Western Avenue Yard, located approximately three miles west of CUS. Nighttime storage and maintenance of trainsets serving the MD-W Line takes place at the Elgin Yard, just south of the station in downtown Elgin.

2014 Average trip length:
**24.6 miles**

2014 Average fare paid:
**$3.96**

*Source: Ridership Trends Report, Dec. 2014*

Number of Stations:
**22**

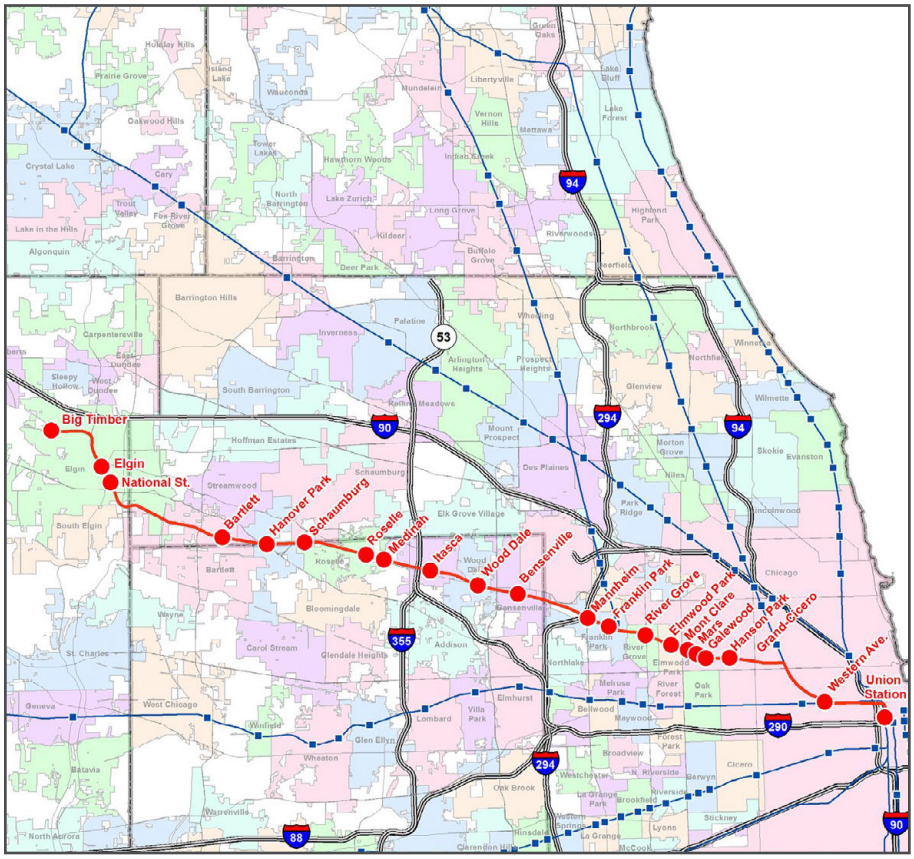
Route Length:
**39.8 miles**

Number of weekday trains:
**58**

2014 On-time performance*:
**93.5%**

** On-time Performance Report, Dec. 2014*

FIGURE 1: METRA STATIONS ON THE MD-W LINE

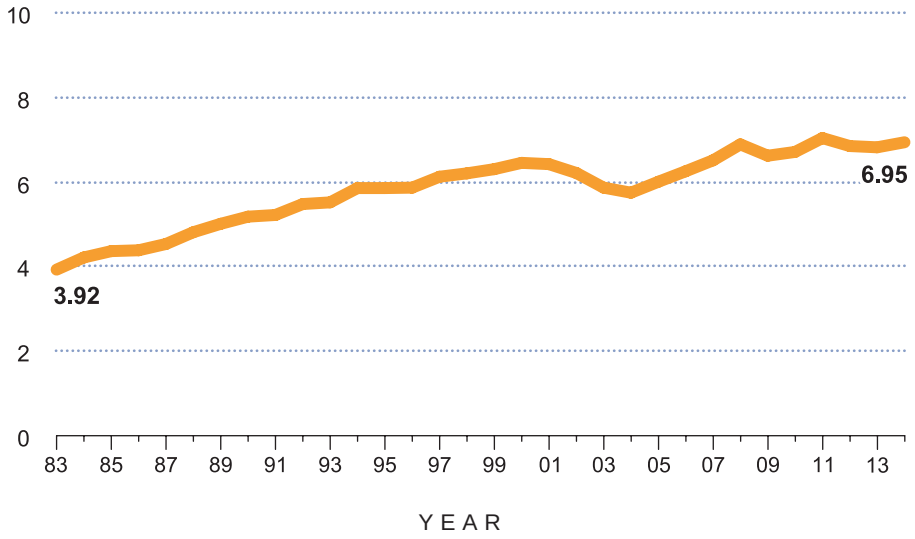


## TABLE 1A: 2014 MD-W WEEKDAY BOARDINGS

| Time of Day | Inbound | Outbound |
|---|---|---|
| AM Peak | 8,684 | 482 |
| Midday | 1,185 | 912 |
| PM Peak | 723 | 8,457 |
| Evening | 276 | 1,002 |
| **TOTAL** | **10,868** | **10,853** |

*Source: Metra Weekday Station Boardings and Alightings by Time-of-Day and Direction, 2014*

## TABLE 1B: MD-W ANNUAL PASSENGER TRIPS
1983 — 2014, in millions




*Note: from 2008, figures include free Circuit Permit trips. 2008-2011 figures include free senior trips; this program ended September 2011.*

## TABLE 1C: MD-W STATION CHARACTERISTICS

| Station | Fare Zone | Mile Post | Accessibility[1] | Boardings | | Station Parking (2014) | | | Time to Chicago (minutes)[1] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1983[2] | 2014[3] | Capacity (Spaces)[4] | Effective Use[5] | Observed Use[6] | Shortest Trip | Longest Trip |
| Union Station | A | 0.0 | Full | 6,548 | 10,011 | 0 | n/a | n/a | n/a | n/a |
| Western Ave.[7] | A | 2.9 | Full | 158 | 348 | 20 | 100% | 100% | 12 | 14 |
| Hermosa[8] | -- | -- | -- | 101 | -- | -- | -- | -- | -- | -- |
| Grand/Cicero[8] | B | 6.5 | Full | -- | 106 | 0 | n/a | n/a | 20 | 24 |
| Cragin[8] | -- | -- | -- | 111 | -- | -- | -- | -- | -- | -- |
| Hanson Park | B | 7.7 | Full | 54 | 46 | 29 | 93% | 93% | 23 | 27 |
| Galewood | B | 8.6 | Full | 202 | 260 | 131 | 61% | 61% | 22 | 29 |
| Mars | B | 9.1 | Full | 75 | 115 | 63 | 57% | 57% | 27 | 30 |
| Mont Clare | B | 9.5 | Full | 314 | 291 | 193 | 45% | 45% | 24 | 32 |
| Elmwood Park | C | 10.2 | Full | 466 | 396 | 135 | 97% | 97% | 26 | 34 |
| River Grove[9] | C | 11.4 | Full | 222 | 142 | 170 | 95% | 85% | 28 | 37 |
| Franklin Park | C | 13.2 | Full | 446 | 399 | 274 | 71% | 71% | 26 | 41 |
| Mannheim | C | 14.0 | None | 49 | 30 | 30 | 10% | 10% | 29 | 43 |
| Bensenville | D | 17.2 | Full | 439 | 433 | 202 | 83% | 58% | 32 | 48 |
| Wood Dale | D | 19.1 | Full | 497 | 608 | 464 | 87% | 82% | 36 | 52 |
| Itasca | E | 21.1 | Full | 444 | 564 | 346 | 79% | 70% | 40 | 56 |
| Medinah | E | 23.0 | Full | 194 | 520 | 398 | 90% | 86% | 43 | 60 |
| Roselle | E | 23.9 | Full | 1,455 | 1,277 | 978 | 100% | 85% | 46 | 62 |
| Schaumburg | F | 26.5 | Full | 480 | 1,737 | 1,585 | 76% | 76% | 43 | 67 |
| Hanover Park | F | 28.4 | Full | 738 | 1,414 | 1,372 | 85% | 65% | 47 | 71 |
| Bartlett | F | 30.1 | Full | 669 | 1,081 | 740 | 84% | 79% | 51 | 74 |
| National St. | H | 36.0 | Full | 132 | 700 | 571 | 70% | 70% | 60 | 82 |
| Elgin | H | 36.6 | Full | 390 | 461 | 147 | 100% | 100% | 62 | 84 |
| Big Timber Rd.[10] | H | 39.8 | Full | -- | 782 | 720 | 75% | 75% | 69 | 90 |
| **TOTAL MD-W** | | | | **14,184** | **21,721** | **8,568** | **82%** | **75%** | | |

[1] Milwaukee District-West Line Schedule
[2] Metra 1983 Boarding/Alighting Counts
[3] Metra, "Commuter Rail System Station Boarding/Alighting Counts," Spring 2014
[4] Metra Station Parking Capacity and Use
[5] Effective use: all sold permit spaces are assumed to be used, even if unoccupied during parking survey
[6] Observed use: spaces physically occupied during parking survey
[7] Parking area at this station serves MD-N, MD-W and NCS Lines
[8] Grand/Cicero Station opened in December 2006, replacing Hermosa and Cragin Stations, which closed the same month
[9] Parking area at this station serves MD-W and NCS Lines
[10] New station, opened in 1986

## TABLE 1D: MODE OF ACCESS AT MD-W METRA STATIONS

| Station Name | Walk/Bike | Drive/Carpool Driver | Carpool Passenger/ Dropped Off | Transit | Other |
|---|---|---|---|---|---|
| Union Station[1] | 40% | 4% | 9% | 39% | 8% |
| Western Avenue | 34% | 38% | 13% | 14% | 1% |
| Grand/Cicero[2] | 52% | 20% | 20% | 8% | 0% |
| Hanson Park[2] | 52% | 20% | 20% | 8% | 0% |
| Galewood | 38% | 36% | 20% | 6% | 0% |
| Mars | 60% | 29% | 11% | 0% | 0% |
| Mont Clare | 38% | 47% | 12% | 2% | 1% |
| Elmwood Park | 42% | 46% | 10% | 2% | 0% |
| River Grove | 24% | 55% | 17% | 4% | 0% |
| Franklin Park | 27% | 54% | 14% | 3% | 2% |
| Mannheim[3] | NA | NA | NA | NA | NA |
| Bensenville | 28% | 56% | 16% | 1% | 0% |
| Wood Dale | 9% | 74% | 16% | 0% | 1% |
| Itasca | 23% | 54% | 21% | 0% | 2% |
| Medinah | 5% | 76% | 16% | 0% | 2% |
| Roselle | 10% | 71% | 18% | 0% | 1% |
| Schaumburg | 6% | 77% | 15% | 1% | 1% |
| Hanover Park | 6% | 75% | 18% | 0% | 1% |
| Bartlett | 8% | 67% | 23% | 0% | 1% |
| National St. | 6% | 80% | 13% | 1% | 0% |
| Elgin | 16% | 59% | 18% | 4% | 3% |
| Big Timber Rd. | 2% | 79% | 18% | 0% | 1% |
| **TOTAL MD-W[4]** | **14%** | **66%** | **17%** | **2%** | **1%** |
| **SYSTEM TOTAL** | **25%** | **52%** | **17%** | **3%** | **3%** |

[1] Includes riders boarding on all Metra lines departing from station

[2] Data not statistically significant due to number of survey responses received

[3] No data for this station

[4] Line total does not include downtown terminal

*Source: Metra, "Commuter Rail System Station Boarding/Alighting Counts," Spring 2014*

TABLE 2: METRA CAPITAL INVESTMENT HISTORY
1985 — June 2015, in millions of dollars

| Asset | MD-W | System |
|---|---|---|
| Rolling stock | $168 | $2,449 |
| Track and structure | 99 | 1,329 |
| Signal, electrical, and mechanical | 89 | 777 |
| Facilities and equipment | 76 | 548 |
| Stations and parking | 62 | 1,084 |
| Acquisitions, extensions, and expansions | 56 | 599 |
| Support activities | 35 | 348 |
| **TOTAL** | **$585** | **$7,134** |
| **PERCENTAGE** | **8.2%** | **100.0%** |

*Notes: 1) Excludes South Shore, preventative maintenance, new lines, and pending grants. 2) Prior expenses are not adjusted for subsequent inflation. 3) Data is subject to budget revisions, audit adjustments, etc. at any time. 4) For many projects, work locations and associated costs have not been identified, so budget amounts have been allocated among lines by various criteria.*

## IMPROVEMENTS SINCE THE START OF METRA

Since 1985, Metra has invested $585 million (in year of expenditure dollars) in improvements to the MD-W corridor. Table 2 indicates the amount of investment in different asset categories. Metra has completed improvements at a number of MD-W stations (see right), and a number of bridge repair or replacement projects have also been completed on the line. Over the years, Metra has partnered with Amtrak, owner of CUS, to complete a number of upgrades to the terminal's commuter facilities.

The amounts shown in Table 2 reflect the cost of a number of improvements made in conjunction with the NCS upgrade project, completed in 2006. These improvements included track and signal upgrades, yard expansion, and construction of new station buildings and platforms at five MD-W stations to accommodate new triple-track commuter operation: Hanson Park, Galewood, Mars, Mont Clare, and Elmwood Park. A new station was built at Grand and Cicero Avenues in Chicago, replacing two adjacent stations. Consolidation has improved operational efficiency, and the new location is more accessible for Chicago Transit Authority bus users and pedestrians.

Much of the signal equipment on the MD-W dates from the 1950s, and replacement of this aging equipment is an ongoing effort. Track and signals at the Roselle control point were replaced in 2005, and in 2014, new signals, track circuitry, and other components were installed between Spaulding Junction near Bartlett and the eastern end of the Fox River Bridge in Elgin. A

**Depots and warming houses constructed since 1985 at:**

Bartlett
Big Timber
Elmwood Park
Galewood
Grand/Cicero (new station)
Hanover Park
Hanson Park
Mars
Mont Clare
National Street
River Grove
Roselle
Schaumburg
Wood Dale

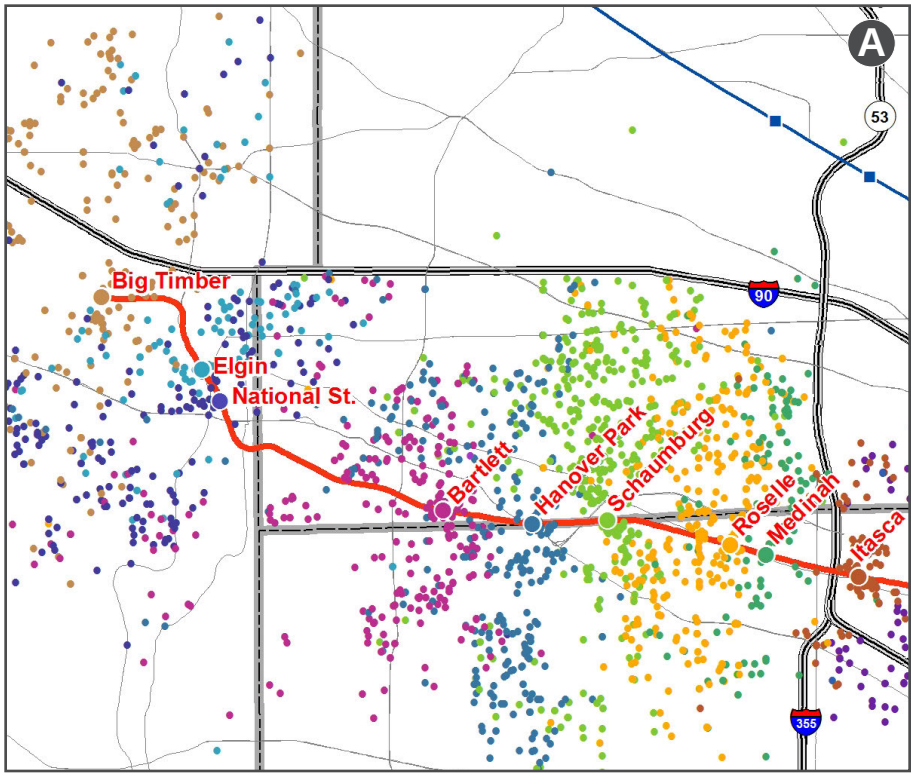
**Other significant improvements completed since 1985 at:**

Bensenville
Elgin
Franklin Park
Itasca
Medinah
Western Avenue

project to replace track and 1950s-era signal equipment at the A-5 interlocking in Chicago was completed in 2015, and modernization of the manually controlled interlocking at B-17 Junction in Bensenville was completed in 2016. Signal equipment at the B-35 interlocking, which controls movement over the Fox River Bridge, is approaching the end of its useful life and will be upgraded as part of the replacement and expansion of the bridge (mentioned earlier).

Numerous adjustments have been made to the MD-W's schedule over the years, in order to reduce congestion, improve on-time performance, accommodate reverse commuters, improve bus connections, and add service to meet demand. A zone-type schedule was implemented in 1987 to provide additional service to and from the western portion of the MD-W, where demand was—and still is—highest. More express trains and hourly midday service were also provided. During peak periods, passengers traveling to and from intermediate stations transfer between local and express trains at Franklin Park. Two years after the schedule change, boardings at MD-W stations west of Franklin Park had increased 14%. Service to the Big Timber Road Station has been expanded from two peak-period, peak-direction trains per day in 1990 to a full weekday schedule today, though the station is not served on weekends.

FIGURE 2A: ORIGINS OF RIDERS USING NON-CBD MD-W STATIONS

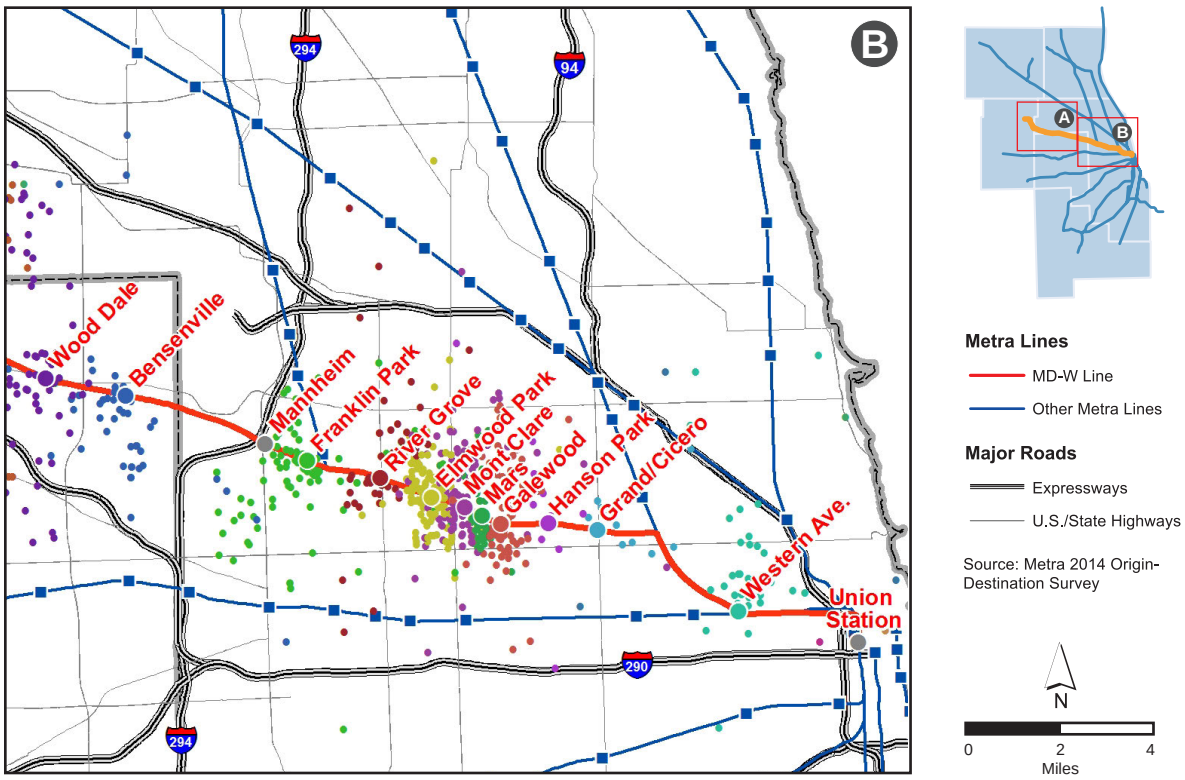


All but one MD-W station—Mannheim—complies with the accessibility requirements of the Americans with Disabilities Act (ADA), and over 99% of MD-W boardings take place at ADA-accessible stations. Metra's station ADA-compliance program started with designating six of the busiest MD-W stations, including CUS in downtown Chicago, as "key stations", all of which were made fully accessible by 2002. Since 1985, Metra has completed access improvements at a number of non-downtown MD-W stations, and these are now fully accessible to disabled riders. Metra will bring Mannheim into full ADA compliance when it is rehabilitated, so that eventually all MD-W stations will be accessible.

## PRESENT AND FUTURE DEMAND

In 2014, 22,000 boardings took place each weekday on the MD-W, with 79% of boardings occurring on peak-period, peak-direction trains. On the MD-W, ridership has increased 53% since 1983 (see Table 1c), with the most significant ridership gains occurring at stations near the western end of the line. Since 1983, boardings have increased 67% at stations from Wood Dale

FIGURE 2B: ORIGINS OF RIDERS USING NON-CBD MD-W STATIONS



westward (excluding the Big Timber Road Station, which opened in 1986). Ridership in this segment accounts for 71% of boardings at non-downtown MD-W stations.

Figure 2 shows the origins of MD-W riders who board at stations outside of the Central Business District (CBD). Overall passenger ridership on the MD-W totaled 6.9 million in 2014.

Demographic forecasts suggest that demand for commuter rail service on the MD-W will continue to rise (see Tables 3, 4 and 5). Though most of the corridor experienced a modest loss of population or only modest growth between 2000 and 2010, the Chicago Metropolitan Agency for Planning (CMAP) forecasts that the MD-W corridor will attract 264,000 new residents between 2010 and 2040, a 28% increase. Nearly 195,000 jobs are projected to be added, a 51% rise.

Projected population growth is especially significant at the outer end of the corridor in eastern Kane County. Population in the Elgin station marketsheds (National Street, Elgin, and Big Timber Road) is forecasted to increase 62% from 2010 to 2040. Employment growth in the Elgin area, as well as most marketsheds in the corridor, is also anticipated to be strong.

Currently, over 8,500 parking spaces serve the riders of the MD-W, as shown in Table 1c. According to parking counts conducted in 2014, the effective utilization rate at all stations on the line is 82%. When utilization of station parking areas exceeds 85%, Metra considers that they are approaching full capacity. Eight MD-W stations exceed this threshold, indicating a demand for increased parking at these stations. Due to residential growth in the MD-W corridor, the demand for parking is expected to grow.

## REVERSE COMMUTE AND NON-DOWNTOWN MARKETS

Although Metra's primary market involves commuters who follow the traditional suburb-to-CBD trip pattern, in recent years Metra has seen a demand for city-to-suburb reverse-commute options (Metra's primary commuter market is discussed in the Central Business District Market chapter). The shift of employment to suburban locations has left many commuters with limited transit accessibility to jobs. Figure 3 shows AM alightings at non-CBD MD-W stations.

According to Metra's 2014 Boarding and Alighting Count, over 7% of morning peak-period MD-W riders alight at stations outside central Chicago (i.e., excluding CUS and Western Avenue). Five O'Hare-area stations (Franklin Park, Mannheim, Bensenville, Wood Dale, and Itasca) account for 40% of MD-W

## TABLE 3: MD-W CORRIDOR POPULATION

| Station | Fare Zone | Area Sq. Mi. | Population in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Union Station, Western Ave. | A | 3.6 | 61,046 | 56,719 | 76,351 | -7.1% | 34.6% |
| Grand/Cicero, Hanson Park, Galewood, Mars, Mont Clare | B | 11.8 | 189,353 | 177,894 | 208,390 | -6.1% | 17.1% |
| Elmwood Park, River Grove, Franklin Park, Mannheim | C | 15.7 | 102,989 | 100,834 | 108,921 | -2.1% | 8.0% |
| Bensenville, Wood Dale | D | 21.6 | 49,982 | 47,874 | 62,835 | -4.2% | 31.3% |
| Itasca, Medinah, Roselle | E | 39.9 | 124,537 | 125,421 | 147,164 | 0.7% | 17.3% |
| Schaumburg, Hanover Park, Bartlett | F | 68.1 | 207,037 | 212,801 | 243,443 | 2.8% | 14.4% |
| National St., Elgin, Big Timber Rd. | H | 198.6 | 172,418 | 224,519 | 363,399 | 30.2% | 61.9% |
| **MD-W TOTAL** | | **359.3** | **907,362** | **946,062** | **1,210,503** | **4.3%** | **28.0%** |
| **REGION TOTAL** | | **3,748.0** | **8,091,717** | **8,456,762** | **11,717,936** | **4.5%** | **38.6%** |

## TABLE 4: MD-W CORRIDOR HOUSEHOLDS

| Station | Fare Zone | Area Sq. Mi. | Households in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Union Station, Western Ave. | A | 3.6 | 24,349 | 26,143 | 29,606 | 7.4% | 13.2% |
| Grand/Cicero, Hanson Park, Galewood, Mars, Mont Clare | B | 11.8 | 55,838 | 53,838 | 61,302 | -3.6% | 13.9% |
| Elmwood Park, River Grove, Franklin Park, Mannheim | C | 15.7 | 37,628 | 36,097 | 39,338 | -4.1% | 9.0% |
| Bensenville, Wood Dale | D | 21.6 | 17,029 | 16,183 | 20,672 | -5.0% | 27.7% |
| Itasca, Medinah, Roselle | E | 39.9 | 47,515 | 48,454 | 55,202 | 2.0% | 13.9% |
| Schaumburg, Hanover Park, Bartlett | F | 68.1 | 70,771 | 73,279 | 82,885 | 3.5% | 13.1% |
| National St., Elgin, Big Timber Rd. | H | 198.6 | 57,738 | 74,495 | 124,412 | 29.0% | 67.0% |
| **MD-W TOTAL** | | **359.3** | **310,868** | **328,489** | **413,417** | **5.7%** | **25.9%** |
| **REGION TOTAL** | | **3,748.0** | **2,906,924** | **3,050,134** | **4,224,349** | **4.9%** | **38.5%** |

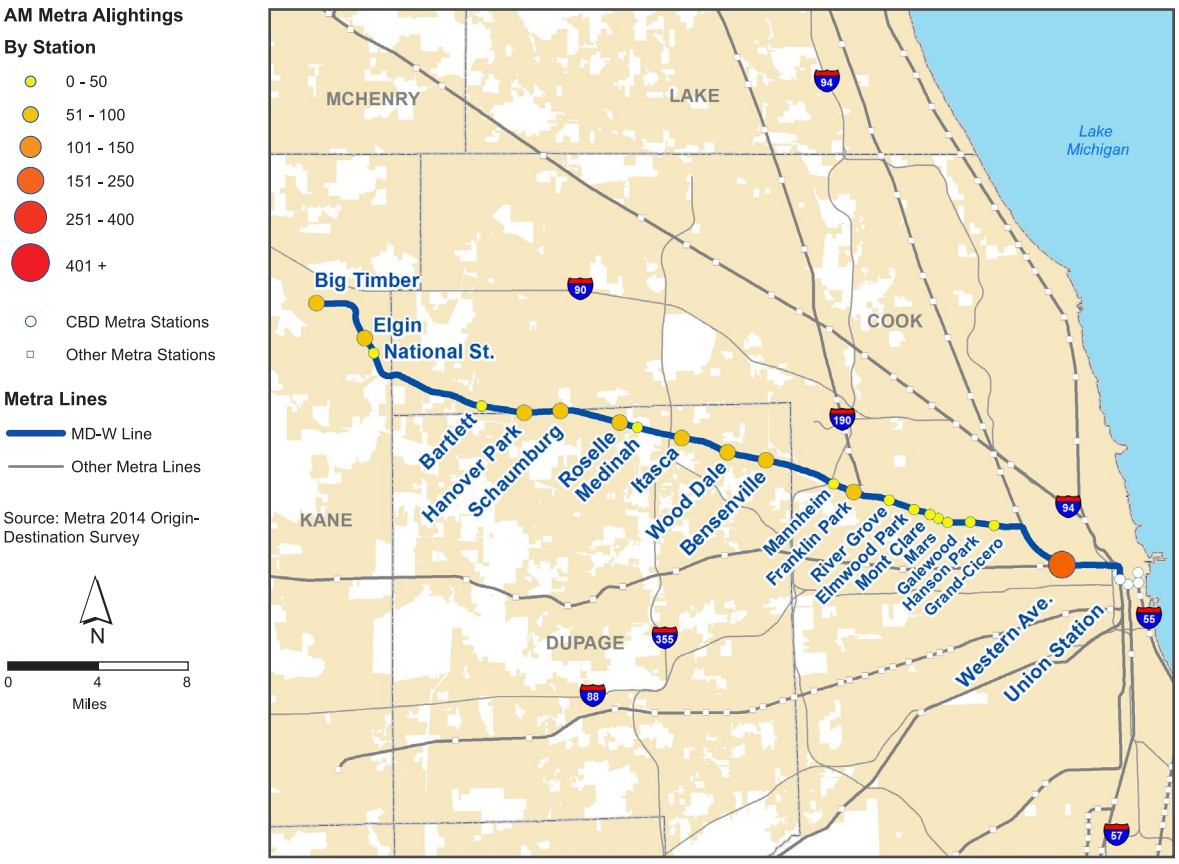
## TABLE 5: MD-W CORRIDOR EMPLOYMENT

| Station | Fare Zone | Area Sq. Mi. | Employment in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Union Station, Western Ave. | A | 3.6 | 50,855 | 40,907 | 53,328 | -19.6% | 30.4% |
| Grand/Cicero, Hanson Park, Galewood, Mars, Mont Clare | B | 11.8 | 35,715 | 22,469 | 29,265 | -37.1% | 30.2% |
| Elmwood Park, River Grove, Franklin Park, Mannheim | C | 15.7 | 55,125 | 37,122 | 39,510 | -32.7% | 6.4% |
| Bensenville, Wood Dale | D | 21.6 | 116,919 | 66,969 | 106,272 | -42.7% | 58.7% |
| Itasca, Medinah, Roselle | E | 39.9 | 91,627 | 71,717 | 93,807 | -21.7% | 30.8% |
| Schaumburg, Hanover Park, Bartlett | F | 68.1 | 54,898 | 55,078 | 79,150 | 0.3% | 43.7% |
| National St., Elgin, Big Timber Rd. | H | 198.6 | 115,146 | 87,039 | 174,345 | -24.4% | 100.3% |
| **MD-W TOTAL** | | **359.3** | **520,285** | **381,301** | **575,677** | **-26.7%** | **51.0%** |
| **REGION TOTAL** | | **3,748.0** | **4,340,215** | **3,786,224** | **5,267,696** | **-12.8%** | **39.1%** |

morning peak-period alightings outside central Chicago. Interestingly, 18% of passengers using the Elgin (Chicago Street) Station during the morning peak alight at this station rather than board, as riders travel to Elgin municipal offices, the Grand Victoria Casino, and other significant employers.

As noted above, substantial employment growth is projected in MD-W station marketsheds along nearly the entire line, and 195,000 jobs are expected to be added in the corridor between 2010 and 2040, a 51% increase (see Table 5). Since employment growth in an area contributes to increased ridership at nearby Metra stations, this projection is a meaningful indicator of likely ridership growth on the MD-W Line. See Table 6 for a list of major trip generators in the MD-W corridor, including top employers.

FIGURE 3: AM ALIGHTINGS AT NON-CBD MD-W STATIONS



## TABLE 6: MAJOR TRIP GENERATORS IN THE MD-W CORRIDOR

| Generator Type | Name | Comments | Municipality |
|---|---|---|---|
| **Airports** | O'Hare International Airport | Second-busiest airport in U.S. | Chicago |
| **Colleges and Universities** | St. Augustine College | West Town satellite campus; 400 students | Chicago |
| | Triton College | 17,000 students | River Grove |
| | DeVry University | 3,500 students | Addison |
| | Elgin Community College | 16,000 students | Elgin |
| | Judson University | 1,200 students | Elgin |
| **Culture and Entertainment** | Hansen Stadium | Chicago Park District football and track stadium | Chicago |
| | Wonder Works | Children's museum | Oak Park |
| | Medinah Country Club | Past host of 5 major PGA Championships | Medinah |
| | Alexian Field | Schaumburg Boomers baseball stadium; capacity 6,000 | Schaumburg |
| | Grand Victoria Casino | Riverboat casino | Elgin |
| **Shopping*** | Stratford Square Mall | Regional center; 140 stores including 6 anchors | Bloomingdale |
| | Streets of Woodfield | Regional center; 29 stores including 3 anchors | Schaumburg |
| | Woodfield Mall | Super-regional center; 280 stores including 5 anchors | Schaumburg |
| **Government** | Cook County Juvenile Court | 28 courtrooms; juvenile temporary detention center | Chicago |
| | U.S. Department of Health and Human Services | O'Hare import inspection post | Elk Grove Village |
| | U.S. Treasury Department | Federal finance and taxation office | Elk Grove Village |
| | Elgin City Hall | Municipal administration offices | Elgin |
| **Hospitals** | Norwegian American Hospital | 200 beds; 800 employees | Chicago |
| | St. Mary and Elizabeth Medical Center | 246 beds; 2,100 employees | Chicago |
| | Shriners Hospital for Children | 60 beds; 400 employees | Chicago |
| | Gottlieb Memorial Hospital | 250 beds; 1,200 employees | Melrose Park |
| | Provena Saint Joseph Hospital | 193 beds, 1,300 employees | Elgin |
| | Sherman Hospital | 353 beds; 1,800 employees | Elgin |
| **Top Private Employers** | Nestle USA | Confection manufacturer; 900 employees | Franklin Park |
| | Quest Diagnostics | Blood test and clinical laboratory; 900 employees | Wood Dale |
| | Videojet Technologies | Printing product manufacturer; 900 employees | Wood Dale |
| | Arthur J. Gallagher & Co. | insurance and risk management firm HQ; 1,000 employees | Itasca |
| | Liberty Mutual | Insurance company | Itasca |
| | JP Morgan Chase | Credit card issuer; 1,900 employees | Elgin |

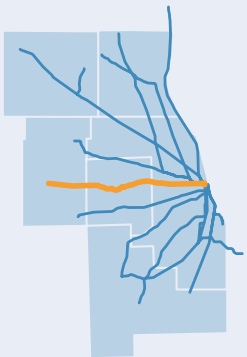
*Significant shopping areas exist at several stations along the line.


*UP-W Schedule and Metra one-way tickets*

# UNION PACIFIC - WEST LINE

## EXISTING SERVICE AND CONDITIONS

**Metra's Union Pacific-West (UP-W) Line** extends west from Ogilvie Transportation Center (OTC) in downtown Chicago to the Village of Elburn. The line serves portions of Cook, DuPage, and Kane Counties with 18 outlying stations along its 44-mile route (see Figure 1). In 2014, 8.4 million trips were taken on the UP-W, the sixth-highest number of Metra's 11 lines (based on ticket sales).



Like the Union Pacific–North and Union Pacific–Northwest Lines, the UP-W is owned by Union Pacific Railroad (UP) and operated by its employees under a purchase of service agreement with Metra. The three lines are dispatched by UP from Omaha, Nebraska. Metra owns the passenger coaches and revenue service locomotives. Daytime storage and servicing of Union Pacific Metra trains takes place at the California Avenue Yard, located on the UP-W Line about three miles west of OTC. This location also functions as the heavy repair facility for all bi-level coaches from Metra diesel lines. Union Pacific locomotives are serviced at the M-19A facility, located about two miles west of the California Avenue Yard. Elburn Yard accommodates nighttime storage and maintenance of trainsets serving the UP-W Line.

Metra's three UP lines were formerly owned by the Chicago and NorthWestern Railroad (C&NW), which operated commuter service on these routes for over a century until the company became part of UP in 1995. In terms of number of routes and total mileage, the C&NW once operated the most extensive commuter service in the region. The UP-W Line was the first railroad built in the state of Illinois. The line fueled the growth of Oak Park, Geneva, and numerous other towns along the corridor, and freight carried by the UP-W and other lines helped transform Chicago into a major transportation hub. Like Metra's two other UP lines (also former C&NW lines), UP-W trains run on the left-hand side—thought to be a function of how the first track and depots were situated when a second track was added.

Today, the UP-W Line is the main freight line into Chicago for Union Pacific Railroad, which operates as many as 70 freight trains per day on the line. Despite carrying heavy freight traffic, the UP-W supports a full schedule of commuter service, consisting of 59 passenger trains each weekday. Table 1 details the service, station, and ridership characteristics of the UP-W.

2014 Average trip length:
**22.3 miles**

2014 Average fare paid:
**$3.82**

*Source: Ridership Trends Report, Dec. 2014*

Number of Stations:
**19**

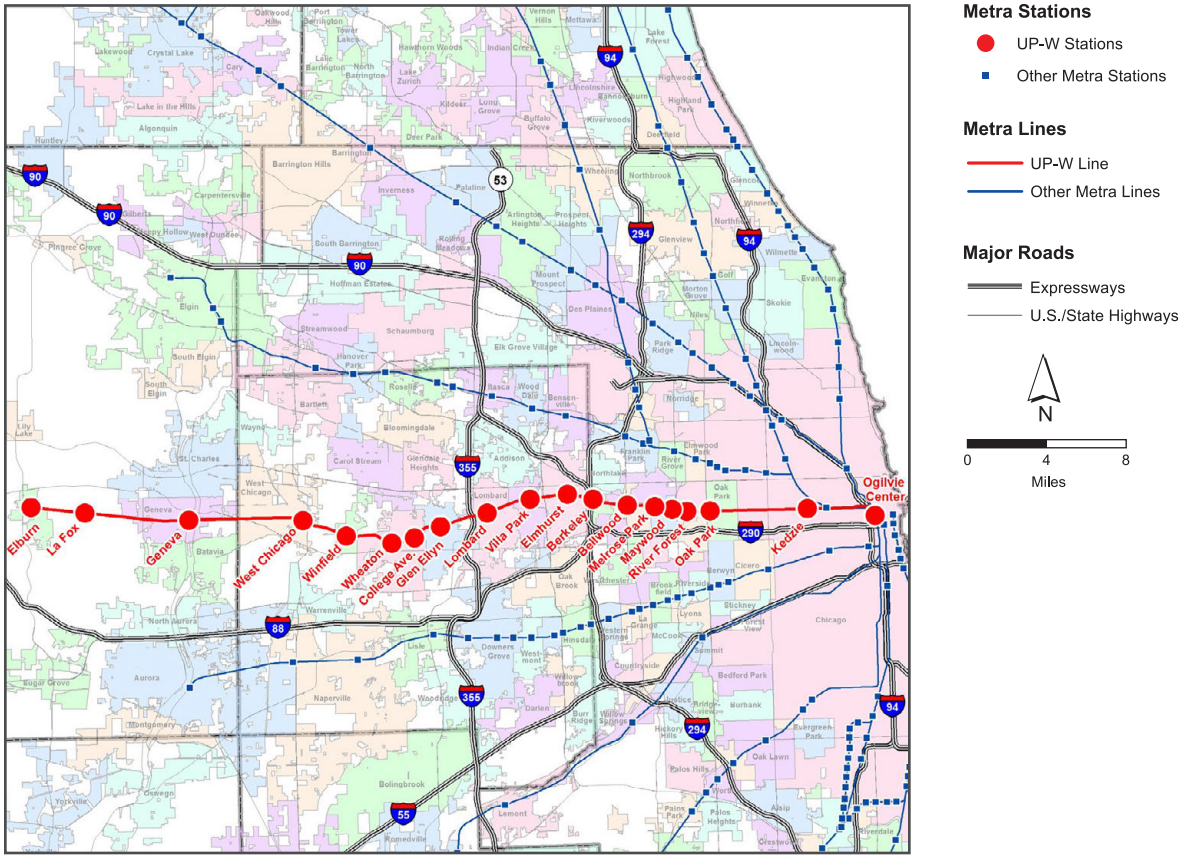
Route Length:
**43.6 miles**

Number of weekday trains:
**59**

2014 On-time performance*:
**94.1%**

** On-time Performance Report, Dec. 2014*

## FIGURE 1: METRA STATIONS ON THE UP-W LINE

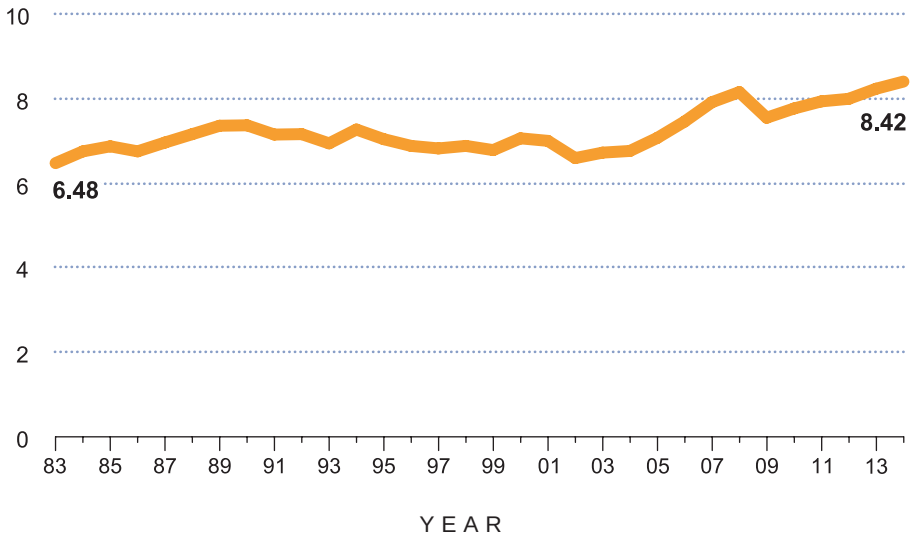


## TABLE 1A: 2014 UP-W WEEKDAY BOARDINGS

| Time of Day | Inbound | Outbound |
|---|---|---|
| AM Peak | 10,844 | 624 |
| Midday | 1,504 | 1,232 |
| PM Peak | 763 | 10,363 |
| Evening | 459 | 1,407 |
| **TOTAL** | **13,570** | **13,626** |

*Source: Metra Weekday Station Boardings and Alightings by Time-of-Day and Direction, 2014*

## TABLE 1B: UP-W ANNUAL PASSENGER TRIPS
1983 — 2014, in millions




*Note: from 2008, figures include free Circuit Permit trips. 2008-2011 figures include free senior trips; this program ended September 2011.*

## TABLE 1C: UP-W STATION CHARACTERISTICS

| Station | Fare Zone | Mile Post | Accessibility[1] | Boardings | | Station Parking (2014) | | | Time to Chicago (minutes)[1] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1983[2] | 2014[3] | Capacity (Spaces)[4] | Effective Use[5] | Observed Use[6] | Shortest Trip | Longest Trip |
| Ogilvie Trans. Center | A | 0.0 | Full | 10,769 | 12,781 | 0 | n/a | n/a | n/a | n/a |
| Kedzie | A | 3.6 | None | 42 | 56 | 0 | n/a | n/a | n/a | 12 |
| Oak Park | B | 8.5 | Full | 344 | 1,129 | 224 | 100% | 47% | 16 | 19 |
| River Forest | B | 9.7 | None | 127 | 434 | 211 | 84% | 75% | 20 | 23 |
| Maywood | C | 10.5 | Partial | 87 | 81 | 88 | 63% | 63% | 22 | 25 |
| Melrose Park | C | 11.3 | Partial | 101 | 103 | 48 | 88% | 88% | 23 | 27 |
| Bellwood | C | 12.6 | Full | 248 | 165 | 194 | 40% | 40% | 26 | 30 |
| Berkeley | C | 14.3 | Full | 201 | 161 | 125 | 57% | 57% | 29 | 33 |
| Elmhurst | D | 15.7 | Full | 1,521 | 2,313 | 1,265 | 91% | 88% | 26 | 36 |
| Villa Park | D | 17.8 | Full | 1,289 | 841 | 496 | 99% | 89% | 31 | 40 |
| Lombard | D | 19.9 | Full | 1,418 | 1,321 | 536 | 100% | 90% | 33 | 44 |
| Glen Ellyn | E | 22.4 | Full | 1,971 | 1,765 | 727 | 99% | 86% | 36 | 48 |
| College Ave. | E | 23.8 | Full | 838 | 1,057 | 597 | 92% | 83% | 42 | 51 |
| Wheaton | E | 25.0 | Full | 1,770 | 1,506 | 701 | 82% | 74% | 41 | 54 |
| Winfield | F | 27.5 | Full | 341 | 517 | 352 | 80% | 68% | 52 | 58 |
| West Chicago | F | 29.8 | Full | 371 | 576 | 469 | 75% | 63% | 49 | 62 |
| Geneva | H | 35.3 | Full | 872 | 1,732 | 988 | 99% | 93% | 58 | 70 |
| La Fox[7] | I | 40.9 | Full | n/a | 313 | 300 | 83% | 83% | 67 | 78 |
| Elburn[7] | I | 43.6 | Full | n/a | 345 | 597 | 31% | 31% | 72 | 82 |
| **TOTAL UP-W** | | | | **22,310** | **27,196** | **7,918** | **85%** | **77%** | | |

[1] Union Pacific-West Line Schedule

[2] Metra's 1983 Boarding/Alighting Counts

[3] Metra, "Commuter Rail System Station Boarding/Alighting Counts," Fall 2014

[4] Metra Station Parking Capacity and Use

[5] Effective use: all sold permit spaces are assumed to be used, even if unoccupied during parking survey

[6] Observed use: spaces physically occupied during parking survey

[7] Stations opened in 2006

## TABLE 1D: MODE OF ACCESS AT UP-W METRA STATIONS

| Station Name | Walk/Bike | Drive/Carpool Driver | Carpool Passenger/ Dropped Off | Transit | Other |
|---|---|---|---|---|---|
| Ogilvie Trans. Center[1] | 46% | 4% | 12% | 29% | 9% |
| Kedzie[2] | 27% | 32% | 27% | 9% | 5% |
| Oak Park | 68% | 11% | 14% | 7% | 0% |
| River Forest | 53% | 34% | 12% | 1% | 0% |
| Maywood | 20% | 71% | 6% | 3% | 0% |
| Melrose Park | 35% | 40% | 25% | 0% | 0% |
| Bellwood | 16% | 66% | 16% | 0% | 2% |
| Berkeley | 19% | 62% | 18% | 0% | 1% |
| Elmhurst | 29% | 55% | 16% | 0% | 1% |
| Villa Park | 22% | 63% | 15% | 0% | 0% |
| Lombard | 29% | 45% | 23% | 2% | 1% |
| Glen Ellyn | 33% | 40% | 24% | 1% | 1% |
| College Ave. | 25% | 58% | 16% | 1% | 0% |
| Wheaton | 25% | 47% | 25% | 3% | 0% |
| Winfield | 15% | 62% | 23% | 0% | 0% |
| West Chicago | 12% | 69% | 18% | 1% | 1% |
| Geneva | 9% | 69% | 21% | 0% | 1% |
| La Fox | 0% | 85% | 15% | 0% | 0% |
| Elburn | 2% | 78% | 19% | 1% | 1% |
| **TOTAL UP-W[3]** | **27%** | **52%** | **19%** | **1%** | **1%** |
| **SYSTEM TOTAL** | **25%** | **52%** | **17%** | **3%** | **3%** |

[1] Includes riders boarding on all Metra lines departing from station

[2] Data not statistically significant due to number of survey responses received

[3] Line total does not include downtown terminal

*Source: Metra, Spring 2014 Origin-Destination Survey*

TABLE 2: METRA CAPITAL INVESTMENT HISTORY
1985 — June 2015, in millions of dollars

| Asset | UP-W | System |
|---|---|---|
| Rolling stock | $181 | $2,449 |
| Track and structure | 93 | 1,329 |
| Signal, electrical, and mechanical | 69 | 777 |
| Facilities and equipment | 18 | 548 |
| Stations and parking | 148 | 1,084 |
| Acquisitions, extensions, and expansions | 119 | 599 |
| Support activities | 21 | 348 |
| **TOTAL** | **$649** | **$7,134** |
| **PERCENTAGE** | **9.1%** | **100.0%** |

*Notes: 1) Excludes South Shore, preventative maintenance, new lines, and pending grants. 2) Prior expenses are not adjusted for subsequent inflation. 3) Data is subject to budget revisions, audit adjustments, etc. at any time. 4) For many projects, work locations and associated costs have not been identified, so budget amounts have been allocated among lines by various criteria.*

## IMPROVEMENTS SINCE THE START OF METRA

Since 1985, Metra has invested nearly $650 million (in year of expenditure dollars) in improvements to the UP-W corridor. Table 2 indicates the amount of investment in different asset categories. This amount includes the extension of the line from Geneva to Elburn, which was completed in 2006. The $135 million project, funded in part with a New Starts grant from the Federal Transit Administration, included two new stations, track and signal improvements, construction of an overnight train storage yard at Elburn, and purchase of two additional locomotives to service the line. The project has relieved automobile and train congestion at Geneva and allowed Metra to better serve growing Kane County travel markets.

Metra has completed improvements at a number of UP-W stations since 1985 (see right). In 2009, Metra and UP formed a public-private partnership (PPP) to construct a number of capital improvements on the UP-W Line. As part of this work, a number of safety improvements at UP-W stations were completed in 2011. Another Train Warning System (ATWS) devices were installed at eight stations; ATWS uses audible and visual alerts to warn pedestrians at crossings near stations that a second train—in addition to the one stopped at the station—is approaching or present. Other new grade crossing protections include new paths to guide pedestrians to a gated crossing, more pedestrian gates, and additional fencing to discourage pedestrians from crossing at unauthorized locations. These improvements allow commuter and freight traffic to safely operate past a station when

**Depots and warming houses constructed since 1985 at:**

College Avenue
Elburn (new station)
Geneva
La Fox (new station)
Oak Park
West Chicago
Wheaton
Winfield

**Other significant improvements completed since 1985 at:**

Berkeley
Bellwood
Elmhurst
Geneva
Glen Ellyn
Lombard
Melrose Park
River Forest
Villa Park

**Station improvements are planned for:**

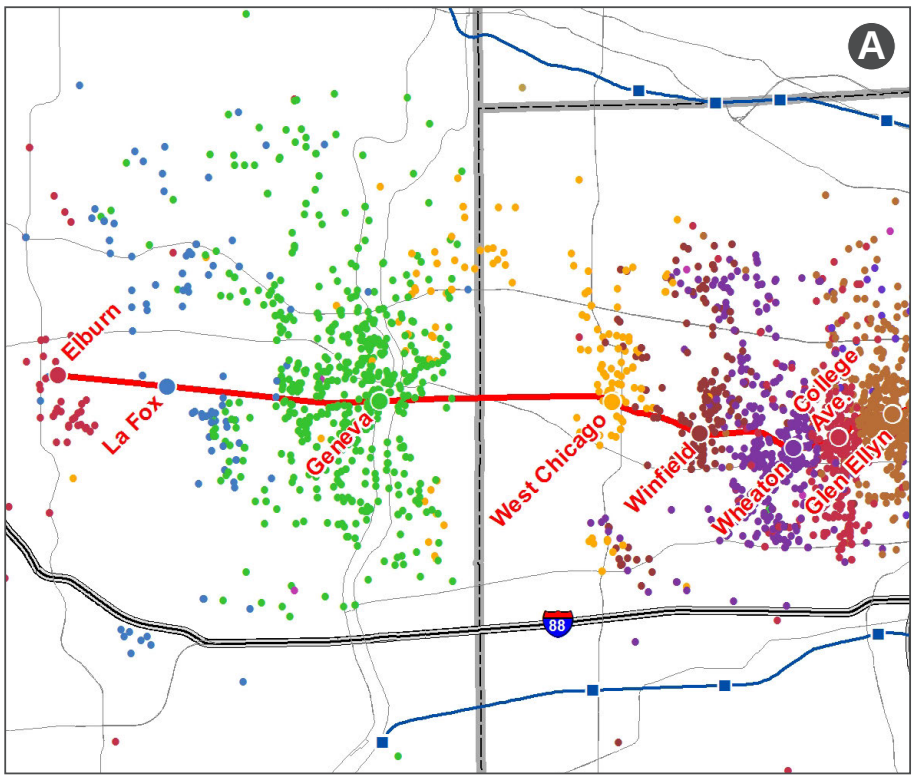
River Forest
West Chicago
Wheaton

a commuter train is stopped there. In addition, a pedestrian underpass at Lombard was completed in 2015 in conjunction with a station rehabilitation project, eliminating the mid-platform pedestrian crossing at the station.

In 2014, crews completed projects to improve the connection between UP and Indiana Harbor Belt tracks near UP's Proviso freight yard in Melrose Park and to extend third main line track adjacent to the yard. These projects included the construction of new Berkeley and Bellwood stations and the addition of pedestrian underpasses at each station. The work was part of the Chicago Region Environmental and Transportation Efficiency (CREATE) Program, a set of 70 projects designed to reduce and remove passenger and freight train congestion in the Chicago area.

Recently, UP and Metra shared the cost to add crossovers at Lombard and Wheaton. Previously, a lack of crossovers between Elmhurst and West Chicago meant that trains in this 15-mile segment could not change tracks, reducing the utility and flexibility of this portion of the line. The new crossovers allow commuter trains to bypass slower-moving freight trains, and minimize delays during track repairs. Adding the crossover at Wheaton necessitated the closure of the Chase Street grade crossing near Wheaton College, and a pedestrian underpass at this location was completed in 2014.

FIGURE 2A: ORIGINS OF RIDERS USING NON-CBD UP-W STATIONS

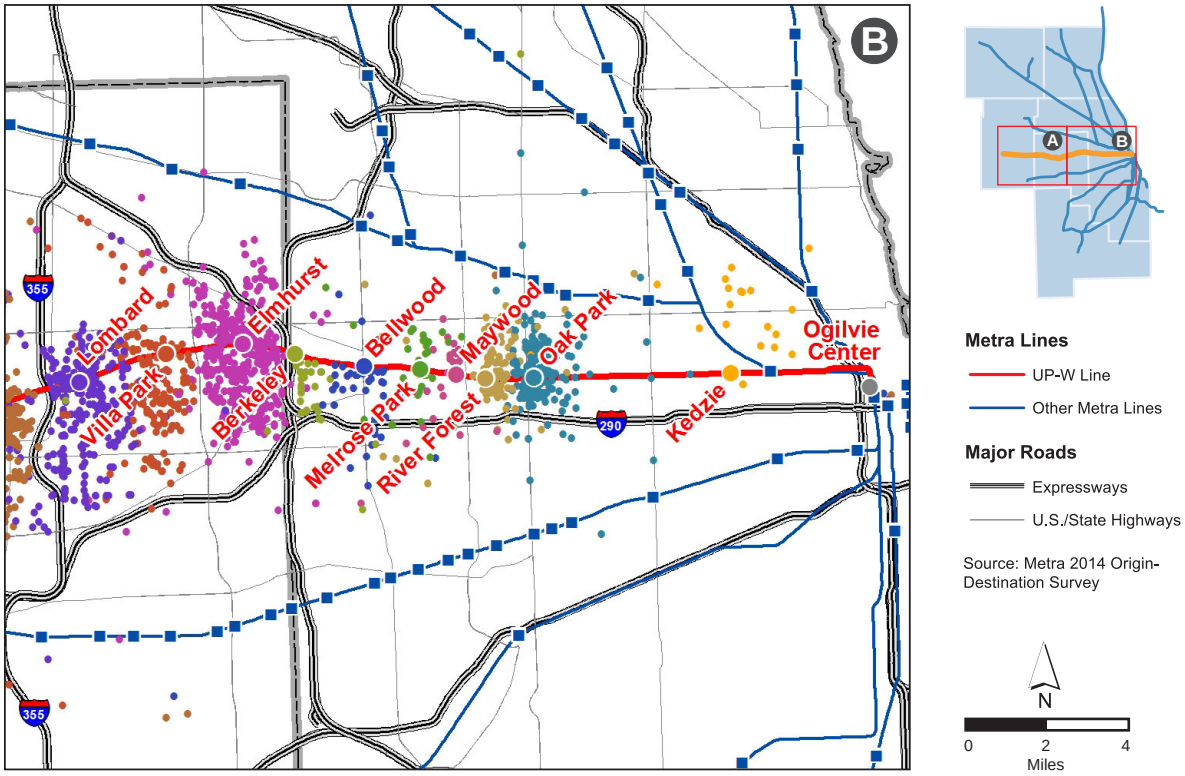


At Geneva, the addition of a third level to the existing two-level commuter parking structure was completed in 2015, increasing the deck's capacity by 180 spaces. Some of these additional spaces will be needed to offset surface parking lost due to the extension of the third main line through Geneva, which will be funded through the Metra/UP PPP. (The PPP is discussed further in the "Proposed Line Improvements" section in this chapter.)

In the last 20 years, numerous adjustments have been made to the UP-W's schedule, increasing efficiency and reliability, improving peak schedules, adding express and weekend service, and extending service to new stations.

Most UP-W stations now comply with the accessibility requirements of the Americans with Disabilities Act (ADA), and approximately 96% of UP-W weekday boardings take place at these accessible stations. Metra's station compliance program started with designating seven of the busiest UP-W stations, including OTC in downtown Chicago, as "key stations", all of which were made fully accessible by 2007. Since 1985, Metra has completed access improvements at a number of non-downtown UP-W stations, and 14 outlying stations on the line are fully accessible to disabled riders. Metra will bring the remaining stations into full ADA compliance as they are rehabilitated, so that eventually all will be accessible.

FIGURE 2B: ORIGINS OF RIDERS USING NON-CBD UP-W STATIONS



## PRESENT AND FUTURE DEMAND

In 2014, 27,000 boardings took place each weekday on the UP-W, with 78% of boardings occurring on peak-period, peak-direction trains. On the UP-W, ridership has increased 22% since 1983 (see Table 1c). Ridership gains are most significant at stations near the eastern and western ends of the line, while ridership has decreased at seven of the ten stations between Maywood and Wheaton. This decrease could be attributed to the expanding suburban job market, with many workers shifting from the Central Business District (CBD) to suburb-to-suburb commutes.

At the three westernmost stations built before 2005 (Winfield, West Chicago, and Geneva) boardings increased 78% between 1983 and 2014, which reflects the population and employment growth that has taken place in this area. Ridership increased 232% in the same time period at the Oak Park and River Forest Stations, an example of the significant ridership growth that has been experienced at many of Metra's stations close to the CBD. Overall passenger ridership on the UP-W totaled 8.4 million in 2014.

Currently, approximately 7,900 parking spaces serve UP-W riders. According to parking counts conducted in 2014, the average rate of utilization at all stations on the line is 85%. At eight stations, effective parking utilization exceeds 85%, the threshold used by Metra to determine if a station is in need of additional parking.

A number of indicators suggest that demand for commuter rail service will continue to rise in the UP-W corridor, as shown in Tables 3, 4, and 5. The corridor has been growing rapidly in recent decades, and demographic forecasts anticipate continued growth in population and employment. The Chicago Metropolitan Agency for Planning (CMAP) forecasts that the UP-W corridor will attract nearly 160,000 new residents between 2010 and 2040, a 20% increase. Population growth is expected to be most significant near the outer end of the UP-W corridor in eastern Kane County. Population in Geneva's station marketshed is expected to increase 36% from 2010 to 2040 and population in the La Fox and Elburn marketsheds is expected to increase 35% during the same period (see Table 3).

Similarly, the greatest gains in suburban employment on the UP-W corridor, in terms of percentage and absolute numbers, are expected to occur in the marketsheds from Geneva west. CMAP forecasts a 242% increase in employment in the La Fox and Elburn marketsheds, with an addition of 17,200 jobs. Employment growth of 64%, representing over 35,000 jobs, is projected for the Geneva marketshed. Along the entire corridor, over 190,000 jobs are projected to be added, a 33% rise.

## TABLE 3: UP-W CORRIDOR POPULATION

| Station | Fare Zone | Area Sq. Mi. | Population in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Ogilvie Transportation Center, Kedzie | A | 8.6 | 104,712 | 113,821 | 141,857 | 8.7% | 24.6% |
| Oak Park, River Forest | B | 10.8 | 110,781 | 104,823 | 114,666 | -5.4% | 9.4% |
| Maywood, Melrose Park, Bellwood, Berkeley | C | 21.1 | 116,915 | 115,412 | 128,615 | -1.3% | 11.4% |
| Elmhurst, Villa Park, Lombard | D | 33.5 | 122,435 | 124,565 | 155,888 | 1.7% | 25.1% |
| Glen Ellyn, College Ave., Wheaton | E | 30.9 | 124,603 | 125,482 | 139,934 | 0.7% | 11.5% |
| Winfield, West Chicago | F | 47.1 | 83,502 | 85,585 | 99,236 | 2.5% | 16.0% |
| Geneva | H | 51.7 | 78,484 | 90,799 | 123,625 | 15.7% | 36.2% |
| La Fox, Elburn | I | 216.0 | 29,955 | 44,987 | 60,832 | 50.2% | 35.2% |
| **UP-W TOTAL** | | **419.7** | **771,387** | **805,474** | **964,653** | **4.4%** | **19.8%** |
| **REGION TOTAL** | | **3,748.0** | **8,091,717** | **8,456,762** | **11,717,936** | **4.5%** | **38.6%** |

## TABLE 4: UP-W CORRIDOR HOUSEHOLDS

| Station | Fare Zone | Area Sq. Mi. | Households in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Ogilvie Transportation Center, Kedzie | A | 8.6 | 36,834 | 47,780 | 55,642 | 29.7% | 16.5% |
| Oak Park, River Forest | B | 10.8 | 44,255 | 42,569 | 46,491 | -3.8% | 9.2% |
| Maywood, Melrose Park, Bellwood, Berkeley | C | 21.1 | 38,010 | 37,336 | 40,686 | -1.8% | 9.0% |
| Elmhurst, Villa Park, Lombard | D | 33.5 | 45,866 | 45,987 | 56,786 | 0.3% | 23.5% |
| Glen Ellyn, College Ave., Wheaton | E | 30.9 | 44,316 | 44,533 | 50,217 | 0.5% | 12.8% |
| Winfield, West Chicago | F | 47.1 | 26,022 | 26,916 | 31,751 | 3.4% | 18.0% |
| Geneva | H | 51.7 | 27,916 | 33,297 | 46,063 | 19.3% | 38.3% |
| La Fox, Elburn | I | 216.0 | 9,732 | 14,019 | 20,426 | 44.1% | 45.7% |
| **UP-W TOTAL** | | **419.7** | **272,951** | **292,437** | **348,062** | **7.1%** | **19.0%** |
| **REGION TOTAL** | | **3,748.0** | **2,906,924** | **3,050,134** | **4,224,349** | **4.9%** | **38.5%** |

## TABLE 5: UP-W CORRIDOR EMPLOYMENT

| Station | Fare Zone | Area Sq. Mi. | Employment in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Ogilvie Transporation Center, Kedzie | A | 8.6 | 205,966 | 204,807 | 291,441 | -0.6% | 42.3% |
| Oak Park, River Forest | B | 10.8 | 58,282 | 39,883 | 43,981 | -31.6% | 10.3% |
| Maywood, Melrose Park, Bellwood, Berkeley | C | 21.1 | 102,738 | 53,753 | 70,919 | -47.7% | 31.9% |
| Elmhurst, Villa Park, Lombard | D | 33.5 | 134,576 | 108,103 | 113,365 | -19.7% | 4.9% |
| Glen Ellyn, College Ave., Wheaton | E | 30.9 | 65,199 | 68,893 | 77,433 | 5.7% | 12.4% |
| Winfield, West Chicago | F | 47.1 | 21,493 | 33,944 | 49,482 | 57.9% | 45.8% |
| Geneva | H | 51.7 | 58,442 | 56,037 | 91,719 | -4.1% | 63.7% |
| La Fox, Elburn | I | 216.0 | 3,061 | 7,102 | 24,316 | 132.0% | 242.4% |
| **UP-W TOTAL** | | **419.7** | **649,757** | **572,522** | **762,656** | **-11.9%** | **33.2%** |
| **REGION TOTAL** | | **3,748.0** | **4,340,215** | **3,786,224** | **5,267,696** | **-12.8%** | **39.1%** |

## REVERSE COMMUTE AND NON-DOWNTOWN MARKETS

Although Metra's primary market involves commuters who follow the traditional suburb-to-CBD trip pattern, in recent years Metra has seen a demand for city-to-suburb reverse-commute options (Metra's primary commuter market is discussed in the Central Business District Market chapter). The shift of employment to suburban locations has left many commuters with limited transit accessibility to jobs. Figure 3 shows AM alightings at non-CBD UP-W stations.

Factors that increase reverse-commute trip patterns are the growth of employment in the suburbs as well as the growth of population and households in the city and inner ring suburbs. Significant population and household growth is expected near the CBD and in western UP-W marketsheds, as shown in Tables 3 and 4. In terms of employment, CMAP projects the greatest employment growth to occur in UP-W marketsheds closest to the CBD and near the western end of the UP-W Line (see Table 5). This forecast suggests that some residents living in between may need to commute to job centers elsewhere in the UP-W corridor. In particular, the DuPage Business Center in West Chicago has the potential to become a significant employment draw along the UP-W Line. The Center's master plan calls for 5.5 million square feet of industrial space on 800 acres when the property is fully built out.

Boardings on UP-W AM peak-period outbound trains increased 14% between 2006 and 2014, and projected employment growth in suburbs served by the UP-W indicate that reverse-commute ridership on the line is likely to continue to increase. See Table 6 for a list of major trip generators in the UP-W corridor, including top employers.

## PROPOSED LINE IMPROVEMENTS

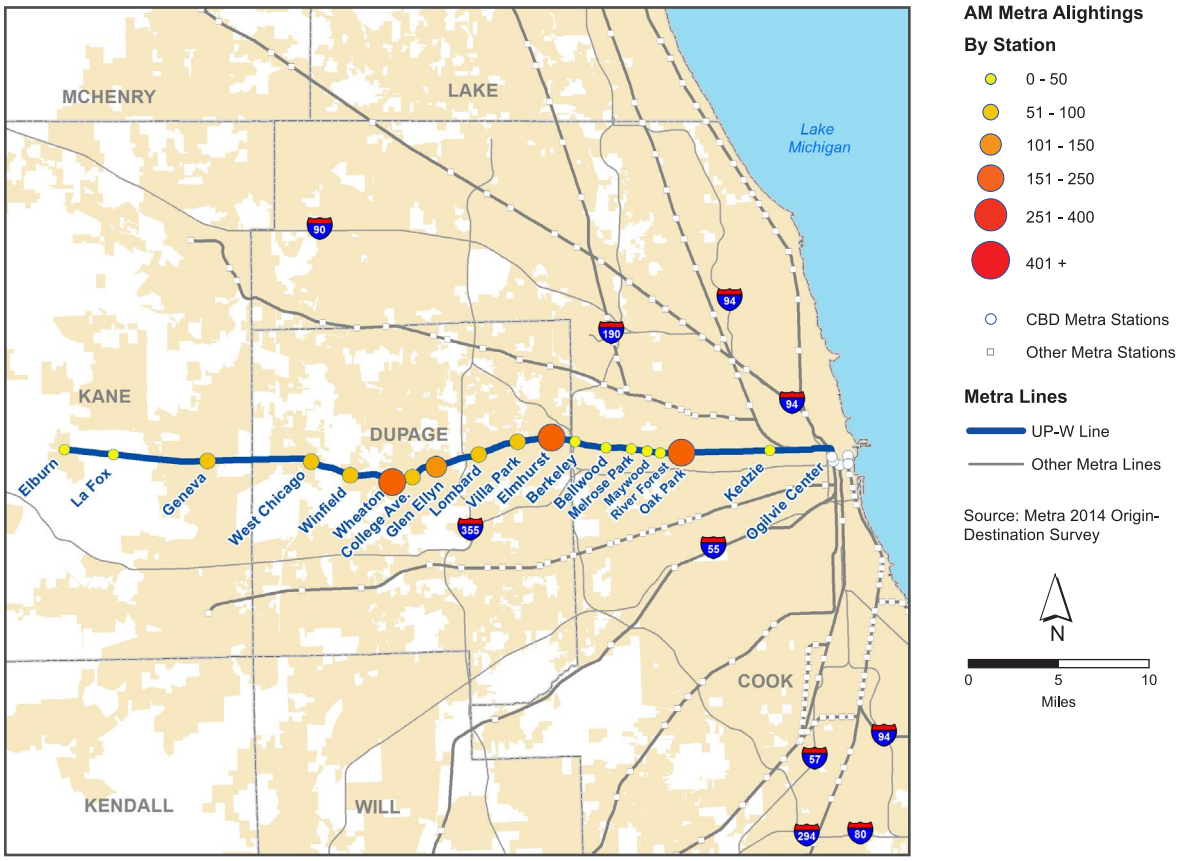
Two complementary projects are proposed for the UP-W Line in order to improve reliability of passenger and freight operations and allow Metra to provide faster, more frequent service. Once both projects are complete, six additional eastbound trains would be added during the morning peak, and two existing westbound trains would be extended to better serve reverse commuters.

Metra and UP have each committed $45 million for the construction of two segments of new third main line track on the UP-W, from River Forest to Melrose Park, and from West Chicago to Geneva. This work is the final piece of the Metra/UP PPP, and will create continuous triple track from Chicago to Elburn and alleviate conflicts between freight and Metra trains.

Metra is pursuing funding through the federal New Starts program for a second set of improvements that would work in conjunction with the PPP upgrades to facilitate service expansion on the UP-W. These improvements include relocating the A-2 crossing away from coach yard entrances and upgrading the signal system from A-2 to River Forest. Adding station parking, lengthening platforms, and purchasing additional rolling stock would allow Metra to accommodate the increased ridership attracted by the service improvements.

The two sets of projects would work in tandem, and both must be completed for service expansion to be possible. Metra completed Alternatives Analysis for the UP-W New Starts project in September 2007, and is currently awaiting Federal Transit Administration approval to enter Preliminary Engineering. Environmental analysis is underway on both the New Starts-funded portion and PPP-funded third main projects, and Preliminary Engineering and an Environmental Assessment are being completed on the PPP projects.

## FIGURE 3: AM ALIGHTINGS AT NON-CBD UP-W STATIONS



## TABLE 6: MAJOR TRIP GENERATORS IN THE UP-W CORRIDOR

| Generator Type | Name | Comments | Municipality |
|---|---|---|---|
| **Colleges and Universities** | West Suburban College of Nursing | 200 students | Oak Park |
| | Concordia University | 4,100 students | River Forest |
| | Dominican University | 3,300 students | River Forest |
| | Loyola University Marcella Niehoff School of Nursing | 300 students | Maywood |
| | Loyola University Stritch School of Medicine | 600 students | Maywood |
| | Elmhurst College | 2,900 students | Elmhurst |
| | National University of Health Sciences | 600 students | Lombard |
| | College of DuPage | 31,000 students | Glen Ellyn |
| | IIT - Rice Campus | Satellite campus of IIT | Wheaton |
| | Wheaton College | 2,900 students | Wheaton |
| **Culture and Entertainment** | Maywood Park | Half-mile oval horse track; capacity 33,300 | Maywood |
| | Safari Land | Largest indoor amusement park in Chicagoland | Villa Park |
| | Cantigny Park | Gardens and museums on 500 acres | Wheaton |
| | DuPage County Fairgrounds | Hosts several events throughout the year | Wheaton |
| | Fifth Third Bank Ballpark | Kane County Cougars baseball stadium; cap. 7,300 | Geneva |
| | Kane County Fairgrounds | Hosts several events throughout the year | Geneva |
| **Shopping*** | Oakbrook Center | Super-regional center; 160 stores including 6 anchors | Oakbrook |
| | Yorktown Center | Super-regional center; 180 stores including 3 anchors | Lombard |
| | Geneva Commons | Lifestyle center; 80 stores including 3 anchors | Geneva |
| **Government** | Cook Co. District 4 Courthouse | Cook County circuit court suburban location | Maywood |
| | DuPage County Govt. Complex | Administrative and judicial offices, jail, and convalescent center | Winfield |
| | Fermi National Accelerator Laboratory | Particle physics laboratory; 2,000 employees | Batavia |
| | Kane County Govt. Center | County administrative offices | Geneva |
| **Hospitals** | Hartgrove Hospital | 136 beds; 400 employees | Chicago |
| | RML Specialty Hospital | 85 beds; 400 employees | Chicago |
| | Norwegian American Hospital | 200 beds; 800 employees | Chicago |
| | Rush Oak Park Hospital | 128 beds; 900 employees | Oak Park |
| | West Suburban Medical Center | 287 beds; 1,700 employees | Oak Park |
| | Loyola Univ. Medical Center | 570 beds; 6,000 employees | Maywood |
| | Edward Hines Jr. VA Hospital | 483 beds; 2,700 employees | Hines |
| | Gottlieb Memorial Hospital | 250 beds; 1,200 employees | Melrose Park |
| | Westlake Community Hospital | 282 beds; 1,000 employees | Melrose Park |
| | Elmhurst Memorial Hospital | 427 beds; 3,000 employees | Elmhurst |
| | Central DuPage Hospital | 313 beds; 2,400 employees | Winfield |
| | Delnor Community Hospital | 128 beds; 1,700 employees | Geneva |
| **Top Private Employers** | Navistar | Manufacturer of commercial trucks; 1,500 employees | Melrose Park |
| | Jewel Foods | Food store warehouse/admin. office; 1,200 employees | Melrose Park |
| | Jel Sert | Beverages and other food products; 850 employees | West Chicago |
| | Siemens Industry Automation | Manufacturer of electric controls; 800 employees | West Chicago |

*Significant shopping areas exist at several stations along the line.


*Pedestrian diversion at Geneva Station, one of the pedestrian safety improvements installed at UP-W stations as part of a Metra/Union Pacific public-private partnership*

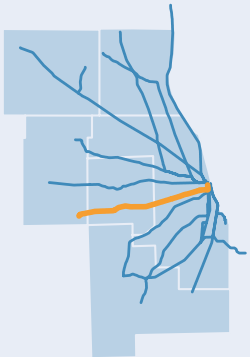

*Western Springs Station*

# BNSF RAILWAY LINE

## EXISTING SERVICE AND CONDITIONS

**Metra's BNSF Railway (BNSF) Line** extends west from Chicago Union Station (CUS, or "Union Station") to the Aurora Transportation Center, serving portions of Cook, DuPage, and Kane Counties (see Figure 1). In addition to CUS, the BNSF Line provides service to 25 stations along its nearly 38-mile route. In 2014, passenger trips on the BNSF totaled 16.7 million, the highest ridership of any line in the Metra system (based on ticket sales).

The BNSF Line has the region's most efficient track and signal infrastructure, with three tracks throughout its length, high-speed track crossovers every four miles, and the ability to operate in either direction on any track. As a result, BNSF commuter service operates frequent high-speed peak-period express trains with a zone-type schedule between most stations and downtown Chicago. This infrastrcture also provides the ability to efficiently recycle trains for additional peak-period trips, thus making very effective use of its trains and personnel. The high-density commuter operation shares the tracks with a high-volume freight service and eight daily Amtrak trains. Although subsidized by Metra since 1984, the line is owned by BNSF and is operated by its own employees under a purchase of service agreement with Metra. Naperville Station, LaGrange Road Station, and CUS are also served by Amtrak. Metra and the West Suburban Mass Transit District own the passenger coaches serving the BNSF, and Metra owns the revenue-service locomotives. Daytime train storage and servicing takes place at 14th Street Yard, south of CUS, and rolling stock is stored overnight at Hill Yard, immediately east of the Aurora Transportation Center. Table 1 details the service, station, and ridership characteristics of the BNSF Line.



The Chicago, Burlington & Quincy Railroad (CB&Q), a predecessor of BNSF, began suburban passenger service on this line in the 1860s. By 1895, the CB&Q boasted of a 43-minute running time between Downers Grove and downtown Chicago. Modernization in the form of a fully dieselized locomotive fleet and stainless steel bi-level passenger coaches came in the early 1950s. In 1970, the CB&Q joined with the Great Northern and Northern Pacific Railroads to form the Burlington Northern Railroad. A merger with the Atchison, Topeka & Santa Fe Railroad in 1995 created BNSF. In 2010, Berkshire Hathaway Inc. acquired all outstanding stock in the Burlington Northern Santa Fe Corporation, the parent company of BNSF.

The BNSF Line serves the rapidly growing communities within the Illinois Technology and Research Corridor along I-88 in southern DuPage County. Rapid residential, commercial, and industrial development in the corridor, particularly in the Naperville-Aurora area, has transformed Route 59 and Naperville into Metra's top two outlying stations in terms of total weekday boardings. In the past 25 years, almost all ridership growth at outlying BNSF stations has occurred from Main Street/Downers Grove to Aurora, on the outer, western portion of the corridor.

2014 Average trip length:
**23.5 miles**

2014 Average fare paid:
**$3.88**

*Source: Ridership Trends Report, Dec. 2014*

Number of Stations:
**26**

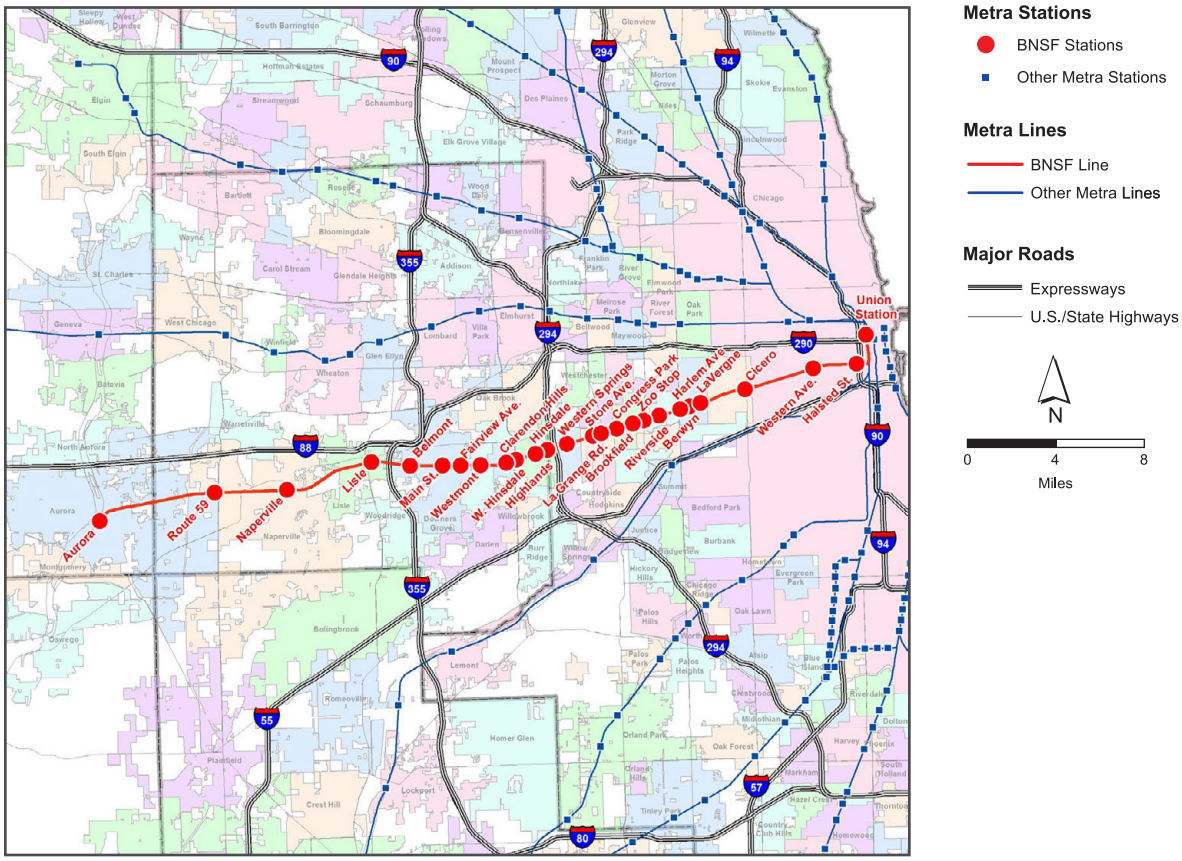
Route Length:
**37.5 miles**

Number of weekday trains:
**94**

2014 On-time performance*:
**89.7%**

** On-time Performance Report, Dec. 2014*

## FIGURE 1: METRA STATIONS ON THE BNSF LINE

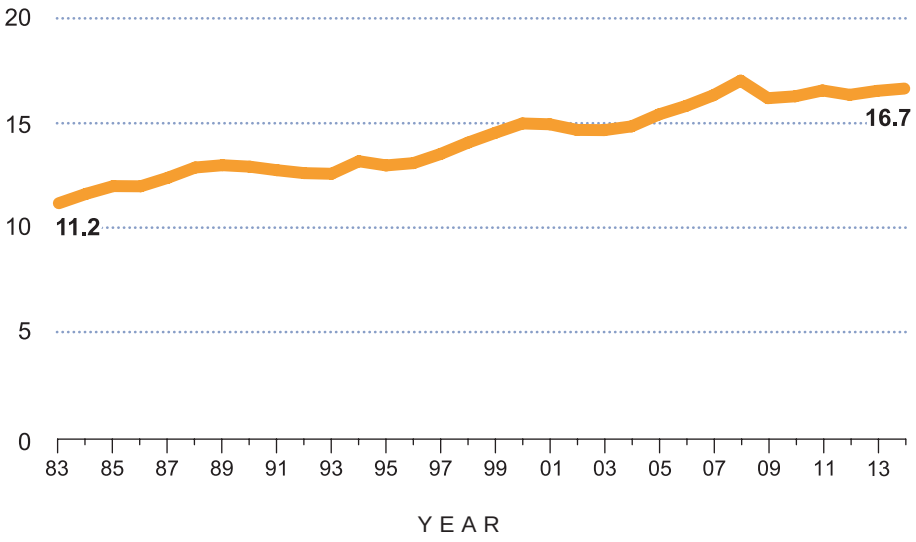


## TABLE 1A: 2014 BNSF WEEKDAY BOARDINGS

| Time of Day | Inbound | Outbound |
|---|---|---|
| AM Peak | 24,215 | 638 |
| Midday | 1,186 | 2,496 |
| PM Peak | 977 | 20,340 |
| Evening | 210 | 2,603 |
| **TOTAL** | **26,588** | **26,077** |

*Source: Metra Weekday Station Boardings and Alightings by Time-of-Day and Direction, 2014*

## TABLE 1B: BNSF ANNUAL PASSENGER TRIPS
1983 — 2014, in millions




*Note: from 2008, figures include free Circuit Permit trips. 2008-2011 figures include free senior trips; this program ended September 2011.*

## TABLE 1C: BNSF STATION CHARACTERISTICS

| Station | Fare Zone | Mile Post | Accessibility[1] | Boardings | | Station Parking (2014) | | | Time to Chicago (minutes)[1] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1983[2] | 2014[3] | Capacity (Spaces)[4] | Effective Use[5] | Observed Use[6] | Shortest Trip | Longest Trip |
| Union Station | A | 0.0 | Full | 18,545 | 26,077 | 0 | n/a | n/a | n/a | n/a |
| Halsted St. | A | 1.8 | None | 36 | 92 | 0 | n/a | n/a | 8 | 14 |
| Western Ave. | A | 3.8 | None | 116 | 78 | 0 | n/a | n/a | 14 | 19 |
| Cicero | B | 7.0 | Full | 276 | 196 | 308 | 18% | 18% | 15 | 24 |
| LaVergne | B | 9.1 | Full | 235 | 191 | 172 | 83% | 29% | 18 | 25 |
| Berwyn | B | 9.6 | Full | 852 | 732 | 530 | 85% | 68% | 17 | 29 |
| Harlem Ave. | B | 10.1 | Full | 680 | 497 | 154 | 85% | 39% | 19 | 31 |
| Riverside | C | 11.1 | Partial | 531 | 501 | 164 | 80% | 54% | 22 | 33 |
| Hollywood (Zoo Stop) | C | 11.8 | Full | 152 | 95 | 49 | 100% | 39% | 26 | 35 |
| Brookfield | C | 12.3 | Partial | 708 | 607 | 202 | 97% | 67% | 25 | 37 |
| Congress Park | C | 13.1 | None | 129 | 250 | 88 | 58% | 50% | 18 | 36 |
| LaGrange Rd. | C | 13.8 | Full | 1,496 | 1,468 | 348 | 99% | 80% | 19 | 41 |
| Stone Ave./LaGrange | C | 14.2 | Full | 1,017 | 1,026 | 436 | 98% | 78% | 23 | 41 |
| Western Springs | D | 15.5 | Full | 1,022 | 1,113 | 408 | 97% | 77% | 23 | 45 |
| Highlands | D | 16.4 | Full | 210 | 167 | 88 | 93% | 83% | 28 | 45 |
| Hinsdale | D | 16.9 | Full | 1,155 | 1,168 | 240 | 97% | 96% | 22 | 48 |
| West Hinsdale | D | 17.8 | Partial | 338 | 351 | 153 | 89% | 59% | 25 | 48 |
| Clarendon Hills | D | 18.3 | Partial | 1,078 | 808 | 304 | 92% | 78% | 26 | 51 |
| Westmont | D | 19.5 | Full | 1,305 | 1,070 | 554 | 90% | 68% | 29 | 54 |
| Fairview Ave. | E | 20.4 | Partial | 598 | 425 | 280 | 84% | 67% | 34 | 57 |
| Main St./Downers Grove | E | 21.2 | Full | 1,830 | 2,473 | 888 | 98% | 88% | 27 | 59 |
| Belmont | E | 22.6 | Full | 1,204 | 1,325 | 901 | 97% | 88% | 31 | 60 |
| Lisle | E | 24.5 | Full | 2,330 | 1,993 | 840 | 100% | 79% | 34 | 64 |
| Naperville | F | 28.5 | Full | 2,571 | 4,002 | 1,463 | 98% | 94% | 33 | 69 |
| Route 59[7] | G | 31.6 | Full | -- | 5,874 | 4,245 | 98% | 90% | 41 | 74 |
| Aurora | H | 37.5 | Full | 834 | 2,107 | 1,633 | 93% | 79% | 51 | 82 |
| **TOTAL BNSF** | | | | **39,248** | **54,686** | **14,448** | **94%** | **81%** | | |

[1] BNSF Line Schedule

[2] Metra's 1983 Boarding/Alighting Counts

[3] Metra, "Commuter Rail System Station Boarding/Alighting Counts," Spring 2014

[4] Metra Station Parking Capacity and Use

[5] Effective use: all sold permit spaces are assumed to be used, even if unoccupied during parking survey

[6] Observed use: spaces physically occupied during parking survey

[7] Station was opened in 1989

## TABLE 1D: MODE OF ACCESS AT BNSF METRA STATIONS

| Station Name | Walk/Bike | Drive/Carpool Driver | Carpool Passenger/ Dropped Off | Transit | Other |
|---|---|---|---|---|---|
| Union Station[1] | 40% | 4% | 9% | 39% | 8% |
| Halsted St.[2] | 100% | 0% | 0% | 0% | 0% |
| Western Ave.[2] | 39% | 11% | 11% | 33% | 6% |
| Cicero | 17% | 49% | 15% | 15% | 4% |
| LaVergne | 47% | 36% | 12% | 3% | 2% |
| Berwyn | 44% | 33% | 20% | 3% | 0% |
| Harlem Ave. | 62% | 21% | 14% | 2% | 1% |
| Riverside | 58% | 30% | 12% | 0% | 0% |
| Hollywood (Zoo Stop) | 93% | 3% | 2% | 2% | 0% |
| Brookfield | 51% | 31% | 16% | 1% | 1% |
| Congress Park | 66% | 23% | 10% | 0% | 1% |
| LaGrange Rd. | 42% | 29% | 26% | 2% | 1% |
| Stone Ave./LaGrange | 45% | 38% | 17% | 0% | 0% |
| Western Springs | 37% | 38% | 23% | 1% | 1% |
| Highlands | 40% | 45% | 15% | 0% | 0% |
| Hinsdale | 24% | 38% | 35% | 3% | 1% |
| West Hinsdale | 46% | 44% | 10% | 0% | 0% |
| Clarendon Hills | 39% | 28% | 24% | 8% | 0% |
| Westmont | 25% | 45% | 20% | 10% | 1% |
| Fairview Ave. | 39% | 48% | 13% | 0% | 0% |
| Main St./Downers Grove | 25% | 46% | 22% | 6% | 1% |
| Belmont | 8% | 69% | 16% | 6% | 1% |
| Lisle | 9% | 51% | 25% | 14% | 1% |
| Naperville | 12% | 51% | 21% | 15% | 1% |
| Route 59 | 7% | 74% | 13% | 6% | 0% |
| Aurora | 2% | 77% | 16% | 2% | 2% |
| **TOTAL BNSF[3]** | **22%** | **52%** | **19%** | **6%** | **1%** |
| **SYSTEM TOTAL** | **25%** | **52%** | **17%** | **3%** | **3%** |

[1] Includes riders boarding on all Metra lines departing from station

[2] Data not statistically significant due to number of survey responses received

[3] Line total does not include downtown terminal

*Source: Metra, Spring 2014 Origin-Destination Survey*

TABLE 2: METRA CAPITAL INVESTMENT HISTORY
1985 — June 2015, in millions of dollars

| Asset | BNSF | System |
|---|---|---|
| Rolling stock | $380 | $2,449 |
| Track and structure | 123 | 1,329 |
| Signal, electrical, and mechanical | 121 | 777 |
| Facilities and equipment | 61 | 548 |
| Stations and parking | 74 | 1,084 |
| Acquisitions, extensions, and expansions | 8 | 599 |
| Support activities | 30 | 348 |
| **TOTAL** | **$796** | **$7,134** |
| **PERCENTAGE** | **11.2%** | **100.0%** |

*Notes: 1) Excludes South Shore, preventative maintenance, new lines, and pending grants. 2) Prior expenses are not adjusted for subsequent inflation. 3) Data is subject to budget revisions, audit adjustments, etc. at any time. 4) For many projects, work locations and associated costs have not been identified, so budget amounts have been allocated among lines by various criteria.*

## IMPROVEMENTS SINCE THE START OF METRA

Since 1985, Metra has invested $796 million (in year of expenditure dollars) in improvements to the BNSF corridor, as shown in Table 2. Metra has completed improvements at a number of BNSF stations since 1985 (see right). Grade separation of the BNSF tracks from Belmont Avenue in Downers Grove was completed in 2012, improving traffic flow and increasing safety at this busy crossing. This project also included platform improvements and the addition of a pedestrian underpass at the Belmont Station. A major renovation of Cicero Station, including new shelters and platforms and a new access ramp compliant with Americans with Disabilities Act (ADA) standards, was completed in 2014. Over the years, Metra has partnered with Amtrak, owner of CUS, to complete a number of upgrades to the terminal's commuter facilities. Several bridge repair or replacement projects have also been completed on the BNSF.

Most BNSF stations now comply with ADA accessibility requirements, and approximately 94% of BNSF weekday boardings take place at these accessible stations. Metra's station compliance program started with designating seven of the busiest BNSF stations, including CUS in downtown Chicago, as "key stations", all of which were made fully accessible by 2004. Since 1985, Metra has completed access improvements at numerous non-downtown BNSF stations, and 17 outlying stations on the line are now fully accessible to disabled riders. Metra will bring the remaining stations into

**Depots and warming houses constructed since 1985 at:**

Belmont
Cicero
Route 59 (new station)
Western Springs

**Other significant improvements completed since 1985 at:**

Aurora
Berwyn
LaGrange Road
LaVergne
Naperville
Main Street/Downers Grove
Stone Avenue/LaGrange

**Station improvements planned for:**

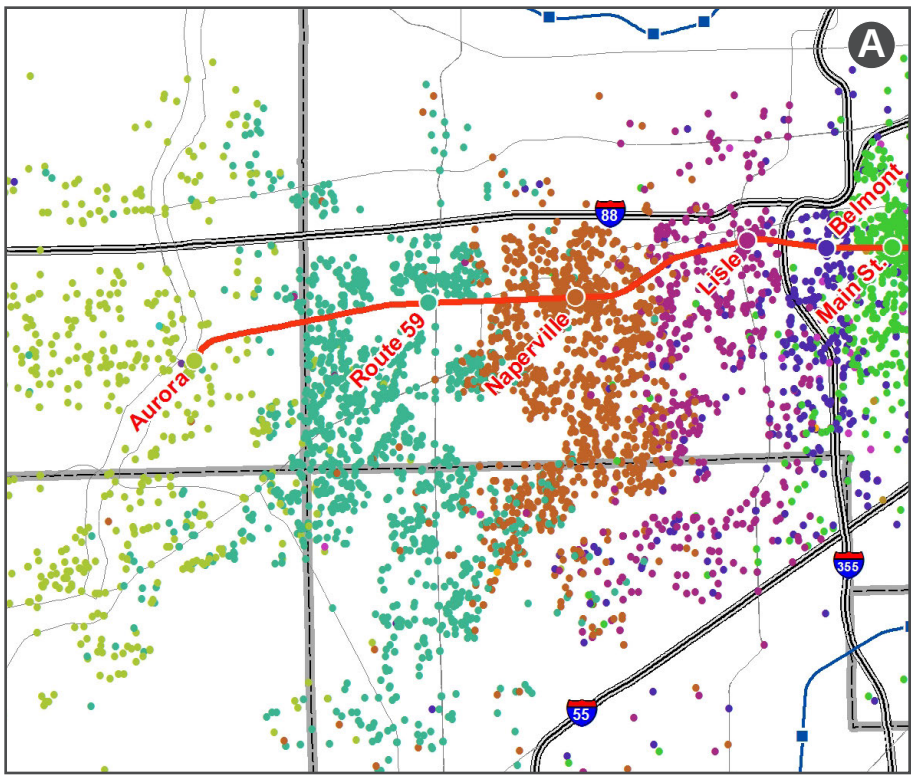
Stone Avenue/LaGrange

full ADA compliance as they are rehabilitated, so that eventually all will be accessible.

## PRESENT AND FUTURE DEMAND

In number of weekday boardings at all non-downtown Chicago Metra stations, the top three stations and five of the top ten stations in Metra's system are located on the BNSF Line. More than 52,000 boardings took place each weekday on BNSF trains in 2014, with nearly 85% of boardings occurring on peak-period, peak-direction trains. Ridership on the rail line has increased 48% since 1983 (see Table 1c). Almost all ridership growth on the BNSF Line during this time occurred at the six outermost stations (Main Street/ Downers Grove to Aurora), increasing by 124% from 1983 to 2014. Riders at these stations—which accounted for 62% of all weekday BNSF boardings outside the Central Business District (CBD) in 2014—are served by a number of express trains that travel non-stop between CUS and Main Street/Downers Grove. Ridership at the remaining outlying stations, combined, fell by 11% from 1983 to 2014. Figure 2 shows the origins of BNSF riders who board at

FIGURE 2A: ORIGINS OF RIDERS USING NON-CBD BNSF STATIONS



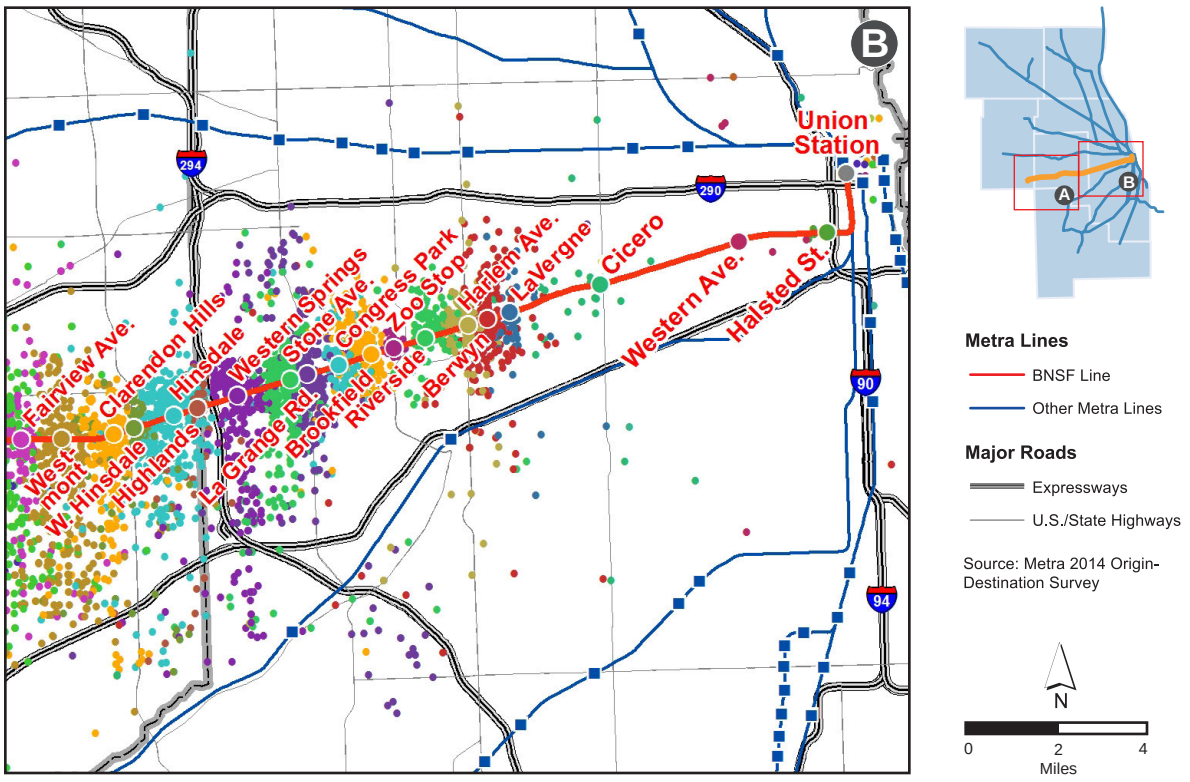
non-CBD stations. Overall passenger ridership on the BNSF Line totaled 16.7 million in 2014.

The parking utilization rate at BNSF stations is the highest of all Metra lines, with 94% effective occupancy of the more than 14,000 total parking spaces counted in 2014 (see Table 1c). Metra considers station parking areas over 85% occupied to be approaching full capacity and in need of expansion, and 18 of the 23 BNSF stations with parking facilities meet this standard. Two stations have an effective utilization rate of 100% (although observed parking utilization at some of these stations is much lower, indicating that many permit spaces are unoccupied). Though demand for parking at BNSF stations is expected to increase due to anticipated residential growth in the corridor, a lack of available commuter parking along the line could threaten further ridership growth.

A number of indicators suggest that demand for commuter rail service will continue to rise in the BNSF corridor. The corridor has been growing in recent decades, and demographic forecasts anticipate continued growth in population and employment, particularly in the area from Downers Grove to Aurora.

As shown in Tables 3, 4, and 5, almost all station marketsheds on the BNSF Line are forecasted to see increases in population, households, and employment

FIGURE 2B: ORIGINS OF RIDERS USING NON-CBD BNSF STATIONS



by 2040. Chicago Metropolitan Agency for Planning (CMAP) forecasts that the BNSF corridor will attract 338,000 new residents between 2010 and 2040, a 28% increase (see Table 3). The corridor is forecast to attract nearly 200,000 new jobs, a 36% increase (see Table 5). Reflecting the ridership trends noted above, much of the anticipated population growth is expected in the outer areas of the corridor. The population of BNSF corridor marketsheds from Downers Grove to Aurora (Fairview Avenue Station to Aurora Station) is projected to grow from 568,000 in 2010 to 810,000 in 2040. The projected population increase

## TABLE 3: BNSF CORRIDOR POPULATION

| Station | Fare Zone | Area Sq. Mi. | Population in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Union Station, Halsted St., Western Ave. | A | 12.2 | 189,076 | 186,896 | 224,876 | -1.2% | 20.3% |
| Cicero, LaVergne, Berwyn, Harlem Ave. | B | 24.2 | 258,042 | 252,332 | 286,192 | -2.2% | 13.4% |
| Riverside, Hollywood (Zoo Stop), Brookfield, Congress Park, LaGrange Rd., Stone Ave./LaGrange | C | 18.8 | 81,781 | 82,712 | 86,898 | 1.1% | 5.1% |
| Western Springs, Highlands, Hinsdale, West Hinsdale, Clarendon Hills, Westmont | D | 33.2 | 100,863 | 101,470 | 120,643 | 0.6% | 18.9% |
| Fairview Ave., Main St./Downers Grove, Belmont, Lisle | E | 44.0 | 133,446 | 131,862 | 182,826 | -1.2% | 38.6% |
| Naperville | F | 39.1 | 110,475 | 120,210 | 168,890 | 8.8% | 40.5% |
| Route 59 | G | 45.4 | 82,369 | 111,502 | 149,269 | 35.4% | 33.9% |
| Aurora | H | 80.9 | 143,462 | 204,119 | 309,129 | 42.3% | 51.4% |
| **BNSF TOTAL** | | **297.8** | **1,099,514** | **1,191,103** | **1,528,723** | **8.3%** | **28.3%** |
| **REGION TOTAL** | | **3,765.0** | **7,261,074** | **8,091,516** | **10,033,858** | **11.4%** | **24.0%** |

## TABLE 4: BNSF CORRIDOR HOUSEHOLDS

| Station | Fare Zone | Area Sq. Mi. | Households in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Union Station, Halsted St., Western Ave. | A | 12.2 | 52,008 | 52,863 | 64,054 | 1.6% | 21.2% |
| Cicero, LaVergne, Berwyn, Harlem Ave. | B | 24.2 | 77,234 | 74,019 | 81,179 | -4.2% | 9.7% |
| Riverside, Hollywood (Zoo Stop), Brookfield, Congress Park, LaGrange Rd., Stone Ave./LaGrange | C | 18.8 | 32,639 | 32,237 | 34,354 | -1.2% | 6.6% |
| Western Springs, Highlands, Hinsdale, West Hinsdale, Clarendon Hills, Westmont | D | 33.2 | 38,264 | 38,806 | 46,407 | 1.4% | 19.6% |
| Fairview Ave., Main St./Downers Grove, Belmont, Lisle | E | 44.0 | 51,581 | 52,649 | 69,134 | 2.1% | 31.3% |
| Naperville | F | 39.1 | 37,404 | 40,712 | 57,323 | 8.8% | 40.8% |
| Route 59 | G | 45.4 | 29,380 | 39,345 | 52,692 | 33.9% | 33.9% |
| Aurora | H | 80.9 | 46,205 | 62,591 | 102,125 | 35.5% | 63.2% |
| **BNSF TOTAL** | | **297.8** | **364,715** | **393,222** | **507,268** | **7.8%** | **29.0%** |
| **REGION TOTAL** | | **3,765.0** | **2,620,271** | **2,906,983** | **3,627,412** | **10.9%** | **24.8%** |

## TABLE 5: BNSF CORRIDOR EMPLOYMENT

| Station | Fare Zone | Area Sq. Mi. | Employment in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Union Station, Halsted St., Western Ave. | A | 12.2 | 95,643 | 101,279 | 116,942 | 5.9% | 15.5% |
| Cicero, LaVergne, Berwyn, Harlem Ave. | B | 24.2 | 73,033 | 59,463 | 77,232 | -18.6% | 29.9% |
| Riverside, Hollywood (Zoo Stop), Brookfield, Congress Park, LaGrange Rd., Stone Ave./LaGrange | C | 18.8 | 43,953 | 41,003 | 43,727 | -6.7% | 6.6% |
| Western Springs, Highlands, Hinsdale, West Hinsdale, Clarendon Hills, Westmont | D | 33.2 | 104,679 | 90,511 | 87,046 | -13.5% | -3.8% |
| Fairview Ave., Main St./Downers Grove, Belmont, Lisle | E | 44.0 | 76,141 | 91,976 | 118,402 | 20.8% | 28.7% |
| Naperville | F | 39.1 | 56,762 | 60,406 | 65,850 | 6.4% | 9.0% |
| Route 59 | G | 45.4 | 39,172 | 54,997 | 128,929 | 40.4% | 134.4% |
| Aurora | H | 80.9 | 79,467 | 50,677 | 110,530 | -36.2% | 118.1% |
| **BNSF TOTAL** | | **297.8** | **568,850** | **550,312** | **748,658** | **-3.3%** | **36.0%** |
| **REGION TOTAL** | | **3,765.0** | **3,845,085** | **4,323,689** | **5,563,780** | **12.4%** | **28.7%** |


*Depot and historic water tower in downtown Riverside*

along this portion of the corridor accounts for 72% of the projected population growth along the entire BNSF corridor. It is essential that Metra and other public transportation services work to meet the demand related to continued population and employment growth along this corridor to prevent worsening roadway congestion.

## REVERSE COMMUTE AND NON-DOWNTOWN MARKETS

Although Metra's primary market involves commuters who follow the traditional suburb-to-CBD trip pattern, in recent years Metra has seen a demand for city-to-suburb reverse-commute options (Metra's primary commuter market is discussed in the Central Business District Market chapter). According to Metra's 2014 Boarding and Alighting Counts, only 2.6% of BNSF AM peak boardings follow the reverse-commute pattern, far below the system average of 6.5%. However, in absolute number of reverse commuters, the BNSF ranks third among all 11 Metra lines.

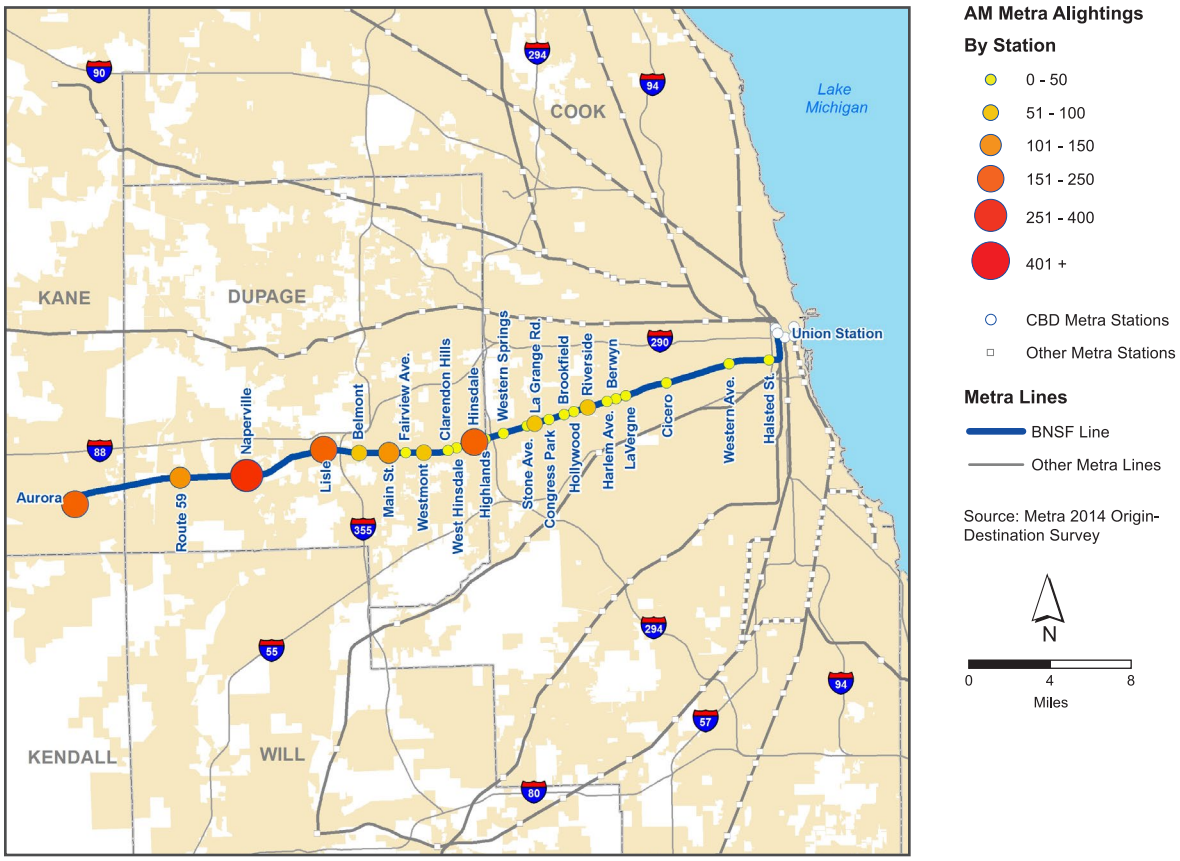
Nearly half of AM peak alightings at non-CBD BNSF stations take place at the four stations at the western end of the line, from Lisle to Aurora. The three reverse-commute express trains serving these stations, nearby job growth, and Pace service connecting Metra stations to local employers, likely accounts for this phenomenon. Three additional reverse-commute trains run express to Hinsdale, helping attract another 12% of AM non-CBD alightings to this station. Figure 3 shows AM alightings at non-CBD BNSF stations.

Demographic factors that indicate future potential for increased reverse commuting are projected growth of population and households in the city and inner ring suburbs, as well as projected growth of employment in the suburbs. Significant population and household growth is expected near the CBD, as shown in Tables 3 and 4. Meanwhile, Table 5 shows that employment along the entire BNSF corridor is expected to grow 36% between 2010 and 2040. Substantial job growth is expected in station market areas located in southwest DuPage County and southeast Kane County. According to CMAP projections, employment within the BNSF corridor from Downers Grove to Aurora (Fairview Avenue Station to Aurora Station) is projected to grow from 258,000 jobs in 2010 to 424,000 in 2040. The projected employment growth along this portion of the corridor accounts for 84% of the projected employment growth along the entire BNSF corridor. Major trip generators along the BNSF, including top employers, are shown in Table 6.

## PROPOSED LINE IMPROVEMENTS

Environmental Assessment and Preliminary Engineering is currently underway on a proposed extension of the BNSF Line west from Aurora through Montgomery, Oswego, and Yorkville, and potentially to Plano and Sandwich. The project would extend Metra service outside of the Regional Transportation Authority (RTA) six-county area, so planning efforts must include the establishment of a stable funding source for operating and maintenance expenses incurred outside of the RTA region.

FIGURE 3: AM ALIGHTINGS AT NON-CBD BNSF STATIONS



## TABLE 6: MAJOR TRIP GENERATORS IN THE BNSF CORRIDOR

| Generator Type | Name | Comments | Municipality |
|---|---|---|---|
| **Airports** | Midway Airport | Commercial aviation; second-busiest airport in Illinois | Chicago |
| **Colleges and Universities** | University of Illinois at Chicago | 24,000 students | Chicago |
| | Morton College | 5,000 students | Cicero |
| | Midwestern University | 1,900 students | Downers Grove |
| | College of DuPage | 31,000 students | Glen Ellyn |
| | Illinois Benedictine University | 5,300 students | Lisle |
| | North Central College | 2,600 students | Naperville |
| | Aurora University | 4,000 students | Aurora |
| **Culture and Entertainment** | Cicero Community Park | 11-acre outdoor festival park | Cicero |
| | Hawthorne Race Course | Half-mile oval horse track; capacity 80,000 | Cicero |
| | Brookfield Zoo | 200-acre zoo with 450 animal species | Brookfield |
| | Morton Arboretum | 1,700 acre arboretum with herbarium and library | Wheaton |
| | DuPage Children's Museum | Children's museum; 300,000 visitors annually | Naperville |
| | Naper Settlement | 19th-century living history museum | Naperville |
| | Hollywood Casino Aurora | Riverboat casino | Aurora |
| | Paramount Theater | Performing arts venue | Aurora |
| | RiverEdge Park | Outdoor concert venue | Aurora |
| **Shopping*** | North Riverside Park Mall | 128 stores, 3 anchors | North Riverside |
| | Yorktown Center | 180 stores, 4 anchors | Lombard |
| | Chicago Premium Outlets | 120 stores | Aurora |
| | Westfield Fox Valley Mall | 180 stores, 4 anchors | Aurora |
| **Government** | Cook County Criminal Courts | Hosts felony trials | Chicago |
| | Cook County Juvenile Court | 28 courtrooms and juvenile temporary detention center | Chicago |
| **Hospitals** | Mount Sinai Hospital | 431 beds; 2,000 employees | Chicago |
| | Saint Anthony Hospital | 166 beds; 800 employees | Chicago |
| | MacNeal Hospital | 427 beds; 1,600 employees | Berwyn |
| | Edward Hines Jr. VA Hospital | 483 beds; 2,700 employees | Hines |
| | Loyola Univ. Medical Center | 570 beds; 6,000 employees | Maywood |
| | RML Specialty Hospital | 81 beds; 500 employees | Hinsdale |
| | Adventist LaGrange Memorial Hospital | 274 beds; 1,200 employees | LaGrange |
| | Adventist Hinsdale Hospital | 426 beds; 2,600 employees | Hinsdale |
| | Advocate Good Samaritan Hospital | 340 beds; 2,700 employees | Downers Grove |
| | Edward Hospital and Health Services | 317 beds; 4,500 employees | Naperville |
| | Provena Mercy Medical Center | 356 beds; 1,200 employees | Aurora |
| | Rush Copley Medical Center | 183 beds; 1,700 employees | Aurora |
| **Top Private Employers** | GCA Services Group | Maintenance and janitorial services; 1,500 employees | Downers Grove |
| | Navistar | Manf. of commercial trucks; 2,000 employees | Lisle |
| | Nokia | Communication software R&D | Naperville |
| | BP | Global energy company R&D facility; 1,400 employees | Naperville |
| | Caterpillar Inc. | Medium wheel loader manufacturer | Aurora |
| | LTD Commodities | Catalog fulfillment company; 1,200 employees | Aurora |

*Significant shopping areas exist at several stations along the line.


*Photo: Mark Llanuza*

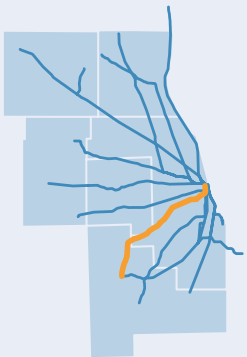

*Metra train at Lemont Station. The HC Lemont and Lockport depots were built in the 1860s, and are the two oldest station buildings in Metra's system.*

*Photo: Mark Llanuza*

# HERITAGE CORRIDOR LINE

## EXISTING SERVICE AND CONDITIONS

**Metra's Heritage Corridor (HC) Line** extends southwest from Chicago Union Station (CUS, or "Union Station") in downtown Chicago to Joliet. The line serves portions of Cook and Will Counties with service to five intermediate stations along its 37-mile route (see Figure 1). The HC is Metra's smallest line in terms of train service, number of stations, and ridership (with 729,000 trips in 2014, based on ticket sales).



Commuter service on the line was operated by Illinois Central Gulf and its predecessors until 1987, when Metra assumed operation under a trackage rights agreement and gave the service its present name. Currently, Metra operates HC trains on track owned by Canadian National (CN) between Joliet and 21st Street in Chicago, and HC trains use Amtrak-owned track to enter CUS. Union Pacific (UP) owns the last half-mile of track utilized by the HC entering Joliet. CN, UP, and BNSF freight trains, as well as 10 daily Amtrak trains, also utilize the HC route. Amtrak's Lincoln Service stops at both the Joliet and Summit Metra Stations. Joliet is also the terminal station for Metra's Rock Island District, and the only suburban transfer station serving multiple Metra lines and Amtrak routes.

The CN-owned segment of the route is double-tracked, and track west of the Brighton Park interlocking (also known as Panhandle Junction) is maintained for a maximum passenger speed of 79 miles per hour, though trains must slow to 50 miles per hour through Argo interlocking in Summit. However, intense freight activity in the eastern portion of the route makes HC trains particularly vulnerable to delays. The HC crosses four major at-grade interlockings (in Chicago: Brighton Park with CSX and Norfolk Southern, Corwith with BNSF, LeMoyne with the Belt Railway of Chicago; in Summit/ Bedford Park: Argo with the Indiana Harbor Belt and CSX), and encounters heavy traffic near two rail yards. These conflicts have constrained commuter service on the HC to seven trains per weekday, with six of these serving peak-period, peak-direction commuters. Grade separation of the four crossings would eliminate conflicts with freight traffic at these locations.

The Milwaukee District's Western Avenue Yard provides midday servicing of HC trains, which are stored overnight at the Joliet Yard, located a half-mile east of Joliet Station. The Joliet Yard is shared with the Rock Island District.

Table 1 details service, station, and ridership characteristics on the HC.

2014 Average trip length:
**28.1 miles**

2014 Average fare paid:
**$4.06**

*Source: Ridership Trends Report, Dec. 2014*

Number of Stations:
**6**

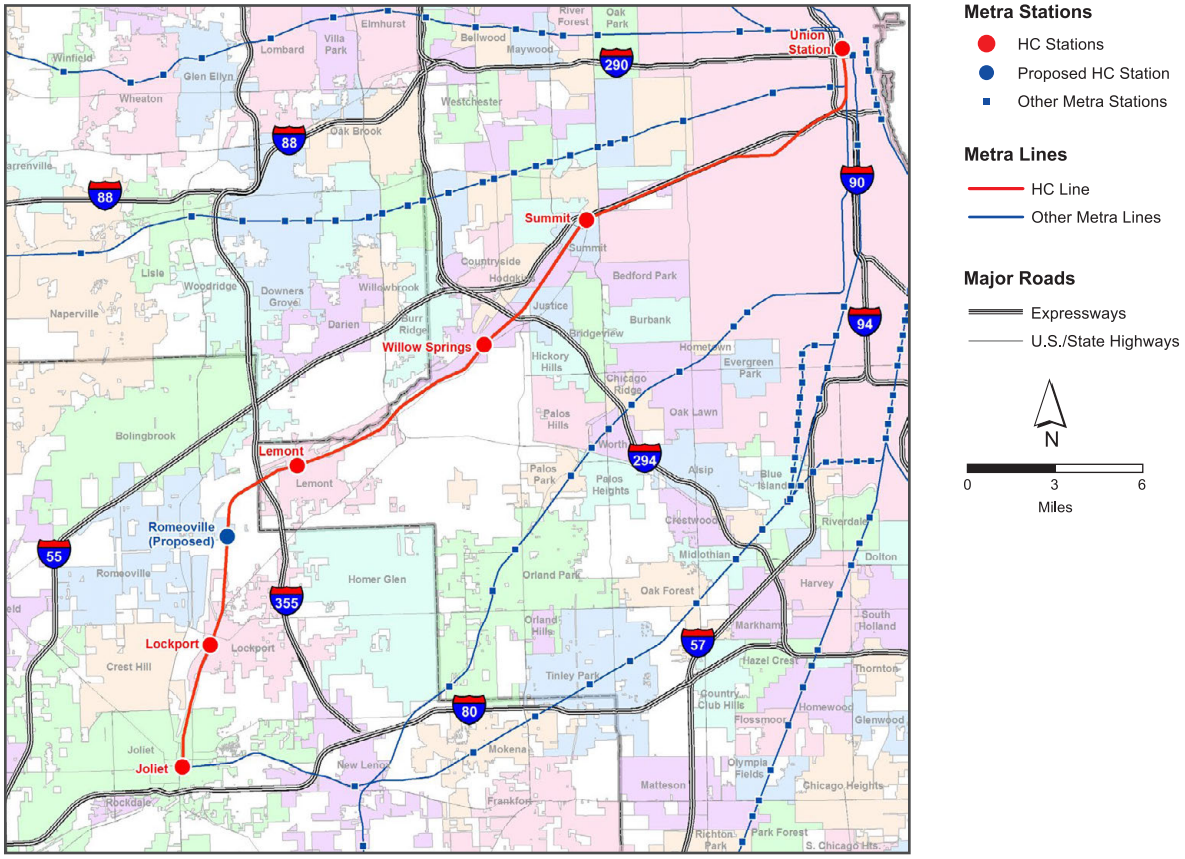
Route Length:
**37.2 miles**

Number of weekday trains:
**7**

2014 On-time performance*:
**91.4%**

** On-time Performance Report, Dec. 2014*

## FIGURE 1: METRA STATIONS ON THE HC LINE

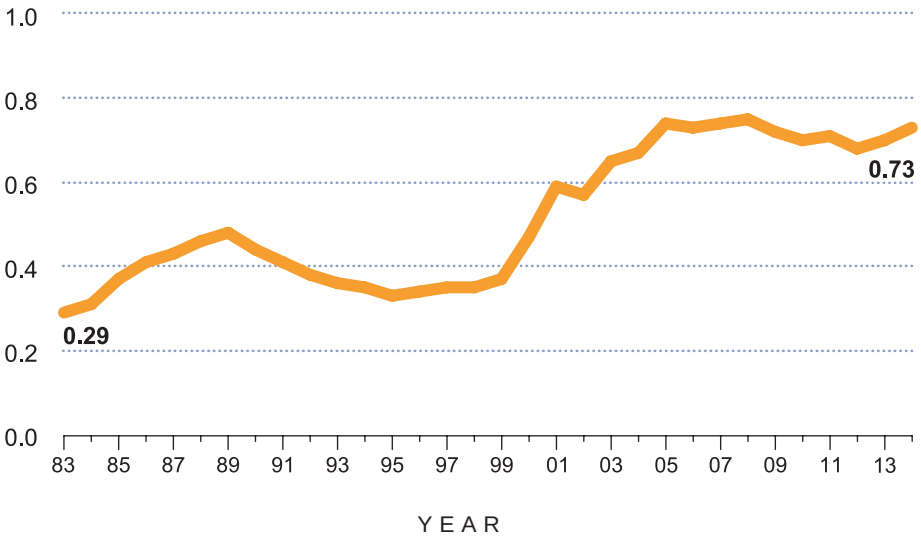


## TABLE 1A: 2014 HC WEEKDAY BOARDINGS

| Time of Day | Inbound | Outbound |
|---|---|---|
| AM Peak | 1,230 | 0 |
| Midday | 0 | 0 |
| PM Peak | 0 | 1,191 |
| Evening | 0 | 0 |
| **TOTAL** | **1,230** | **1,191** |

*Source: Metra Weekday Station Boardings and Alightings by Time-of-Day and Direction, 2014*

## TABLE 1B: HC ANNUAL PASSENGER TRIPS
1983 — 2014, in millions




*Note: from 2008, figures include free Circuit Permit trips. 2008-2011 figures include free senior trips; this program ended September 2011.*

## TABLE 1C: HC STATION CHARACTERISTICS

| Station | Fare Zone | Mile Post | Accessibility[1] | Boardings | | Station Parking (2014) | | | Time to Chicago (minutes)[1] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1983[2] | 2014[3] | Capacity (Spaces)[4] | Effective Use[5] | Observed Use[6] | Shortest Trip | Longest Trip |
| Union Station | A | 0.0 | Full | 499 | 1,188 | 0 | n/a | n/a | n/a | n/a |
| Summit | C | 11.9 | Full | 44 | 86 | 150 | 43% | 43% | n/a | 33 |
| Willow Springs | D | 17.5 | Full | 84 | 95 | 150 | 87% | 43% | n/a | 41 |
| Lemont | E | 25.3 | Full | 130 | 456 | 333 | 100% | 96% | n/a | 50 |
| Lockport | G | 32.9 | Full | 55 | 352 | 393 | 72% | 69% | n/a | 59 |
| Joliet | H | 37.3 | Full | 106 | 244 | 1,008 | 63% | 60% | n/a | 65 |
| **TOTAL HC** | | | | **918** | **2,421** | **2,034** | **71%** | **65%** | | |

[1] Heritage Corridor Line Schedule
[2] Metra's 1983 Boarding/Alighting Counts
[3] Metra, "Commuter Rail System Station Boarding/Alighting Counts," Fall 2014
[4] Metra Station Parking Capacity and Use
[5] Effective use: all sold permit spaces are assumed to be used, even if unoccupied during parking survey
[6] Observed use: spaces physically occupied during parking survey

## TABLE 1D: MODE OF ACCESS AT HC METRA STATIONS

| Station Name | Walk/Bike | Drive/Carpool Driver | Carpool Passenger/ Dropped Off | Transit | Other |
|---|---|---|---|---|---|
| Union Station[1] | 40% | 4% | 9% | 39% | 9% |
| Summit | 10% | 76% | 14% | 0% | 0% |
| Willow Springs | 24% | 57% | 19% | 0% | 0% |
| Lemont | 7% | 72% | 20% | 0% | 1% |
| Lockport | 6% | 78% | 16% | 0% | 0% |
| Joliet | 1% | 88% | 10% | 1% | 0% |
| **TOTAL HC[2]** | **7%** | **76%** | **17%** | **0%** | **0%** |
| **SYSTEM TOTAL** | **25%** | **52%** | **17%** | **3%** | **3%** |

[1] Includes riders boarding on all Metra lines departing from station
[2] Line total does not include downtown terminal

*Source: Metra, "Commuter Rail System Station Boarding/Alighting Counts," Spring 2014*

**Depots and warming houses constructed since 1985 at:**

Summit
Willow Springs

**Other significant improvements completed since 1985 at:**

Lemont
Lockport
Joliet

**Improvements planned for:**

Romeoville (new station)

## IMPROVEMENTS SINCE THE START OF METRA

Since 1985, Metra has invested $80 million (in year of expenditure dollars) in improvements to the HC corridor. Table 2 indicates the amount of investment in different asset categories. This amount includes costs of a track and signal upgrade project completed in 2002, new warming houses at Summit and Willow Springs, and restoration of the historic depots at Lemont and Lockport (the oldest depots in the Metra system). American Recovery and Reinvestment Act (ARRA) grants funded platform improvements at Lockport and Joliet Stations. Over the years, Metra has partnered with Amtrak, owner of CUS, to complete a number of upgrades to the terminal's commuter facilities.

Due to capacity constraints on the HC, Metra has had limited opportunities to adjust the service schedule on the line. In April 1999, the number of trains was increased from four to six, to better serve existing riders and add capacity during reconstruction of the Stevenson Expressway. The ridership impact of this improvement can be seen in Table 1b, as HC boardings increased 31% between 1999 and 2002. A seventh daily train, departing Chicago in mid-afternoon, was added in 2016.

A new station is planned at 135th Street in Romeoville. This new station would be funded by the federal Congestion Mitigation and Air Quality Improvement (CMAQ) Program and State of Illinois bond funds.

In Joliet, construction is underway on a new multimodal transportation center, which will accommodate Metra, Amtrak, Pace, intercity and shuttle buses, bicycles, taxis, and intercity passenger rail (existing Amtrak service, as well as planned high-speed rail service between Chicago and St. Louis) and streamline transfers between the services. Freight and commuter tracks will be realigned so that HC passengers will no longer need to cross freight tracks to board the train. Major funding for the transportation center is provided by the State of Illinois, with additional funding from the City of Joliet and BNSF.

Metra has evaluated separating the HC's four major at-grade crossings as long-term improvements, due to the cost, complexity and service disruptions involved with these projects. Several improvements were completed at the Brighton Park interlocking in 2007 in order to improve operations without construction of a more costly flyover. The improvements included the installation of a modern remote-controlled signal system and replacement of the crossing diamonds.

Since 1985, Metra has completed access improvements at all five non-downtown HC stations. As part of the ARRA-funded work mentioned above, HC platforms at Joliet were made accessible to disabled riders in 2011, and all HC stations are now compliant with the accessibility requirements of the Americans with Disabilities Act (ADA).

## TABLE 2: METRA CAPITAL INVESTMENT HISTORY
1985 — June 2015, in millions of dollars

| Asset | HC | System |
|---|---|---|
| Rolling stock | $19 | $2,449 |
| Track and structure | 8 | 1,329 |
| Signal, electrical, and mechanical | 18 | 777 |
| Facilities and equipment | 9 | 548 |
| Stations and parking | 13 | 1,084 |
| Acquisitions, extensions, and expansions | 1 | 599 |
| Support activities | 13 | 348 |
| **TOTAL** | **$80** | **$7,134** |
| **PERCENTAGE** | **1.1%** | **100.0%** |

*Notes: 1) Excludes South Shore, preventative maintenance, new lines, and pending grants. 2) Prior expenses are not adjusted for subsequent inflation. 3) Data is subject to budget revisions, audit adjustments, etc. at any time. 4) For many projects, work locations and associated costs have not been identified, so budget amounts have been allocated among lines by various criteria.*

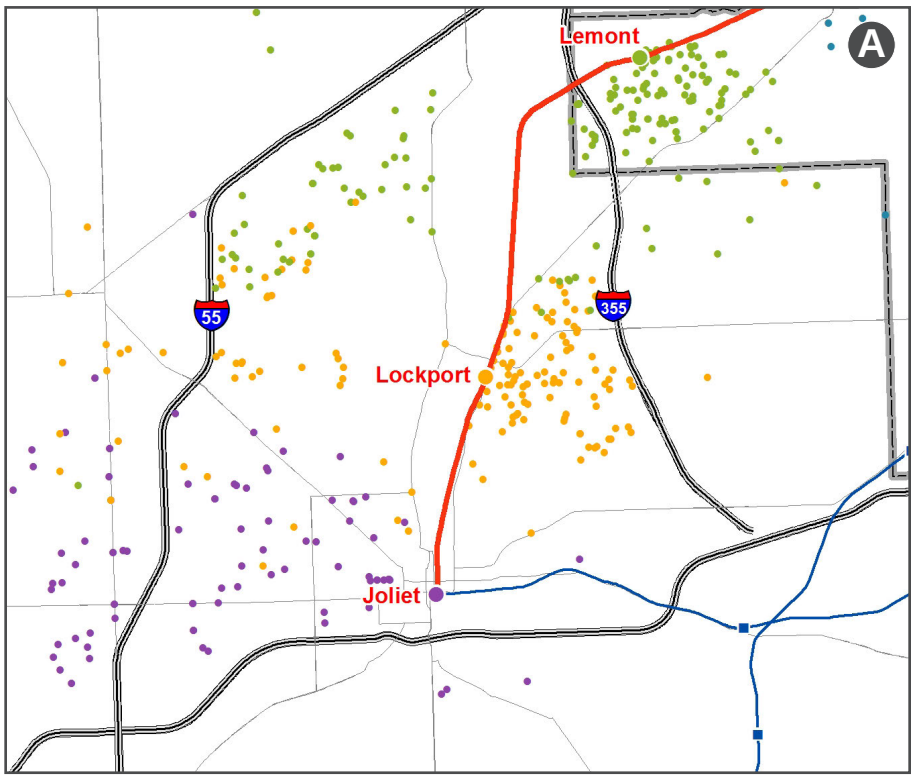

*Downtown Lockport*
*Photo: Mark Llanuza*

## PRESENT AND FUTURE DEMAND

In 2014, over 2,400 boardings took place each weekday on the HC, an increase of 164% since 1983 (see Table 1c). At the three southernmost stations (Joliet, Lockport, and Lemont) boardings increased 262% between 1983 and 2014, which reflects the population and employment growth that has taken place in this area. Ridership increased 41% in the same time period at the Willow Springs and Summit Stations, an example of the ridership growth that has been experienced at many of Metra's stations close to the Central Business District (CBD). Overall passenger ridership on the HC totaled 729,000 in 2014.

A number of indicators suggest that demand for commuter rail service will continue to rise in the HC corridor. The corridor has been growing rapidly in recent decades, and demographic forecasts anticipate continued growth in population and employment. The Chicago Metropolitan Agency for Planning (CMAP) forecasts that all HC station marketsheds will increase in population, households, and employment, as shown in Tables 3, 4, and 5. The HC corridor is projected to attract 281,000 new residents between 2010 and 2040, a 52% increase. Projected population growth is especially significant near the southwest portion of the HC in Will County. Over 131,000 jobs are projected to be added in the corridor by 2040, a 63% rise.

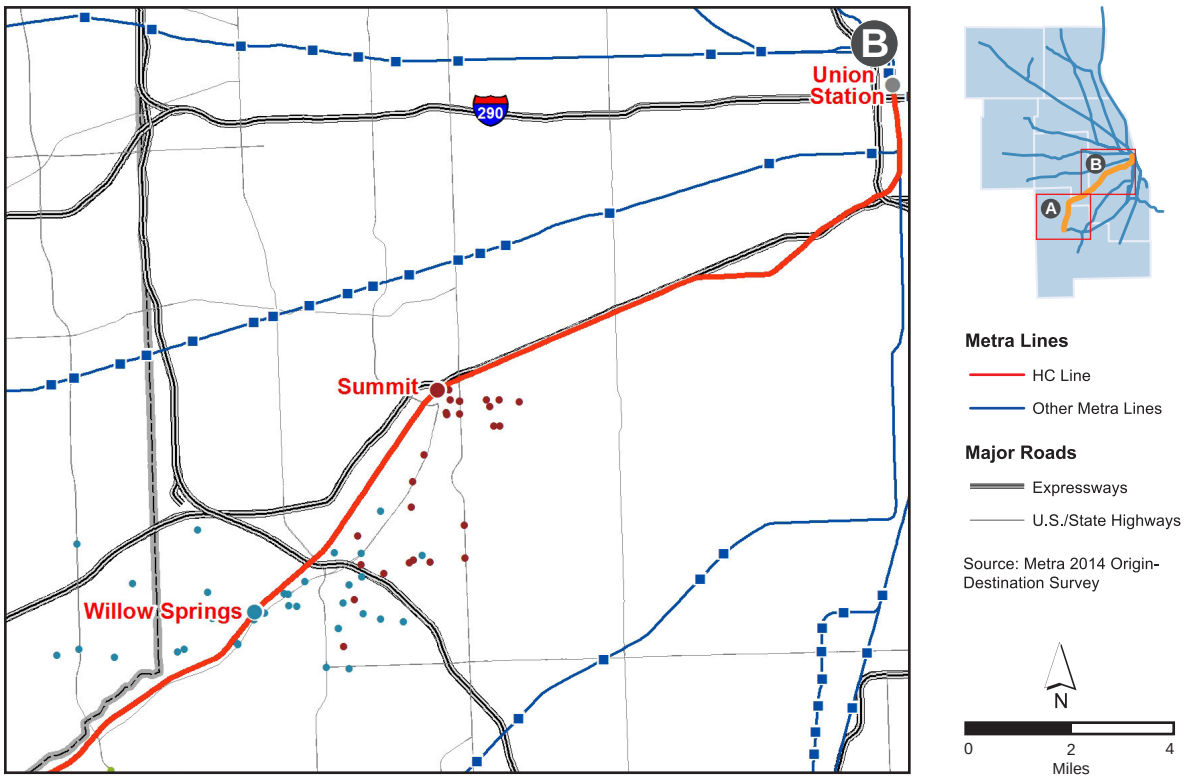
FIGURE 2A: ORIGINS OF RIDERS USING NON-CBD HC STATIONS



With improved service frequencies, as well as midday and reverse-commute trains, the HC would be better able to serve the transportation needs of the growing market in the corridor. An upgraded HC would also be able to attract riders living near the HC who currently drive to more distant stations on the BNSF, SouthWest Service, or Rock Island District in order to take advantage of improved service levels. (This phenomenon is visible in Figure 2 of the chapters associated with these three lines.) Increasing the utility of the HC would reduce travel times for these riders and reduce congestion on adjacent Metra lines. In addition, those traveling to the Illinois & Michigan Canal area to enjoy its recreational and historical attractions would be able to utilize HC service. (See Table 6 for a list of major trip generators in the HC corridor.)

Currently, over 2,000 parking spaces serve the riders of the HC. According to parking counts conducted in 2014, the average rate of effective utilization at all stations on the line is 71%. Parking utilization at the Lemont Station is 96%; since Metra considers lots over 85% occupied to be approaching full capacity, this indicates a demand for increased parking.

FIGURE 2B: ORIGINS OF RIDERS USING NON-CBD HC STATIONS



## TABLE 3: HC CORRIDOR POPULATION

| Station | Fare Zone | Area Sq. Mi. | Population in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Union Station | A | 0.3 | 4,156 | 5,507 | 4,804 | 32.5% | -12.8% |
| Summit | C | 18.4 | 67,159 | 68,574 | 73,815 | 2.1% | 7.6% |
| Willow Springs | D | 32.1 | 45,709 | 45,747 | 62,253 | 0.1% | 36.1% |
| Lemont | E | 63.7 | 81,722 | 94,814 | 139,067 | 16.0% | 46.7% |
| Lockport | G | 77.3 | 72,690 | 128,799 | 213,824 | 77.2% | 66.0% |
| Joliet | H | 120.3 | 152,991 | 194,444 | 325,326 | 27.1% | 67.3% |
| **HC TOTAL** | | **312.1** | **424,427** | **537,885** | **819,089** | **26.7%** | **52.3%** |
| **REGION TOTAL** | | **3,748.0** | **8,091,717** | **8,456,762** | **11,717,936** | **4.5%** | **38.6%** |

## TABLE 4: HC CORRIDOR HOUSEHOLDS

| Station | Fare Zone | Area Sq. Mi. | Households in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Union Station | A | 0.3 | 2,663 | 3,576 | 2,923 | 34.3% | -18.3% |
| Summit | C | 18.4 | 25,137 | 24,480 | 27,308 | -2.6% | 11.6% |
| Willow Springs | D | 32.1 | 17,579 | 17,807 | 23,381 | 1.3% | 31.3% |
| Lemont | E | 63.7 | 26,352 | 30,876 | 45,359 | 17.2% | 46.9% |
| Lockport | G | 77.3 | 24,432 | 40,378 | 74,893 | 65.3% | 85.5% |
| Joliet | H | 120.3 | 53,102 | 65,212 | 114,648 | 22.8% | 75.8% |
| **HC TOTAL** | | **312.1** | **149,265** | **182,329** | **288,512** | **22.2%** | **58.2%** |
| **REGION TOTAL** | | **3,748.0** | **2,906,924** | **3,050,134** | **4,224,349** | **4.9%** | **38.5%** |

## TABLE 5: HC CORRIDOR EMPLOYMENT

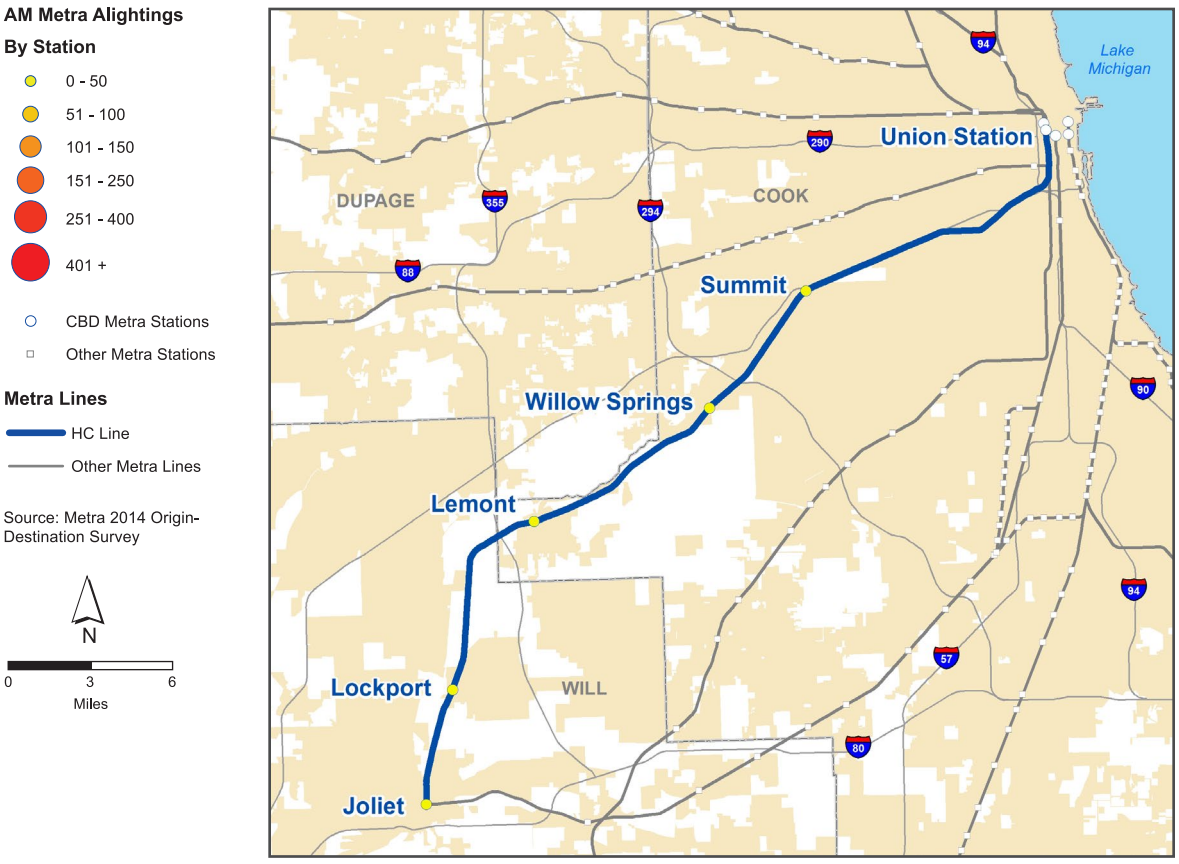
| Station | Fare Zone | Area Sq. Mi. | Employment in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Union Station | A | 0.3 | 30,742 | 22,956 | 32,106 | -25.3% | 39.9% |
| Summit | C | 18.4 | 52,914 | 22,431 | 29,355 | -57.6% | 30.9% |
| Willow Springs | D | 32.1 | 23,841 | 24,988 | 27,680 | 4.8% | 10.8% |
| Lemont | E | 63.7 | 45,064 | 50,001 | 73,074 | 11.0% | 46.1% |
| Lockport | G | 77.3 | 17,906 | 26,772 | 53,604 | 49.5% | 100.2% |
| Joliet | H | 120.3 | 57,272 | 62,695 | 125,108 | 9.5% | 99.6% |
| **HC TOTAL** | | **312.1** | **227,739** | **209,843** | **340,927** | **-7.9%** | **62.5%** |
| **REGION TOTAL** | | **3,748.0** | **4,340,215** | **3,786,224** | **5,267,696** | **-12.8%** | **39.1%** |

## REVERSE COMMUTE AND NON-DOWNTOWN MARKETS

Although Metra's primary market involves commuters who follow the traditional suburb-to-CBD trip pattern, on many lines Metra has seen a demand for city-to-suburb reverse-commute options (Metra's primary commuter market is discussed in the Central Business District Market chapter). However, due to the limited schedule of the HC, reverse-commute trips are not possible and the number of riders alighting at suburban stations in the morning is extremely small.

Factors that increase reverse-commute trip patterns are the growth of employment in the suburbs as well as growth of population in the city and inner ring suburbs (see Tables 3, 4, and 5). While forecasts indicate a moderate decline by 2040 in population and households in the HC's CBD marketshed, employment growth in the suburbs along the line is projected to be strong during this period. These opportunities are likely to draw commuters from beyond the immediate downtown Chicago station area. Employment along the entire HC is expected to increase 63% between 2010 and 2040, with the most substantial growth projected in station marketsheds near the southern end of the HC, particularly following completion of the I-355 South extension in 2007. The data suggests that with connecting bus service and a more robust train schedule, the HC may be able to attract commuters traveling from the city and inner suburbs to employment centers in outlying suburbs. Major trip generators along the HC, including top employers, are shown in Table 6.

## FIGURE 3: AM ALIGHTINGS AT NON-CBD HC STATIONS



## TABLE 6: MAJOR TRIP GENERATORS IN THE HC CORRIDOR

| Generator Type | Name | Comments | Municipality |
|---|---|---|---|
| **Airports** | Midway Airport | Commercial aviation; second-busiest airport in Illinois | Chicago |
| | Lewis University Airport | General aviation | Romeoville |
| | Joliet Regional Airport | General aviation | Joliet |
| **Colleges and Universities** | Lewis University | 5,200 students | Romeoville |
| | Joliet Junior College | 22,000 students | Joliet |
| | University of St. Francis | 1,700 students | Joliet |
| **Culture and Entertainment** | Cog Hill Golf & Country Club | Public golf complex | Lemont |
| | Chicagoland Speedway/Route 66 Raceway | NASCAR racetrack; capacity 75,000 | Joliet |
| | Harrah's Joliet Hotel & Casino | Riverboat casino & hotel; 200 rooms | Joliet |
| | Hollywood Casino Joliet | Riverboat casino; 1,000 employees | Joliet |
| | Rialto Square Theatre | Performing arts venue; capacity 2,000 | Joliet |
| | Silver Cross Field | Joliet Slammers baseball stadium; capacity 6,900 | Joliet |
| **Shopping*** | Long Run Marketplace | Sub-regional shopping center; 4 anchors | Lemont |
| | Louis Joliet Mall | 120 stores, 4 anchors | Joliet |
| **Government** | City of Joliet | City adminstrative offices; 900 employees | Joliet |
| | Stateville Correctional Center | 1,300 employees | Joliet |
| | Will County Government/ Courthouse | County adminstrative offices and courthouse; 1,900 employees | Joliet |
| **Hospitals** | Silver Cross Hospital | 289 beds; 1,900 employees | New Lenox |
| | Provena St. Joseph Medical Center | 480 beds; 2,300 employees | Joliet |
| **Top Private Employers** | Electro-Motive Diesel | Locomotive manufacturing plant | McCook |
| | UPS | Package sorting facility; 8,000 employees | Hodgkins |
| | Argonne National Laboratory | Scientific research laboratory; 4,000 employees | Argonne |
| | Unique Mailing Services Inc. | Direct mailing company; 1,050 employees | Bolingbrook |
| | Citgo Refinery | 800 employees | Lemont/ Romeoville |
| | Harrah's Joliet Hotel & Casino | Riverboat casino; 1,600 employees | Joliet |
| | Hollywood Casino Joliet | Riverboat casino; 1,700 employees | Joliet |
| | Caterpillar, Inc. | Heavy equipment manufacturer; 1,100 employees | Joliet |
| | Commonwealth Edison | Electricity provider; 2,500 employees | Joliet |

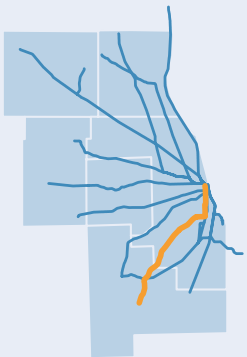
*Significant shopping areas exist at several stations along the line.

*Metra SWS train in New Lenox*

*Photo: Mark Llanuza*

# SOUTHWEST SERVICE LINE

## EXISTING SERVICE AND CONDITIONS



**Metra's SouthWest Service (SWS) Line** extends 40.8 miles southwest from Chicago Union Station (CUS, or "Union Station") in downtown Chicago to Manhattan in Will County, and currently serves 11 intermediate stations in southwest Cook County and north central Will County (see Figure 1). The service is operated by Metra personnel under a trackage lease agreement with Norfolk Southern (NS), which owns and dispatches the railroad south of 74th Street in Chicago. Metra maintains the tracks, signals, and rights-of-way and owns and operates the yards in this section. Metra, NS, and Amtrak each own and control various short segments between 74th Street in Chicago and CUS, and freight traffic operates over the line from 74th Street to 23rd Place. Daytime storage and servicing of trains takes place at the BNSF 14th Street Coach Yard, one mile south of the downtown terminal. Most SWS trains are stored overnight at 179th Street in Orland Park, with a smaller yard in Manhattan also providing overnight storage. In 2014, passenger trips on the SWS totaled 2.7 million, ranking ninth among the eleven Metra lines (based on ticket sales).

Prior to the creation of Metra, NS (known as Norfolk and Western until 1982) operated a single commuter train to Chicago in the morning and back to 143rd Street in Orland Park in the evening. This service was based in and dispatched from Decatur, where train and crew returned on weekends. While NS operated commuter service on the line, it was known as the Norfolk Southern Line; when Metra assumed operation of the service in 1993, the line was given its present name. Since then, Metra has gradually expanded service. The line was extended to 153rd Street in Orland Park in 1990, and on to 179th Street in 1995. In 2006, the line was extended to its current terminus in Manhattan (with a new intermediate station at Laraway Road). Eight trains per day were added as a part of this project, increasing service to 30 trains each weekday. In March 2009, Metra initiated Saturday service on the SWS and improved weekday service to the outermost stations on the line, at Laraway Road and Manhattan.

Two segments of single track limit the operation of more trains on the SWS: a two-mile segment between the Forest Hill interlocking and the Canadian National crossing near Ashburn Station, and a 17-mile segment between the 143rd Street/Orland Park Station and the Manhattan Station.

2014 Average trip length:
**19.1 miles**

2014 Average fare paid:
**$3.55**

*Source: Ridership Trends Report, Dec. 2014*

Number of Stations:
**13**

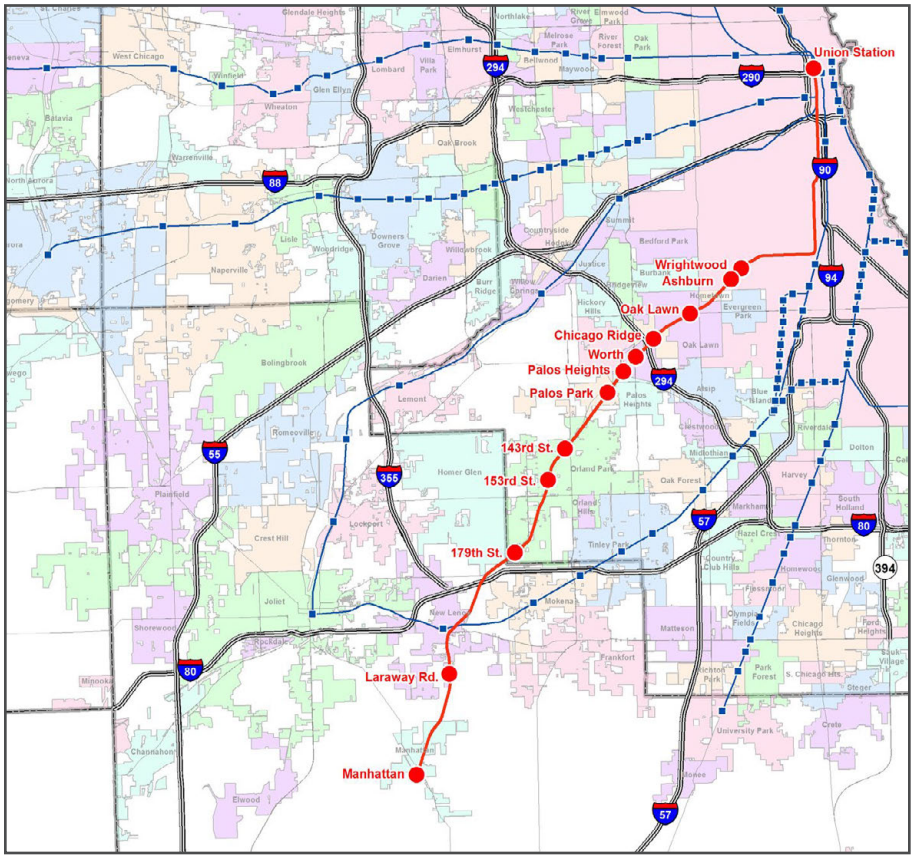
Route Length:
**40.8 miles**

Number of weekday trains:
**30**

2014 On-time performance*:
**92.6%**

** On-time Performance Report, Dec. 2014*

## FIGURE 1: METRA STATIONS ON THE SWS LINE

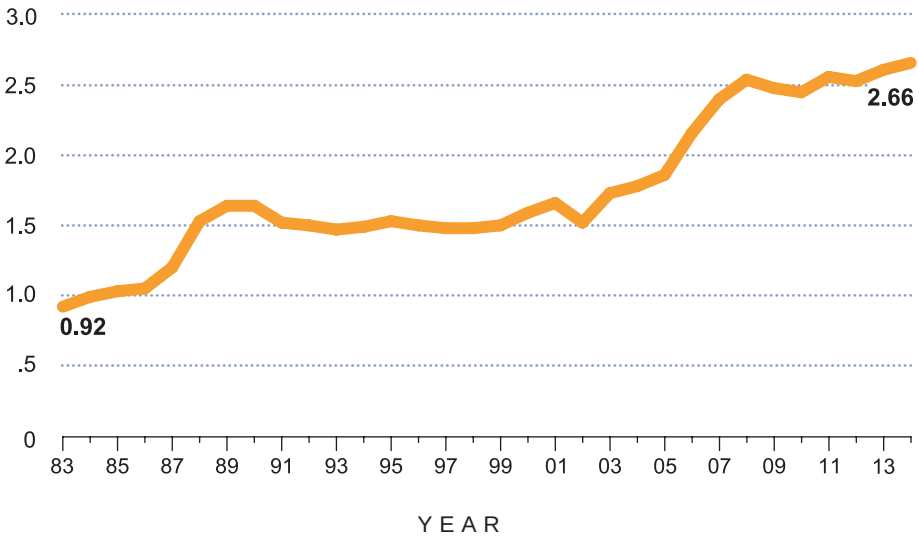


## TABLE 1A: 2014 SWS WEEKDAY BOARDINGS

| Time of Day | Inbound | Outbound |
|---|---|---|
| AM Peak | 3,938 | 41 |
| Midday | 443 | 391 |
| PM Peak | 114 | 3,631 |
| Evening | 26 | 482 |
| **TOTAL** | **4,521** | **4,545** |

*Source: Metra Weekday Station Boardings and Alightings by Time-of-Day and Direction, 2014*

## TABLE 1B: SWS ANNUAL PASSENGER TRIPS
1983 — 2014, in millions




*Note: from 2008, figures include free Circuit Permit trips. 2008-2011 figures include free senior trips; this program ended September 2011.*

## TABLE 1C: SWS STATION CHARACTERISTICS

| Station | Fare Zone | Mile Post | Accessibility[1] | Boardings | | Station Parking (2014) | | | Time to Chicago (minutes)[1] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1983[2] | 2014[3] | Capacity (Spaces)[4] | Effective Use[5] | Observed Use[6] | Shortest Trip | Longest Trip |
| Union Station | A | 0.0 | Full | 1,437 | 4,477 | 0 | n/a | n/a | n/a | n/a |
| Wrightwood | C | 11.9 | Full | 130 | 294 | 180 | 86% | 86% | n/a | 26 |
| Ashburn | C | 12.6 | Full | 244 | 255 | 140 | 62% | 62% | n/a | 29 |
| Oak Lawn | D | 15.2 | Full | 443 | 1,246 | 956 | 90% | 80% | n/a | 35 |
| Chicago Ridge | D | 16.8 | Full | 227 | 332 | 431 | 41% | 28% | n/a | 40 |
| Worth | D | 18.2 | Full | 204 | 430 | 468 | 65% | 65% | n/a | 43 |
| Palos Heights[7] | D | 19.2 | Full | -- | 254 | 501 | 41% | 41% | n/a | 45 |
| Palos Park | E | 20.3 | Full | 63 | 418 | 349 | 66% | 66% | n/a | 48 |
| 143rd St./Orland Park | E | 23.6 | Full | 135 | 493 | 411 | 82% | 82% | n/a | 55 |
| 153rd St./Orland Park[8] | E | 25.2 | Full | -- | 621 | 1,376 | 39% | 37% | n/a | 60 |
| 179th St./Orland Park[9] | F | 28.9 | Full | -- | 190 | 315 | 43% | 43% | n/a | 66 |
| Laraway Road[10] | H | 35.8 | Full | -- | 27 | 288 | 4% | 4% | n/a | 76 |
| Manhattan[10] | I | 40.8 | Full | -- | 29 | 250 | 7% | 7% | n/a | 87 |
| **TOTAL SWS** | | **40.8** | | **2,883** | **9,066** | **5,665** | **54%** | **51%** | | |

[1] SouthWest Service Schedule
[2] Metra's 1983 Boarding/Alighting Counts
[3] Metra, "Commuter Rail System Station Boarding/Alighting Counts," Spring 2014
[4] Metra Station Parking Capacity and Use
[5] Effective use: all sold permit spaces are assumed to be used, even if unoccupied during parking survey
[6] Observed use: spaces physically occupied during parking survey
[7] Station opened in 2004
[8] Station opened in 1990
[9] Station opened in 1995
[10] Stations opened in 2006

## TABLE 1D: MODE OF ACCESS AT SWS METRA STATIONS

| Station Name | Walk/Bike | Drive/Carpool Driver | Carpool Passenger/ Dropped Off | Transit | Other |
|---|---|---|---|---|---|
| Union Station[1] | 40% | 4% | 9% | 39% | 8% |
| Wrightwood | 17% | 66% | 11% | 4% | 1% |
| Ashburn | 37% | 45% | 18% | 0% | 0% |
| Oak Lawn | 17% | 64% | 17% | 1% | 0% |
| Chicago Ridge | 39% | 46% | 15% | 1% | 0% |
| Worth | 19% | 70% | 10% | 0% | 0% |
| Palos Heights | 1% | 84% | 15% | 0% | 1% |
| Palos Park | 8% | 72% | 19% | 0% | 1% |
| 143rd St./Orland Park | 11% | 71% | 18% | 0% | 0% |
| 153rd St./Orland Park | 6% | 80% | 14% | 0% | 0% |
| 179th St./Orland Park | 10% | 63% | 26% | 0% | 0% |
| Laraway Road | 0% | 73% | 27% | 0% | 0% |
| Manhattan[2] | 11% | 67% | 22% | 0% | 0% |
| **TOTAL SWS[3]** | **16%** | **67%** | **16%** | **1%** | **0%** |
| **SYSTEM TOTAL** | **25%** | **52%** | **17%** | **3%** | **3%** |

[1] Includes riders boarding on all Metra lines departing from station

[2] Data not statistically significant due to number of survey responses received

[3] Line total does not include downtown terminal

*Source: Metra, "Commuter Rail System Station Boarding/Alighting Counts," Spring 2014*

## TABLE 2: METRA CAPITAL INVESTMENT HISTORY
### 1985 — June 2015, in millions of dollars

| Asset | SWS | System |
|---|---|---|
| Rolling stock | $59 | $2,449 |
| Track and structure | 31 | 1,329 |
| Signal, electrical, and mechanical | 30 | 777 |
| Facilities and equipment | 17 | 548 |
| Stations and parking | 34 | 1,084 |
| Acquisitions, extensions, and expansions | 152 | 599 |
| Support activities | 18 | 348 |
| **TOTAL** | **$341** | **$7,134** |
| **PERCENTAGE** | **4.8%** | **100.0%** |

*Notes: 1) Excludes South Shore, preventative maintenance, new lines, and pending grants. 2) Prior expenses are not adjusted for subsequent inflation. 3) Data is subject to budget revisions, audit adjustments, etc. at any time. 4) For many projects, work locations and associated costs have not been identified, so budget amounts have been allocated among lines by various criteria.*

## IMPROVEMENTS SINCE THE START OF METRA

Since 1985, Metra has invested $341 million (in year of expenditure dollars) in improvements to the SWS corridor. Table 2 indicates the amount of investment in different asset categories. This amount includes the 1990 and 1995 extensions, as well as the 2006 line upgrade and extension to Manhattan. Metra has completed improvements at a number of SWS stations since 1985 (see right), and over a dozen bridges have been repaired or replaced. Over the years, Metra has partnered with Amtrak, owner of CUS, to complete a number of upgrades to the terminal's commuter facilities.

The 2006 upgrade project, which cost a total of $198 million, was funded in large part with a New Starts grant from the Federal Transit Administration. The project included extension of the route to Manhattan with an intermediate station at Laraway Road/New Lenox, doubling of service to 30 trains per day, a new coach yard in Manhattan to supplement the existing yard at 179th Street in Orland Park, installation of a second track between Palos Park and 143rd Street in Orland Park, and other track and signal improvements. The project also included the extension of station platforms with significant improvements at several stations, major parking expansion, and two new trainsets. As part of the project, 143rd Street, 153rd Street, Ashburn, Oak Lawn, and Palos Park Stations were rehabilitated and expanded to accommodate the ridership growth projected to follow the doubling in service.

In March 2009, Metra initiated Saturday service on the SWS, with three inbound and three outbound trains serving the line that day. Weekday service to the Laraway Road and Manhattan Stations was also improved, with a midday trip now serving both stations.

All SWS stations comply with the accessibility requirements of the Americans with Disabilities Act (ADA). Metra's station compliance program started with designating four of the busiest SWS stations, including CUS in downtown Chicago, as "key stations", all of which were made fully accessible by 2001.

All of the stations and platforms outside of downtown Chicago along the SWS Line were improved before or in 2006, so there are no plans at this time for improvements at these locations. However, additional facility expansions at these stations are possible in the long term, as ridership growth warrants.

**Depots and warming houses constructed since 1985 at:**

143rd Street/Orland Park
153rd St./Orland Park (new station)
179th St./Orland Park (new station)
Ashburn
Chicago Ridge
Laraway Rd./New Lenox (new station)
Manhattan (new station)
Oak Lawn
Palos Heights (new station)
Palos Park
Worth
Wrightwood

## PRESENT AND FUTURE DEMAND

In 2014, over 9,000 boardings took place each weekday on the SWS, with 83% of boardings occurring on peak-period, peak-direction trains. On the SWS, ridership has increased 212% since 1983 (see Table 1c). Significant ridership gains have occurred at nearly every station along the line since 1983. At the two stations built in the 1990s, 153rd Street and 179th Street, boardings increased 127% between 1995 and 2014, a reflection of the population growth that has taken place in this area.

A number of indicators suggest that demand for commuter rail service will continue to rise in the SWS corridor. The burgeoning southwest suburbs, and in particular, suburbs in Will County, have seen phenomenal growth in population and employment. As shown in Tables 3, 4, and 5, Chicago Metropolitan Agency for Planning (CMAP) forecasts for 2040 illustrate this trend continuing. All SWS station marketsheds are forecasted to see increases in population, households and employment, with a 26% increase in population from 2010 to 2040 throughout the entire line. In the southernmost SWS marketsheds, from 179th Street/Orland Park to Manhattan, CMAP projects a 135% increase in population.

FIGURE 2A: ORIGINS OF RIDERS USING NON-CBD SWS STATIONS

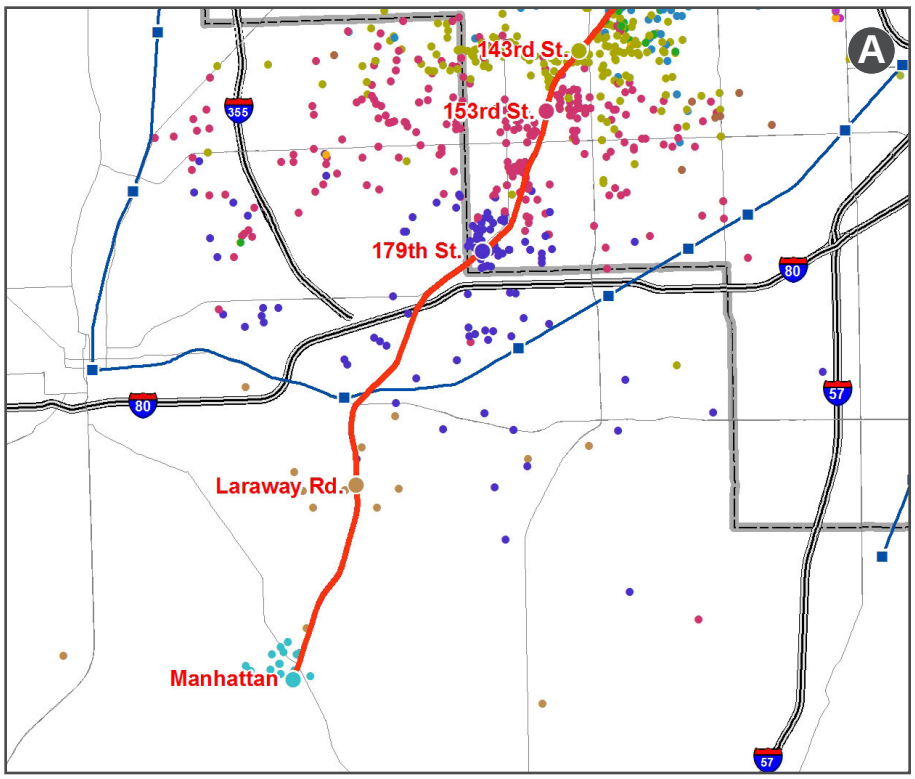


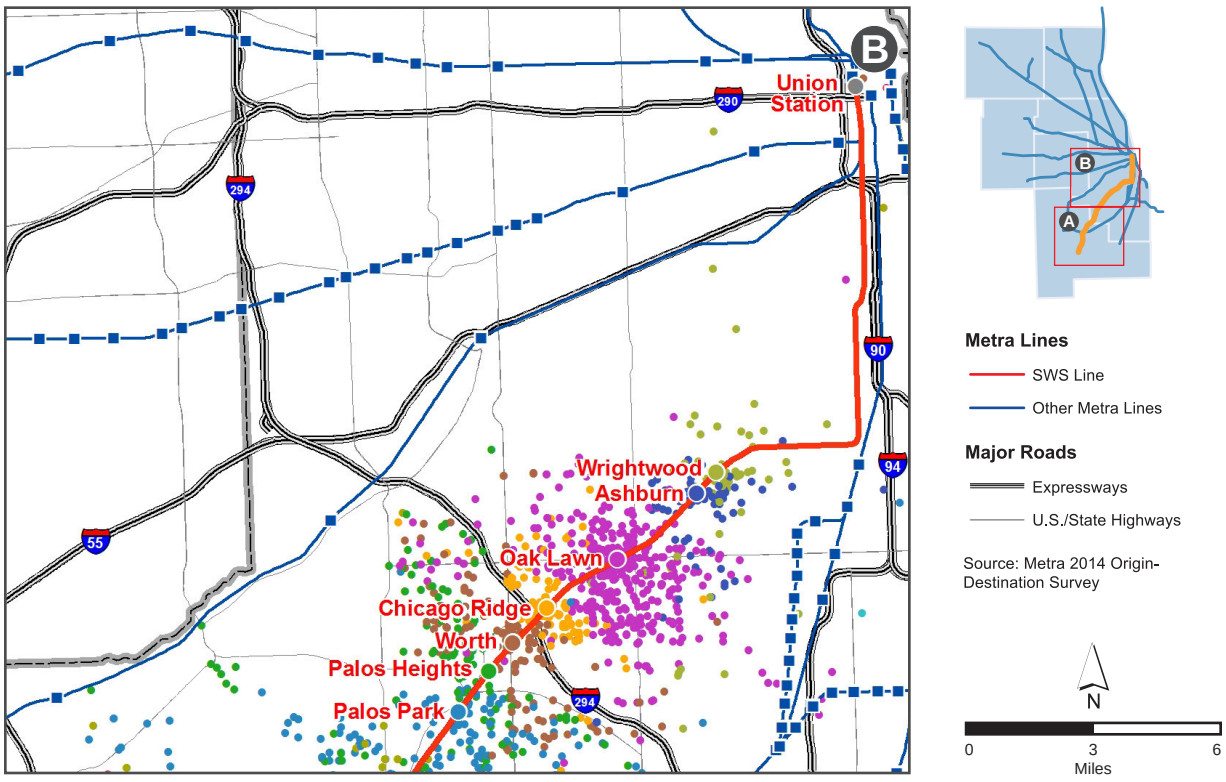
Figure 2 shows the origins of SWS riders boarding at stations outside of downtown Chicago. Overall passenger ridership on the SWS totaled 2.7 million in 2014.

Approximately 5,600 parking spaces serve the riders of the SWS. According to parking counts conducted in 2014, the effective parking utilization rate on the SWS is 54%. Given the significant expansion in parking as part of the 2006 New Starts project, much of the anticipated growth in parking demand has been satisfied.

## REVERSE COMMUTE AND NON-DOWNTOWN MARKETS

Although Metra's primary market involves commuters who follow the traditional suburb-to-CBD trip pattern, on many lines Metra has seen a demand for city-to-suburb reverse-commute options (Metra's primary commuter market is discussed in the Central Business District Market chapter). However, the SWS retains the traditional suburb-to-CBD trip pattern and has not experienced the volume of reverse-commute ridership seen on some other Metra lines. According to Metra's 2014 Boarding and Alighting

FIGURE 2B: ORIGINS OF RIDERS USING NON-CBD SWS STATIONS



## TABLE 3: SWS CORRIDOR POPULATION

| Station | Fare Zone | Area Sq. Mi. | Population in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Union Station | A | 0.3 | 4,156 | 5,507 | 4,804 | 32.5% | -12.8% |
| Wrightwood, Ashburn | C | 20.3 | 229,396 | 226,013 | 244,488 | -1.5% | 8.2% |
| Oak Lawn, Chicago Ridge, Worth, Palos Heights | D | 33.2 | 163,881 | 171,402 | 176,907 | 4.6% | 3.2% |
| Palos Park, 143rd St., 153rd St. | E | 47.6 | 75,658 | 81,380 | 107,495 | 7.6% | 32.1% |
| 179th St. | F | 19.4 | 15,810 | 21,710 | 43,473 | 37.3% | 100.2% |
| Laraway Road | H | 31.2 | 9,714 | 15,020 | 51,572 | 54.6% | 243.4% |
| Manhattan | I | 276.2 | 25,970 | 31,353 | 64,694 | 20.7% | 106.3% |
| **SWS TOTAL** | | **428.2** | **524,585** | **552,385** | **693,433** | **5.3%** | **25.5%** |
| **REGION TOTAL** | | **3,748.0** | **8,091,717** | **8,456,762** | **11,717,936** | **4.5%** | **38.6%** |

## TABLE 4: SWS CORRIDOR HOUSEHOLDS

| Station | Fare Zone | Area Sq. Mi. | Households in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Union Station | A | 0.3 | 2,663 | 3,576 | 2,923 | 34.3% | -18.3% |
| Wrightwood, Ashburn | C | 20.3 | 66,890 | 63,042 | 70,956 | -5.8% | 12.6% |
| Oak Lawn, Chicago Ridge, Worth, Palos Heights | D | 33.2 | 62,762 | 62,911 | 69,588 | 0.2% | 10.6% |
| Palos Park, 143rd St., 153rd St. | E | 47.6 | 26,765 | 30,176 | 38,177 | 12.7% | 26.5% |
| 179th St. | F | 19.4 | 5,430 | 7,770 | 14,611 | 43.1% | 88.0% |
| Laraway Road | H | 31.2 | 3,023 | 4,663 | 16,966 | 54.3% | 263.8% |
| Manhattan | I | 276.2 | 9,293 | 11,506 | 22,539 | 23.8% | 95.9% |
| **SWS TOTAL** | | **428.2** | **176,826** | **183,644** | **235,760** | **3.9%** | **28.4%** |
| **REGION TOTAL** | | **3,748.0** | **2,906,924** | **3,050,134** | **4,224,349** | **4.9%** | **38.5%** |

## TABLE 5: SWS CORRIDOR EMPLOYMENT

| Station | Fare Zone | Area Sq. Mi. | Employment in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Union Station | A | 0.3 | 30,742 | 22,956 | 32,106 | -25.3% | 39.9% |
| Wrightwood, Ashburn | C | 20.3 | 45,902 | 32,292 | 46,567 | -29.7% | 44.2% |
| Oak Lawn, Chicago Ridge, Worth, Palos Heights | D | 33.2 | 62,072 | 54,284 | 63,456 | -12.5% | 16.9% |
| Palos Park, 143rd St., 153rd St. | E | 47.6 | 29,897 | 31,847 | 43,583 | 6.5% | 36.9% |
| 179th St. | F | 19.4 | 652 | 3,636 | 11,504 | 457.7% | 216.4% |
| Laraway Road | H | 31.2 | 1,937 | 2,145 | 7,482 | 10.7% | 248.8% |
| Manhattan | I | 276.2 | 2,480 | 5,351 | 31,817 | 115.8% | 494.6% |
| **SWS TOTAL** | | **428.2** | **173,682** | **152,511** | **236,515** | **-12.2%** | **55.1%** |
| **REGION TOTAL** | | **3,748.0** | **4,340,215** | **3,786,224** | **5,267,696** | **-12.8%** | **39.1%** |

Count, 1% of AM peak boardings on the SWS are in the reverse (outbound) direction, far below the system average of 6.5%. Very few AM alightings take place at non-CBD SWS stations, as shown in Figure 3.

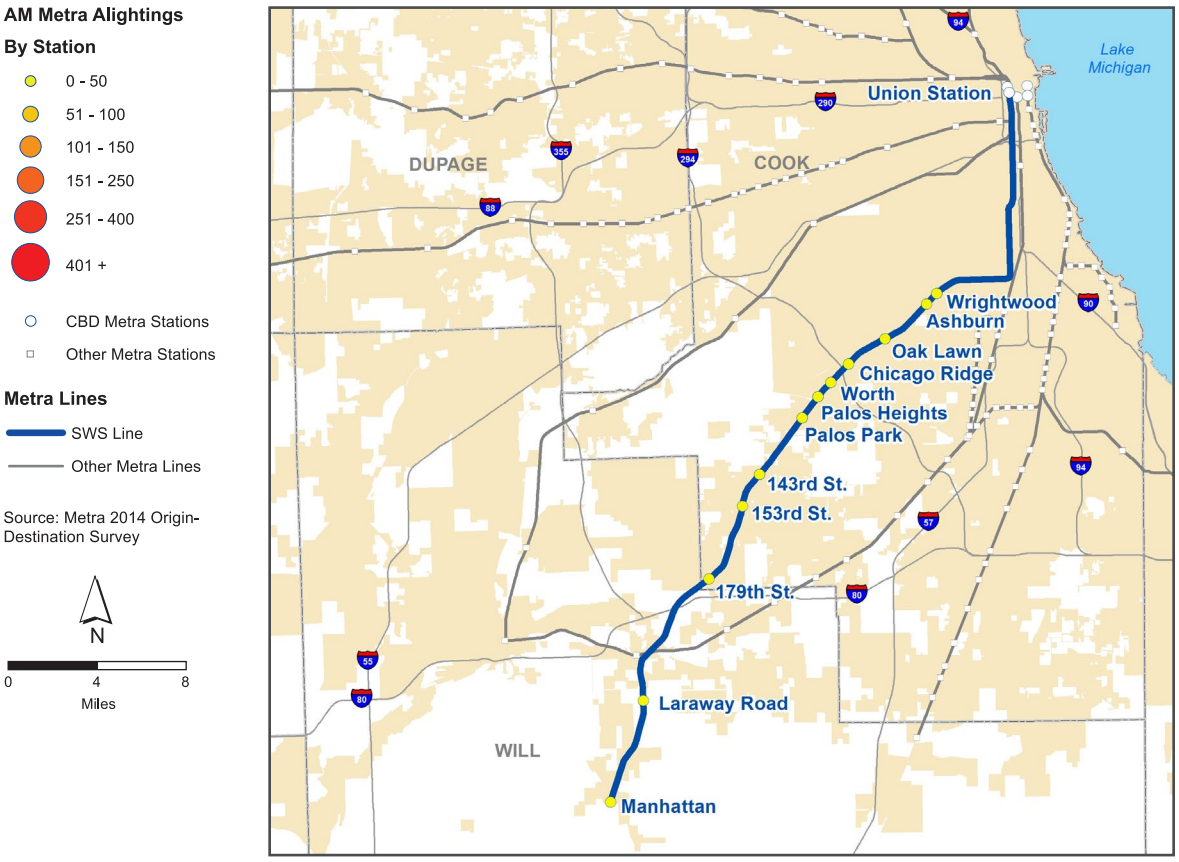
Factors that increase reverse-commute trip patterns are the growth of population in the city and inner suburbs as well as the growth of employment in the suburbs (see Tables 3, 4, and 5). While forecasts indicate a moderate decline between 2010 and 2040 in population and households in the marketshed near CUS, employment growth in the suburbs along the SWS is projected to be strong during this period. These opportunities are likely to draw commuters from beyond the immediate downtown Chicago station area. Employment along the entire SWS is expected to increase 55% by 2040, with the most substantial growth concentrated near the southern end of the corridor. In SWS station marketsheds from 179th Street/Orland Park to Manhattan, CMAP projects a 356% increase in employment by 2040. Business expansion is already visible throughout the corridor, following completion of the I-355 South extension in 2007. In addition, Silver Cross Hospital's relocation to New Lenox, completed in 2012, could have an impact on commute trips on the SWS Line. Major trip generators along the SWS, including top employers, are shown in Table 6.

## PROPOSED LINE IMPROVEMENTS

The 75th Street Corridor Improvement Project (CIP) is the largest project in the Chicago Region Environmental and Transportation Efficiency (CREATE) Program, a package of 70 projects designed to improve the efficiency of passenger and freight rail operations in the region. Using a combination of bridges and embankment, a new track segment would be built, beginning west of Belt Junction (Belt Railway of Chicago, BRC) near 75th and Ashland Streets in Chicago, crossing above BRC and NS tracks, and linking the SWS with RID tracks near 73rd and Wallace. The installation of two rail-rail grade separations will reduce operating conflicts between Metra and freight traffic and improve reliability for both types of rail service.

Rerouting the SWS onto the RID Line would allow SWS trains to utilize LaSalle Street Station rather than CUS, relieving congestion at CUS and releasing capacity for expanded intercity rail service (including high-speed rail). The project will also reduce travel times for SWS riders by more than 10 minutes. If this work continues to be delayed, Metra will need to upgrade infrastructure in the existing SWS corridor between 75th Street and CUS, which will require a substantial investment.

## FIGURE 3: AM ALIGHTINGS AT NON-CBD SWS STATIONS



## TABLE 6: MAJOR TRIP GENERATORS IN THE SWS CORRIDOR

| Generator Type | Name | Comments | Municipality |
|---|---|---|---|
| **Airports** | Midway Airport | Commercial aviation; second-busiest airport in Illinois | Chicago |
| **Colleges and Universities** | Trinity Christian College | Christian college; 1,600 students | Palos Heights |
| | Moraine Valley Community College | 2nd-largest community college in Illinois; 31,000 students | Palos Hills |
| | Robert Morris College | One of 7 Illinois campuses | Orland Park |
| | St. Xavier University | Branch campus of Catholic university; 785 students | Orland Park |
| **Culture and Entertainment** | Children's Museum in Oak Lawn | Children's museum | Oak Lawn |
| | Little Red Schoolhouse | Nature center and trails | Palos Hills |
| **Shopping*** | Ford City Mall | Regional mall; 3 anchors, 140 stores | Chicago |
| | Chicago Ridge Mall | Regional mall; 3 anchors, 130 stores | Chicago Ridge |
| | Orland Park Place | Regional shopping center; 1 anchor, 20 stores | Orland Park |
| | Orland Square Mall | Regional mall; 4 anchors, 160 stores | Orland Park |
| **Government** | Cook County District 5 Courthouse | Cook County courthouse and administrative offices | Bridgeview |
| **Hospitals** | Advocate Christ Community Hospital | 814 beds; 3,000 employees | Oak Lawn |
| | Little Company of Mary Hospital | 494 beds; 1,700 employees | Evergreen Park |
| | Palos Community Hospital | 436 beds; 2,500 employees | Palos Heights |
| | Silver Cross Hospital | 289 beds; 1,900 employees | New Lenox |
| **Top Private Employers** | Eastco International | Electrical component manufacturer; 250 employees | Oak Lawn |
| | Executive Mailing | Commercial mail sorting; 300 employees | Palos Hills |
| | Panduit Corporation | Electrical component manufacturer; 400 employees | Orland Park |
| | Publishers Circulation Fulfillment | Printing and distribution; 300 employees | Orland Park |
| | Michael's | Craft supply retailer distribution center; 280 employees | New Lenox |

*Significant shopping areas exist at several stations along the line.

*115th Street/Morgan Park Station*

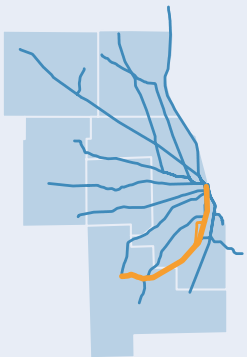
*Photo: Mark Llanuza*

# ROCK ISLAND DISTRICT LINE

## EXISTING SERVICE AND CONDITIONS

**Metra's Rock Island District (RID) Line** extends 40.2 miles southwest from Chicago's LaSalle Street Station to Joliet. The RID Line provides service to 24 intermediate stations between LaSalle Street Station and Joliet with service to the south side of Chicago, southern Cook County, and Will County. The RID Beverly Branch serves portions of the south side of Chicago west of the main line (see Figure 1). In 2014, passenger trips on the RID Line totaled 8.5 million, ranking fifth among the eleven Metra lines (based on ticket sales).

Like other passenger railroads that historically served Chicago, the RID Line predates Metra. The RID was acquired by the Regional Transportation Authority (RTA) in 1982—prior to Metra's formation—following the bankruptcy of the line's owner, the Chicago, Rock Island & Pacific Railroad (CRI&P). At this time, passenger service on the line was slightly more frequent than today with 77 daily trains (51 on the Beverly Branch). Metra now operates 69 weekday trains over the line. Most of these trains operate on the branch line, except for a few express main line trains during the weekday peak periods. Table 1 describes the service, station and ridership characteristics of the RID.



The double-track main line of the RID extends southwest from LaSalle Street Station, serving stations in Chicago's south side communities and the suburbs of Cook and Will Counties. About four miles south of LaSalle Street Station, the 47th Street Yard provides daytime storage for much of the RID fleet, and a heavy duty locomotive repair shop is located onsite. Further

south, at Gresham Junction, the double-track Beverly Branch splits from the main line to serve Chicago's Beverly and Morgan Park neighborhoods. The branch line has 11 stations located approximately every half mile. The segment of the main line between Gresham Junction and Blue Island—with stations at 95th Street/Longwood, 103rd Street/Washington Heights—is used only for peak-period express trains that also serve stations south of Blue Island. At Vermont Street in Blue Island, the Beverly Branch reconnects with the main line. Trainsets that do not provide service south of Blue Island are kept overnight in a yard just north of the Vermont Street Station. The RID operates on a single track between the Joliet Coach Yard and Joliet Station, located a half-mile west of the yard.

Both the RID and Metra's Heritage Corridor Line terminate at Joliet Station, which is also a stop for Amtrak's *Texas Eagle* and *Lincoln Service*. Joliet is the only suburban transfer station serving multiple Metra lines and Amtrak routes. Since the RID is part of the proposed high-speed rail corridor from Chicago to St. Louis that is currently under study, passenger traffic at Joliet is expected to increase in the future. The Chicago Rail Link, CSX, and Iowa Interstate Railroad operate freight service over portions of the RID.

2014 Average trip length:
**21.2 miles**

2014 Average fare paid:
**$3.66**

*Source: Ridership Trends Report, Dec. 2014*

Number of Stations:
**26**

Route Length*:
**46.8 miles**

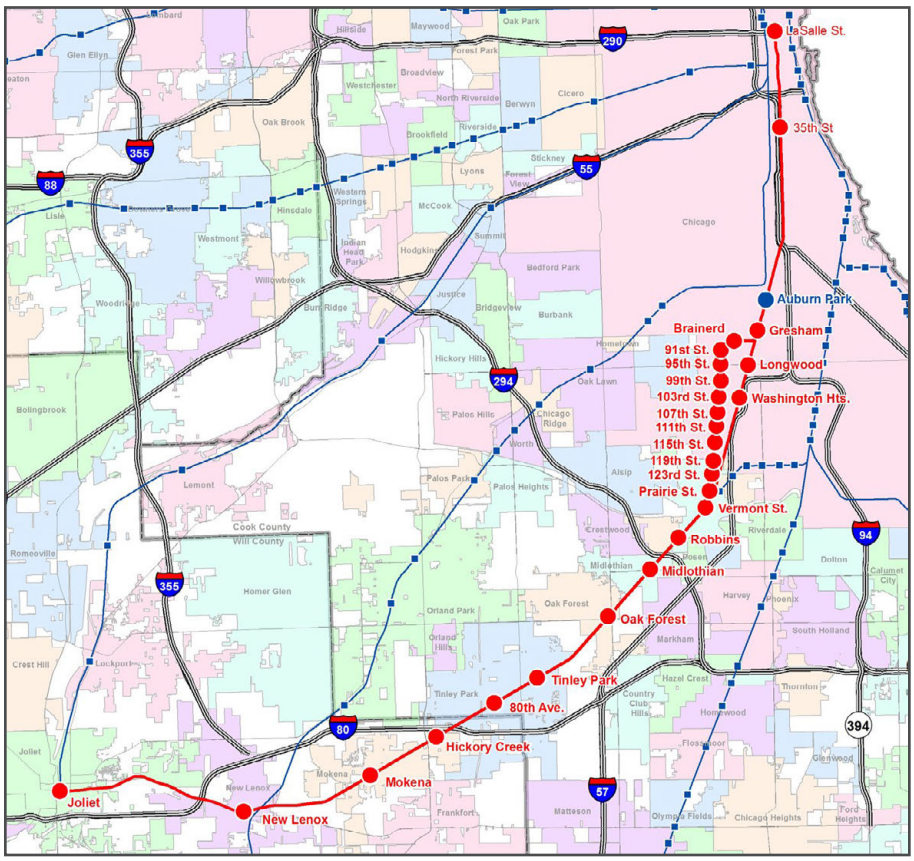
Number of weekday trains:
**69**

2014 On-time performance**:
**93.8%**

**40.2-mile main line to Joliet and 6.6-mile Beverly Branch*

*** On-time Performance Report, Dec. 2014*

## FIGURE 1: METRA STATIONS ON THE RID LINE

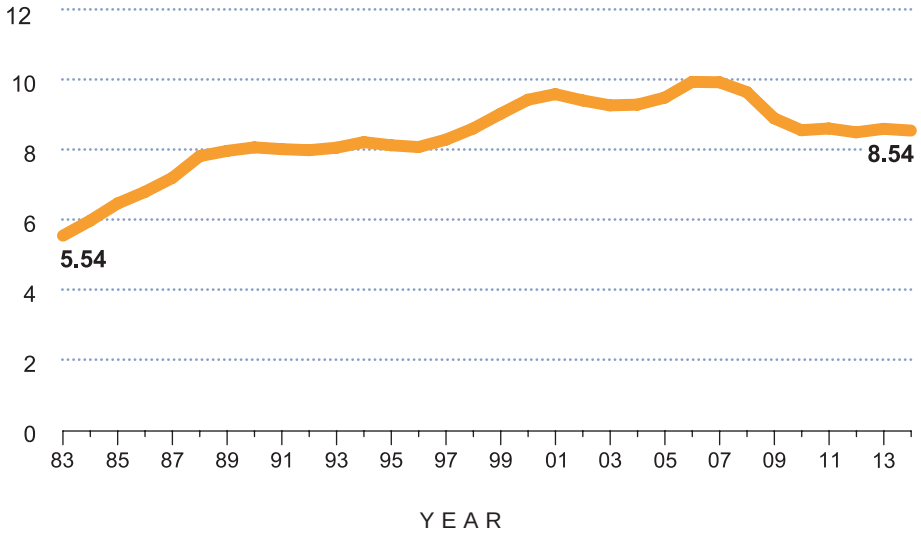


## TABLE 1A: 2014 RID WEEKDAY BOARDINGS

| Time of Day | Inbound | Outbound |
|---|---|---|
| AM Peak | 12,194 | 210 |
| Midday | 1,072 | 1,535 |
| PM Peak | 384 | 11,129 |
| Evening | 173 | 952 |
| **TOTAL** | **13,823** | **13,826** |

*Source: Metra Weekday Station Boardings and Alightings by Time-of-Day and Direction, 2014*

## TABLE 1B: ANNUAL PASSENGER TRIPS
1983 — 2014, in millions




*Note: from 2008, figures include free Circuit Permit trips. 2008-2011 figures include free senior trips; this program ended September 2011.*

## TABLE 1C: RID STATION CHARACTERISTICS

| Station | Fare Zone | Mile Post | Accessibility[1] | Boardings | | Station Parking (2014) | | | Time to Chicago (minutes)[1] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1983[2] | 2014[3] | Capacity (Spaces)[4] | Effective Use[5] | Observed Use[6] | Shortest Trip | Longest Trip |
| LaSalle St. | A | 0.0 | Full | 10,286 | 13,239 | 0 | n/a | n/a | - | - |
| 35th St./"Lou" Jones[7] | A | 3.2 | Full | -- | 249 | 0 | n/a | n/a | - | 10 |
| Gresham | B | 9.8 | None | 49 | 395 | 306 | 43% | 43% | - | 18 |
| Brainerd | C | 10.6 | Full | 123 | 322 | 263 | 60% | 60% | - | 22 |
| 91st St./Beverly | C | 11.3 | Partial | 478 | 359 | 189 | 56% | 56% | - | 24 |
| 95th St./Beverly | C | 11.7 | Partial | 722 | 527 | 187 | 100% | 39% | - | 26 |
| 99th St./Beverly | C | 12.3 | Full | 614 | 621 | 99 | 98% | 98% | - | 28 |
| 103rd St./Beverly | C | 12.8 | Full | 1,085 | 767 | 267 | 91% | 91% | - | 30 |
| 107th St./Beverly | C | 13.3 | Partial | 435 | 413 | 331 | 42% | 42% | - | 32 |
| 111th St./Morgan Park | C | 13.8 | Full | 766 | 601 | 388 | 78% | 48% | - | 34 |
| 115th St./Morgan Park | C | 14.3 | Partial | 215 | 173 | 104 | 68% | 68% | - | 36 |
| 119th St. | C | 14.8 | Partial | 424 | 327 | 245 | 52% | 52% | - | 38 |
| 123rd St. | D | 15.2 | None | 65 | 53 | 0 | n/a | n/a | - | 40 |
| Prairie St. | D | 15.8 | None | 79 | 46 | 7 | 43% | 43% | - | 42 |
| 95th St./Longwood | C | 10.9 | Partial | 27 | 85 | 104 | 39% | 39% | 19 | 23 |
| 103rd St./Washington Hts. | C | 12.0 | Full | 80 | 168 | 267 | 31% | 31% | 22 | 26 |
| Vermont St. | D | 15.7 | Full | 679 | 645 | 847 | 46% | 46% | 28 | 44 |
| Robbins | D | 17.2 | Full | 27 | 77 | 151 | 4% | 4% | 32 | 48 |
| Midlothian | D | 18.4 | Full | 864 | 950 | 606 | 86% | 83% | 35 | 50 |
| Oak Forest | E | 20.4 | Full | 1,019 | 1,141 | 987 | 73% | 73% | 39 | 54 |
| Tinley Park | E | 23.5 | Full | 910 | 983 | 784 | 96% | 71% | 44 | 59 |
| 80th Ave./Tinley Park | E | 25.1 | Full | 632 | 1,932 | 2,126 | 71% | 71% | 48 | 62 |
| Hickory Creek[8] | F | 27.0 | Full | -- | 992 | 1,109 | 67% | 67% | 53 | 66 |
| Mokena | F | 29.6 | Full | 382 | 572 | 457 | 65% | 59% | 57 | 70 |
| New Lenox | G | 34.0 | Full | 301 | 1,146 | 1,079 | 75% | 75% | 63 | 76 |
| Joliet | H | 37.2 | Full | 193 | 866 | 1,008 | 63% | 60% | 73 | 85 |
| **TOTAL RID** | | | | **20,455** | **27,649** | **11,911** | **68%** | **64%** | | |

[1] Rock Island District Line Schedule
[2] Metra 1983 Boarding/Alighting Counts
[3] Metra, "Commuter Rail System Station Boarding/Alighting Counts," Spring 2014
[4] Metra Station Parking Capacity and Use
[5] Effective Use: all sold permit spaces are assumed to be used, even if unoccupied during parking survey
[6] Observed Use: spaces physically occupied during parking survey
[7] Station opened in 2011
[8] Station opened in 1993

## TABLE 1D: MODE OF ACCESS AT RID METRA STATIONS

| Station Name | Walk/Bike | Drive/Carpool Driver | Carpool Passenger/ Dropped Off | Transit | Other |
|---|---|---|---|---|---|
| LaSalle St. | 49% | 5% | 11% | 31% | 3% |
| 35th St./Jones[1] | 46% | 0% | 31% | 23% | 0% |
| Gresham | 21% | 59% | 15% | 3% | 1% |
| Brainerd | 34% | 53% | 11% | 1% | 1% |
| 91st St./Beverly | 33% | 51% | 13% | 1% | 1% |
| 95th St./Beverly | 39% | 31% | 29% | 2% | 1% |
| 99th St./Beverly | 39% | 44% | 15% | 1% | 0% |
| 103rd St./Beverly | 39% | 42% | 16% | 3% | 0% |
| 107th St./Beverly | 42% | 38% | 21% | 0% | 0% |
| 111th St./Morgan Park | 25% | 54% | 17% | 4% | 0% |
| 115th St./Morgan Park | 35% | 49% | 16% | 0% | 0% |
| 119th St. | 18% | 60% | 18% | 3% | 0% |
| 123rd St. | 85% | 8% | 8% | 0% | 0% |
| Prairie St.[1] | 63% | 38% | 0% | 0% | 0% |
| 95th St./Longwood[1] | 23% | 62% | 15% | 0% | 0% |
| 103rd St./Washington Hts. | 20% | 59% | 20% | 0% | 0% |
| Vermont St. | 12% | 71% | 15% | 1% | 1% |
| Robbins[1] | 29% | 29% | 43% | 0% | 0% |
| Midlothian | 15% | 71% | 14% | 0% | 0% |
| Oak Forest | 8% | 71% | 19% | 3% | 0% |
| Tinley Park | 17% | 64% | 17% | 0% | 1% |
| 80th Ave./Tinley Park | 6% | 79% | 15% | 0% | 0% |
| Hickory Creek | 4% | 84% | 12% | 0% | 0% |
| Mokena | 13% | 62% | 24% | 0% | 0% |
| New Lenox | 2% | 85% | 12% | 0% | 1% |
| Joliet[2] | 6% | 60% | 28% | 4% | 2% |
| **TOTAL RID[3]** | **17%** | **64%** | **17%** | **1%** | **0%** |
| **SYSTEM TOTAL** | **25%** | **52%** | **17%** | **3%** | **3%** |

[1] Data not statistically significant due to number of survey responses received.
[2] Includes riders boarding on all Metra lines departing from station
[3] Line total does not include downtown terminal

*Source: Metra, Spring 2014 Origin-Destination Survey*

TABLE 2: METRA CAPITAL INVESTMENT HISTORY
1985 — June 2015, in millions of dollars

| Asset | RID | System |
|---|---|---|
| Rolling stock | $226 | $2,449 |
| Track and structure | 425 | 1,329 |
| Signal, electrical, and mechanical | 68 | 777 |
| Facilities and equipment | 100 | 548 |
| Stations and parking | 181 | 1,084 |
| Acquisitions, extensions, and expansions | 2 | 599 |
| Support activities | 43 | 348 |
| **TOTAL** | **$1,044** | **$7,134** |
| **PERCENTAGE** | **14.6%** | **100.0%** |

*Notes: 1) Excludes South Shore, preventative maintenance, new lines, and pending grants. 2) Prior expenses are not adjusted for subsequent inflation. 3) Data is subject to budget revisions, audit adjustments, etc. at any time. 4) For many projects, work locations and associated costs have not been identified, so budget amounts have been allocated among lines by various criteria.*

## IMPROVEMENTS SINCE THE START OF METRA

Service quality and number of passenger trips on the RID declined rapidly throughout the 1970's and into the early 1980's as a result of deficient maintenance of the RID's physical plant by the CRI&P. When RTA purchased the RID's assets from the CRI&P, much of the line's facilities and right-of-way were in poor condition. Because the RID's service quality was inferior to other commuter rail lines serving the region, RTA (and later Metra) prioritized the line for major capital investment.

Since 1985, Metra has invested over $1 billion (in year of expenditure dollars) in improvements to the RID corridor. Table 2 indicates the amount of investment in different asset categories.

One of the first major improvements to the RID was a complete reconstruction of the Beverly Branch, which included the replacement of all rail, ties, and ballast. These improvements allowed the branch line to operate more efficient service at a significantly greater speed. Over the years dozens of RID main line bridges have been reconstructed and now much of the line can maintain speeds of up to 79 miles per hour. A concerted program of improvements has provided new equipment, track, storage yards and Centralized Traffic Control (CTC) which has resulted in significant efficiency, ridership, and safety enhancements.

**Depots and warming houses constructed since 1985 at:**

80th Avenue
Brainerd
Gresham
Hickory Creek (new station)
Midlothian
Robbins
Tinley Park

**Other significant improvements completed since 1985 at:**

95th Street/Beverly
99th Street/Beverly
103rd Street/Beverly
111th Street/Morgan Park
Joliet
LaSalle Street
Mokena
New Lenox
Oak Forest
Vermont Street

**Station Improvements are planned for:**

95th Street/Beverly
115th Street/Morgan Park
Auburn Park (new station)
Hickory Creek
Joliet
Vermont Street

In 2011, a new station, formally named the 35th Street/"Lou" Jones Station, opened at 35th and Federal Streets in Chicago. This station serves U.S. Cellular Field, the Illinois Institute of Technology, and the Bronzeville neighborhood. Additionally, the 35th Street Station serves as a multi-modal access point: it provides transit connections to the Chicago Transit Authority's (CTA) Red Line station at 35th Street (one-half block west), Green Line station at 35th Street (two blocks east), and bus service along 35th Street. An American Recovery and Reinvestment Act (ARRA) grant contributed funding for construction of the station.

A rail-rail grade separation known as the Englewood Flyover opened for service in 2014. Each weekday, 78 revenue and non-revenue RID trains and approximately 60 freight and Amtrak trains pass through the Englewood interlocking near 63rd and State Streets in Chicago, and this project eliminated conflicts at the crossing by elevating the RID over track owned by Norfolk Southern. The project received $133 million in ARRA high-speed rail grant funds, and is part of the Chicago Region Environmental and Transportation Efficiency Program (CREATE), a package of projects designed to improve the efficiency of passenger and freight rail operations in the region.

FIGURE 2A: ORIGINS OF RIDERS USING NON-CBD RID STATIONS

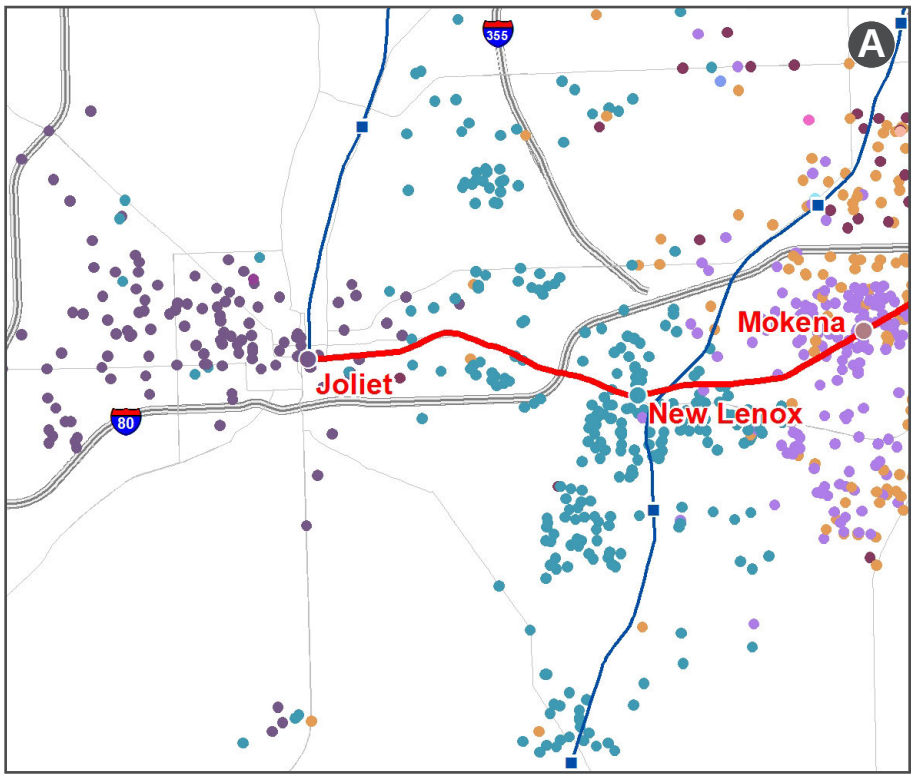


FIGURE 2B: ORIGINS OF RIDERS USING NON-CBD RID STATIONS

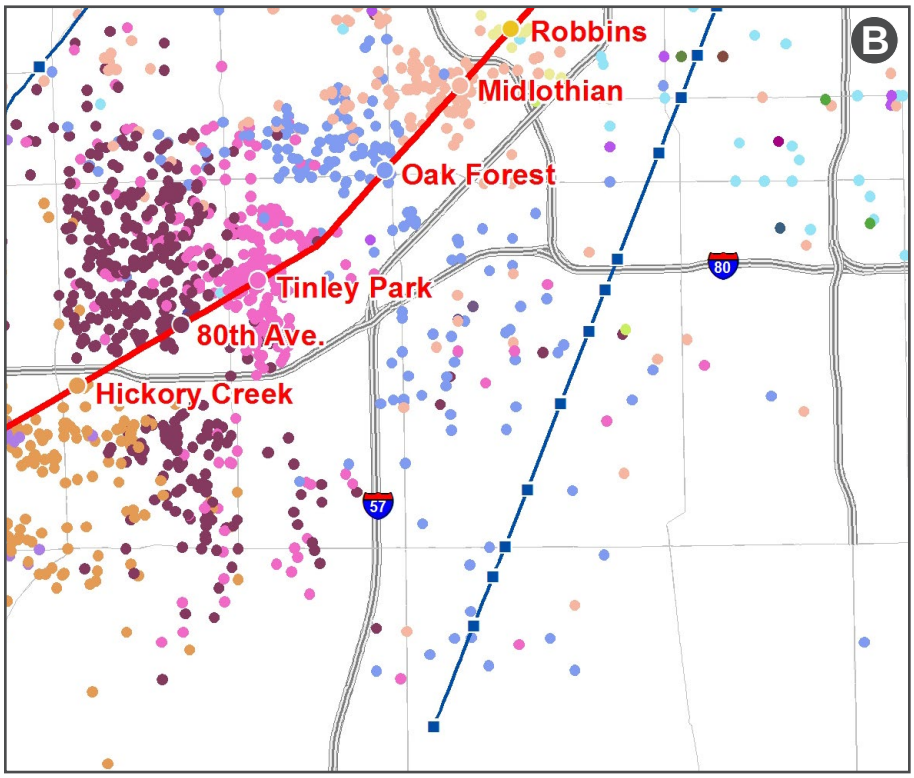
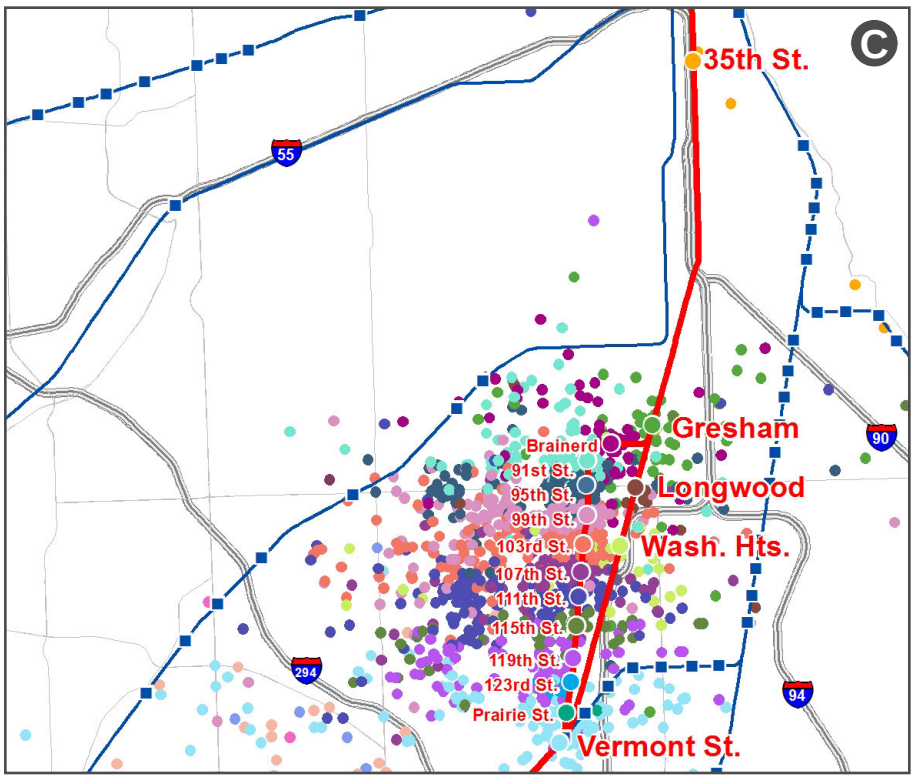
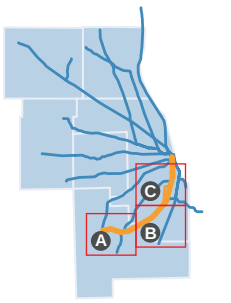



FIGURE 2C: ORIGINS OF RIDERS USING NON-CBD RID STATIONS




**Metra Lines**

RID Line

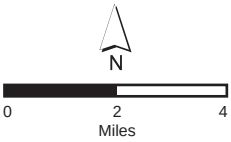
Other Metra Lines

**Major Roads**

Expressways

U.S./State Highways

Source: Metra 2014 Origin-Destination Survey



Improvements at a number of RID stations have been completed since 1985 (see page 155). LaSalle Street Station—including track, structure, signal, and interlocking systems—was completely reconstructed in the mid-1990s. In 2012, construction of a new, larger depot, new platforms, and a pedestrian tunnel was completed at the 80th Avenue Station—a project jointly funded by Metra and the Village of Tinley Park.

Most RID stations now comply with the accessibility requirements of the Americans with Disabilities Act (ADA), and approximately 91% of RID weekday boardings take place at these accessible stations. Metra's station compliance program started with designating eight of the busiest RID stations, including LaSalle Street Station in downtown Chicago, as "key stations," all of which were made fully accessible by 2007. Since 1985, Metra has completed access improvements at a number of non-downtown RID stations, and 16 outlying stations on the line are fully accessible to disabled riders. Metra will bring the remaining stations into full ADA compliance as they are rehabilitated so that eventually all will be accessible.

In Joliet, construction is underway on a new multimodal transportation center, which will accommodate Metra, Amtrak, Pace, intercity and shuttle buses, bicycles, taxis, and intercity passenger rail (existing Amtrak service, as well as planned high-speed rail service between Chicago and St. Louis) and streamline transfers between the services. The existing 1912 depot has been closed to passengers, and will be converted to other uses. Major funding for the transportation center is provided by the State of Illinois, with additional funding from the City of Joliet and BNSF.

A new RID station is being designed at 79th Street near Auburn Park in Chicago.

## PRESENT AND FUTURE DEMAND

Due to substantial increases in population along the RID corridor, demand for commuter rail service is expected to grow. Figure 2 shows the origins of RID riders outside the Central Business District (CBD).

According to Metra's 2014 Metra Boarding and Alighting Count, the RID had over 27,000 boardings on 69 trains serving 25 stations between Joliet and Chicago, with 84% of boardings on peak-period, peak-direction trains. Overall, the RID has seen a 35% increase in boardings since 1983 (see Table 1c). Ridership has grown most significantly at stations nearest downtown Chicago (Gresham, 706%; Brainerd, 162%) as well as in the burgeoning suburbs of Will County (New Lenox, 281%; Joliet, 349%). Except for Brainerd, however, ridership at Beverly Branch stations has remained even or diminished, with an decline of 20% at Beverly Branch stations south of

## TABLE 3: RID CORRIDOR POPULATION

| Station | Fare Zone | Area Sq. Mi. | Population in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| LaSalle St., 35th St./"Lou" Jones | A | 11.6 | 153,492 | 133,871 | 171,907 | -12.8% | 28.4% |
| Gresham | B | 5.8 | 75,146 | 63,542 | 78,289 | -15.4% | 23.2% |
| Brainerd, 91st, 95th, 95th/Longwood, 99th, 103rd, 103rd/Washington Hts.,107th, 111th, 115th, 119th | C | 15.2 | 127,173 | 116,366 | 131,885 | -8.5% | 13.3% |
| 123rd, Prairie St.,Vermont St., Robbins, Midlothian | D | 20.8 | 77,122 | 78,567 | 90,847 | 1.9% | 15.6% |
| Oak Forest, Tinley Park, 80th Ave. | E | 37.7 | 90,159 | 94,832 | 125,030 | 5.2% | 31.8% |
| Hickory Creek, Mokena | F | 36.8 | 42,159 | 57,150 | 88,358 | 35.6% | 54.6% |
| New Lenox | G | 20.7 | 19,410 | 22,735 | 37,789 | 17.1% | 66.2% |
| Joliet | H | 120.3 | 152,991 | 194,444 | 325,326 | 27.1% | 67.3% |
| **RID TOTAL** | | **268.9** | **737,652** | **761,507** | **1,049,431** | **3.2%** | **37.8%** |
| **REGION TOTAL** | | **3,748.0** | **8,091,717** | **8,456,762** | **11,717,936** | **4.5%** | **38.6%** |

## TABLE 4: RID CORRIDOR HOUSEHOLDS

| Station | Fare Zone | Area Sq. Mi. | Households in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| LaSalle St., 35th St./"Lou" Jones | A | 11.6 | 50,214 | 46,481 | 57,345 | -7.4% | 23.4% |
| Gresham | B | 5.8 | 23,861 | 21,803 | 26,313 | -8.6% | 20.7% |
| Brainerd, 91st, 95th, 95th/Longwood, 99th, 103rd, 103rd/Washington Hts.,107th, 111th, 115th, 119th | C | 15.2 | 43,810 | 41,869 | 47,251 | -4.4% | 12.9% |
| 123rd, Prairie St.,Vermont St., Robbins, Midlothian | D | 20.8 | 27,671 | 27,603 | 33,326 | -0.2% | 20.7% |
| Oak Forest, Tinley Park, 80th Ave. | E | 37.7 | 32,056 | 35,661 | 45,338 | 11.2% | 27.1% |
| Hickory Creek, Mokena | F | 36.8 | 13,486 | 19,258 | 28,832 | 42.8% | 49.7% |
| New Lenox | G | 20.7 | 6,396 | 7,663 | 12,757 | 19.8% | 66.5% |
| Joliet | H | 120.3 | 53,102 | 65,212 | 114,648 | 22.8% | 75.8% |
| **RID TOTAL** | | **268.9** | **250,596** | **265,550** | **365,810** | **6.0%** | **37.8%** |
| **REGION TOTAL** | | **3,748.0** | **2,906,924** | **3,050,134** | **4,224,349** | **4.9%** | **38.5%** |

## TABLE 5: RID CORRIDOR EMPLOYMENT

| Station | Fare Zone | Area Sq. Mi. | Employment in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| LaSalle St., 35th St./"Lou" Jones | A | 11.6 | 178,408 | 208,518 | 251,480 | 16.9% | 20.6% |
| Gresham | B | 5.8 | 3,942 | 4,022 | 5,870 | 2.0% | 45.9% |
| Brainerd, 91st, 95th, 95th/Longwood, 99th, 103rd, 103rd/Washington Hts.,107th, 111th, 115th, 119th | C | 15.2 | 14,473 | 16,231 | 22,952 | -3.5% | 9.4% |
| 123rd, Prairie St.,Vermont St., Robbins, Midlothian | D | 20.8 | 31,668 | 26,827 | 31,902 | 1.5% | 17.8% |
| Oak Forest, Tinley Park, 80th Ave. | E | 37.7 | 34,827 | 33,945 | 61,184 | 37.2% | 52.7% |
| Hickory Creek, Mokena | F | 36.8 | 19,740 | 24,571 | 54,502 | 238.4% | 122.1% |
| New Lenox | G | 20.7 | 7,709 | 6,756 | 24,589 | -12.4% | 264.0% |
| Joliet | H | 120.3 | 57,272 | 62,695 | 125,108 | 9.5% | 99.6% |
| **RID TOTAL** | | **268.9** | **348,039** | **383,565** | **577,587** | **10.2%** | **50.6%** |
| **REGION TOTAL** | | **3,748.0** | **3,786,224** | **3,786,224** | **5,267,696** | **0.0%** | **39.1%** |

Brainerd. Meanwhile, 95th Street/Longwood, and 103rd Street/Washington Heights—on the RID main line directly east of the Beverly Branch—have seen substantial increases in ridership (an average increase of 136%). These trends suggest a shift in ridership towards the main line, which provides express service on the south side of Chicago, and an increase in passengers from the suburban stations. The largest increases in ridership on the southwest end of the RID have occurred at 80th Avenue, New Lenox, and Joliet. Overall passenger ridership on the RID totaled 8.5 million in 2014.

Approximately 11,900 parking spaces serve riders on the RID. According to parking counts conducted in 2014, the effective utilization rate on the RID is 68%. When utilization of station parking areas exceeds 85%, Metra considers that they are approaching full capacity. Five RID stations exceed this threshold, indicating a demand for increased parking at these stations.

RID ridership is likely to see ridership gains in the future. The south suburbs, and suburbs in Will County in particular, have seen phenomenal growth in population and employment. Chicago metropolitan Agency for Planning (CMAP) forecasts for 2040 show this trend continuing, and all station marketsheds on the RID are forecasted to see increases in population, households and employment. In fact, CMAP forecasts suggest a 38% increase in population from 2010 to 2040 throughout the entire corridor.

Employment growth will be a significant factor in ridership. A 51% increase in employment is projected for marketsheds in the RID corridor from 2010 to 2040. Projections indicate that the RID marketsheds with the biggest percentage increases in population, households and employment in the RID corridor will continue to be in Will County. Tables 3, 4 and 5 describe the demographics in the RID corridor.

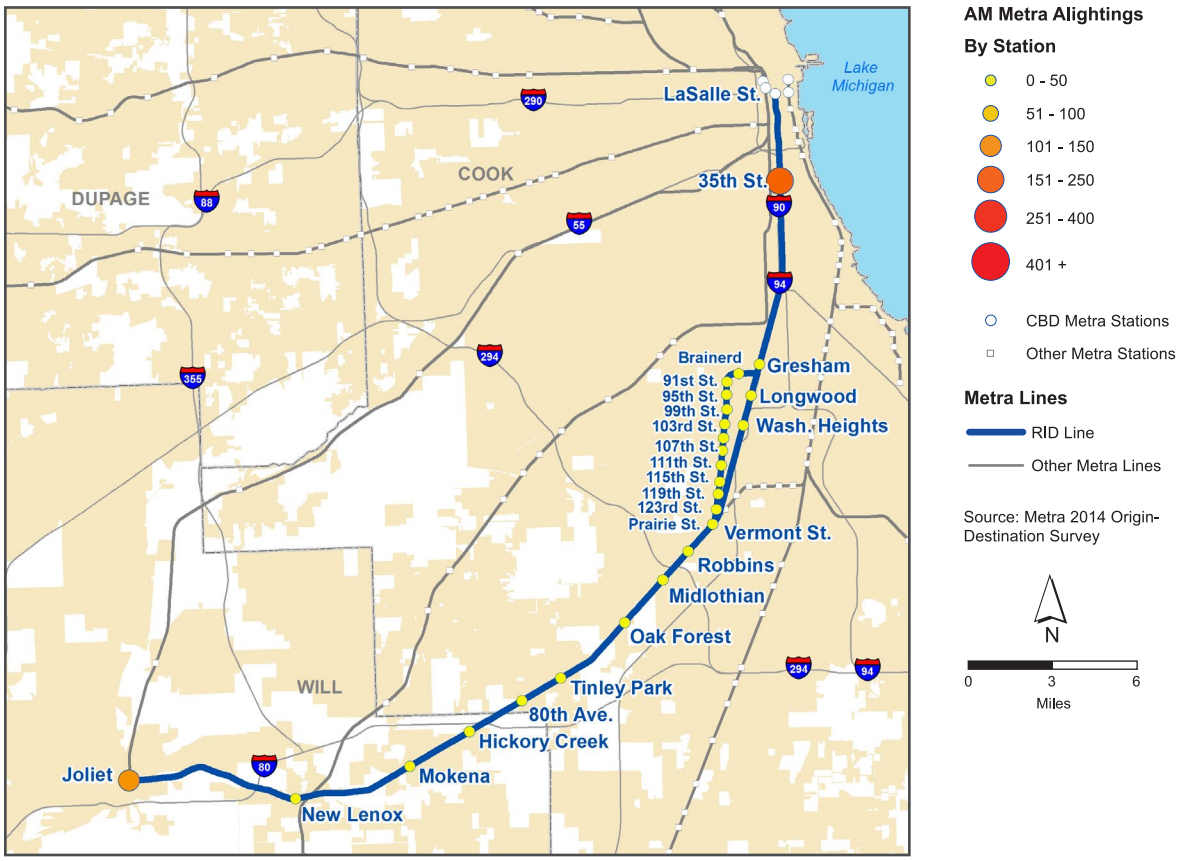
## REVERSE COMMUTE AND NON-DOWNTOWN MARKETS

Although Metra's primary market involves commuters who follow the traditional suburb-to-CBD trip pattern, in recent years Metra has seen a demand for city-to-suburb reverse-commute options (Metra's primary commuter market is discussed in the Central Business District Market chapter). This market is not as significant for the RID, which still retains the traditional suburb-to-CBD trip pattern. According to Metra's 2014 Boarding and Alighting Count, only 1.7% of AM peak-period boardings on the RID are in the reverse (outbound) direction, significantly lower than the system average of 6.5%. However, the 35th/"Lou Jones" station, which opened in 2011, is one of only 14 outlying stations in Metra's system where alightings exceed boardings during the AM peak. The station experiences significant

traffic from riders traveling to nearby destinations such as the Illinois Institute of Technology or U.S. Cellular Field, or those transferring to or from the CTA Red Line station located one block away. Figure 3 shows AM alightings at non-CBD RID stations.

Factors that increase reverse-commute trip patterns are the growth of employment in the suburbs as well as the growth of population in the city and inner ring suburbs (Tables 3, 4, and 5). As mentioned earlier, employment along the RID corridor is expected to increase 51% between 2010 and 2040. However, projected employment growth is not evenly distributed. While expected in all Metra station marketsheds, projected employment growth is greatest in far southwest Cook County and Will County communities. Joliet, at the end of the RID Line, is Illinois' fourth-largest city and was one of the fastest growing cities in the state between 2000 and 2010. Areas near the New Lenox, Hickory Creek and Mokena Stations, just east of Joliet, also expect significant gains in employment and population. Meanwhile, population growth of 28% is forecast for the marketshed zone closest to downtown Chicago (Fare Zone A). Though employment in these marketsheds is projected to increase 21%, some residents may need to commute to suburban job centers near the RID.

## FIGURE 3: AM ALIGHTINGS AT NON-CBD RID STATIONS



## TABLE 6: MAJOR TRIP GENERATORS IN THE RID CORRIDOR

| Generator Type | Name | Comments | Municipality |
|---|---|---|---|
| **Airports** | Joliet Regional Airport | General aviation | Joliet |
| **Colleges and Universities** | Illinois Institute of Technology | 6,900 students | Chicago |
| | St. Xavier University | 5,000 students | Chicago |
| | University of Illinois at Chicago | 25,000 students | Chicago |
| | DeVry University | 1,500 students | Tinley Park |
| | Moraine Valley Community College | Southwest Education Center auxiliary campus | Tinley Park |
| | Joliet Junior College | 22,000 students | Joliet |
| | University of St. Francis | 1,300 students | Joliet |
| **Culture and Entertainment** | U.S. Cellular Field | Chicago White Sox baseball stadium; capacity 41,000 | Chicago |
| | First Midwest Bank Amphitheater | Concert venue; capacity 28,000 | Tinley Park |
| | Chicagoland Speedway/Route 66 Raceway | NASCAR racetrack; capacity 75,000 | Joliet |
| | Harrah's Joliet Hotel & Casino | Riverboat casino & hotel; 200 rooms | Joliet |
| | Hollywood Casino Joliet | Riverboat casino; 1,000 employees | Joliet |
| | Rialto Square Theater | Performing arts venue; capacity 2,000 | Joliet |
| | Silver Cross Field | Joliet Slammers baseball stadium; capacity 6,900 | Joliet |
| **Shopping*** | Orland Square Mall | 140 stores, 4 anchors | Orland Park |
| | Louis Joliet Mall | 120 stores, 4 anchors | Joliet |
| **Government** | Cook County District 6 Courthouse | Cook County circuit court suburban location | Markham |
| | City of Joliet | City adminstrative offices; 900 employees | Joliet |
| | Stateville Correctional Center | 1,300 employees | Joliet |
| | Will County Government/ Courthouse | County adminstrative offices and courthouse; 1,900 employees | Joliet |
| **Hospitals** | Little Company of Mary Hospital | 494 beds; 1,700 employees | Evergreen Park |
| | Metro South Medical Center | 244 beds; 1,300 employees | Blue Island |
| | Cook County Oak Forest Hospital | 213 beds; 787 employees | Oak Forest |
| | Silver Cross Hospital | 289 beds; 1,900 employees | New Lenox |
| | Provena St. Joseph Medical Center | 480 beds; 2,300 employees | Joliet |
| **Top Private Employers** | Comcast | Telecommunications firm call center; 500 employees | Tinley Park |
| | Midwest Suburban Publishing | Newspaper publisher, direct marketer; 550 employees | Tinley Park |
| | Panduit Corporation | HQ of electrical component manufacturer; 600 employees | Tinley Park |
| | V.J. Mattson Company | Steel fabricator; 800 employees | Mokena |
| | Caterpillar, Inc. | Heavy equipment manufacturer; 1,100 employees | Joliet |
| | Commonwealth Edison | Electrical utility; 2,500 employees | Joliet |

*Significant shopping areas exist at several stations along the line.

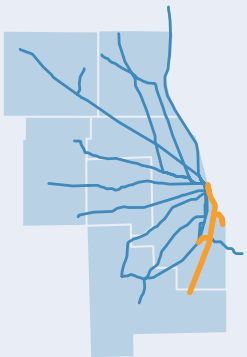

*LaSalle Street Station*


*Millennium Station*
*Photo: David Wilson*

# METRA ELECTRIC DISTRICT LINE

## EXISTING SERVICE AND CONDITIONS

The **Metra Electric District (MED) Line** extends nearly 32 miles south from Millennium Station in downtown Chicago to Chicago's south side and southern suburbs in Cook and Will Counties (see Figure 1), terminating in University Park. A 4.7-mile double-track branch leaves the main line at 67th Street in Chicago, extending east and south to serve the South Shore and South Chicago neighborhoods, terminating at the 93rd Street Station. For much of its length, the South Chicago Branch runs in a street median, and the branch is the only segment of Metra's system to terminate within the city limits of Chicago. In addition, a 4.4-mile single-track branch extends west from 121st Street to Blue Island.



Both the Blue Island and South Chicago Branches are served by through trains to Millennium Station, which run during morning and afternoon peak periods as well as midday. In the early morning and late evening, passengers on the Blue Island Branch transfer to main line trains at the Kensington/115th

Street Station, and South Chicago Branch riders transfer to the main line at the 63rd Street or 59th Street Stations. Train schedules are coordinated to facilitate these transfers. The 59th Street and 55th-56th-57th Street Stations in Hyde Park as well as the Kensington/115th Station are frequent transfer points for main line riders who need to transfer between express and local trains. An additional transfer point is the Blue Island Station, where riders can transfer to or from the Rock Island District at the adjacent Vermont Street Station. Service on the MED is offered seven days a week, except for the Blue Island Branch, which is not served on Sundays.

From Millennium Station to 115th Street, MED tracks are shared with South Shore Line commuter trains operated by the Northern Indiana Commuter Transportation District (NICTD), and South Shore trains stop at six MED stations in this portion of the route. However, to avoid competition with MED service, passengers may not board inbound South Shore trains from 63rd Street to Millennium Station, and outbound South Shore passengers may not disembark at these stations. South of 115th Street, the South Shore Line diverges from the MED onto its own tracks, traveling to Chicago's Hegewisch neighborhood and through northern Indiana, terminating in South Bend, Indiana.

2014 Average trip length:
**19.9 miles**

2014 Average fare paid:
**$3.50**

*Source: Ridership Trends Report, Dec. 2014*

Number of Stations:
**49**

Route Length*:
**40.6 miles**

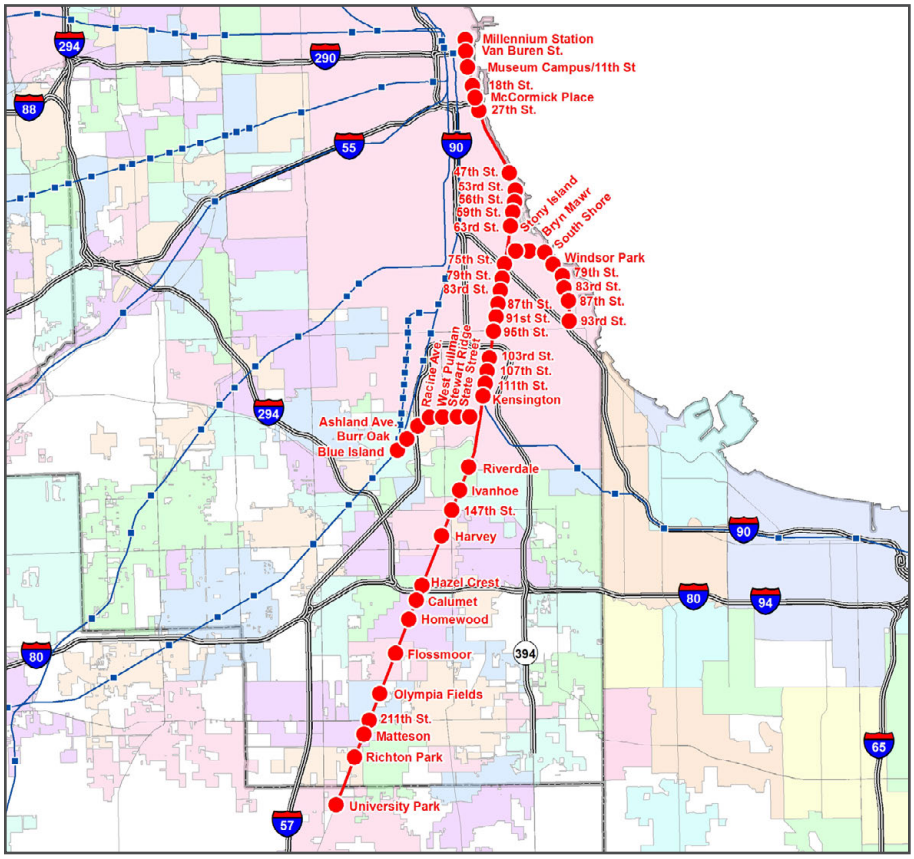
Number of weekday trains:
**170**

2014 On-time performance**:
**97.5%**

**31.5-mile Main Line, 4.4-mile Blue Island Branch, and 4.7-mile South Chicago Branch*

*** On-time Performance Report, Dec. 2014*

## FIGURE 1: METRA STATIONS ON THE MED LINE



Unique among Metra lines, the MED is served by two downtown stations: Millennium Station, located between Randolph Street and South Water Street, and Van Buren Street Station, less than a mile to the south. Among riders utilizing the two stations, approximately three-quarters use Millennium Station, with the remainder using Van Buren Street. The MED has the highest number of stations of any line in the Metra system, and is served by the highest number of trains. In 2014, passenger trips on the MED totaled 9.4 million, ranking third among all Metra lines.

Table 1 details the service, station, and ridership characteristics of the MED.

A number of unique features distinguish the MED from Metra's ten other lines:

1. MED trainsets consist of bi-level electric self-propelled coaches, called electric-multiple units (EMUs), that draw power from a dedicated overhead catenary wire system. Because of this, MED trains accelerate faster and run more quietly than the diesel locomotives and unpowered coaches used elsewhere in Metra's system.
2. The MED main line is grade-separated from intersecting streets and highways and its tracks are segregated from freight and Amtrak service on adjacent track. This increases safety and reduces delays.
3. All stations are built with high-level platforms. This means that passengers do not climb steps from the platform to board train cars, which reduces station dwell time.
4. Most stations are unstaffed and tickets are purchased from vending machines.
5. Saturday schedules are similar to weekday schedules, and the MED has the most Saturday service of any line in the Metra system. Express service is available on many midday, Saturday, and reverse-commute trips, in addition to peak-period peak-direction trips.

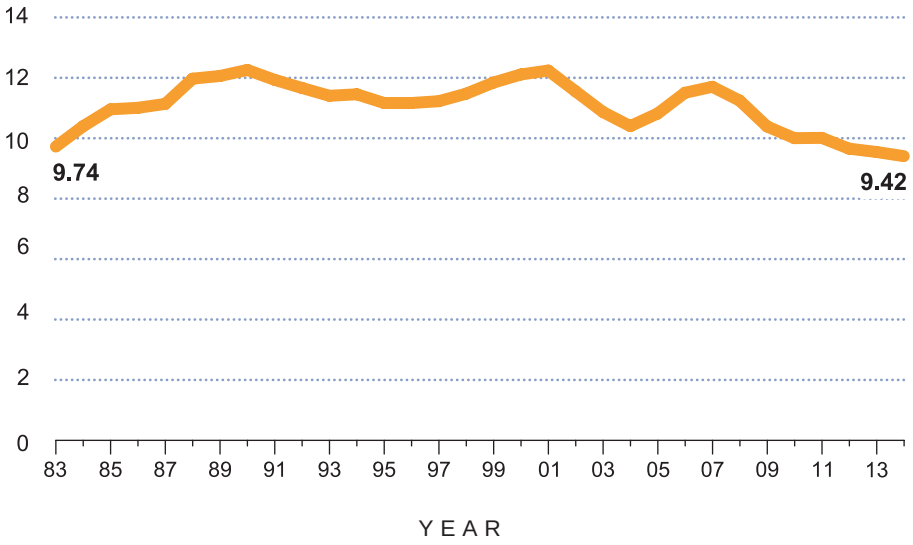
In 1856, the Illinois Central Railroad (IC) initiated commuter rail service on what is now the MED main line. The success of this service led to the construction of the South Chicago and Blue Island Branches in 1883 and 1892, respectively. The main line and both branches were converted to electric power in 1926 after passage of a City of Chicago ordinance requiring IC to electrify its operations in order to eliminate coal emissions from steam engines along the lakefront. Grade separation of the main line from Richton Park to the Chicago terminal coincided with electrification. The line was extended to its current terminus at University Park in 1977, one year after RTA began subsidizing IC commuter service. In 2001, the South Chicago Branch terminus at 91st Street was relocated to 93rd Street so that commuter parking could be provided. IC—then known as Illinois Central Gulf—sold its commuter rail operations, equipment, and right-of-way to Metra in 1987.

## TABLE 1A: 2014 MED WEEKDAY BOARDINGS

| Time of Day | Inbound | Outbound |
|---|---|---|
| AM Peak | 12,107 | 638 |
| Midday | 2,384 | 2,172 |
| PM Peak | 883 | 11,184 |
| Evening | 467 | 1,503 |
| **TOTAL** | **15,841** | **15,497** |

*Source: Metra Weekday Station Boardings and Alightings by Time-of-Day and Direction, 2014*

## TABLE 1B: MED ANNUAL PASSENGER TRIPS
1983 — 2014, in millions




*Note: Excludes South Shore. From 2008, figures include free Circuit Permit trips. 2008-2011 figures include free senior trips; this program ended September 2011.*

## TABLE 1C: MED STATION CHARACTERISTICS

| Station | Fare Zone | Mile Post | Accessibility[1] | Boardings | | Station Parking (2014) | | | Time to Chicago (minutes)[1] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1983[2] | 2014[3] | Capacity (Spaces)[4] | Effective Use[5] | Observed Use[6] | Shortest Trip | Longest Trip |
| **MAIN LINE** | | | | | | | | | | |
| Millennium Station | A | 0.0 | Full | 12,112 | 10,353 | 0 | n/a | n/a | -- | -- |
| Van Buren St. | A | 0.8 | Full | 5,151 | 3,422 | 0 | n/a | n/a | -- | 3 |
| Museum Campus/11th | A | 1.4 | Full | 365 | 429 | 0 | n/a | n/a | -- | 5 |
| 18th St. | A | 2.2 | None | 19 | 41 | 0 | n/a | n/a | -- | 7 |
| McCormick Place | A | 2.7 | Full | 171 | 92 | 0 | n/a | n/a | -- | 8 |
| 27th St. | A | 3.2 | None | 77 | 46 | 0 | n/a | n/a | -- | 10 |
| 47th St./Kenwood | B | 5.9 | None | 18 | 94 | 0 | n/a | n/a | -- | 13 |
| 51st/53rd Hyde Park | B | 6.5 | Full | 427 | 496 | 0 | n/a | n/a | -- | 14 |
| 55th-56th-57th St. | B | 7.0 | Full | 533 | 1,677 | 53 | 91% | 91% | 15 | 16 |
| 59th/Univ. of Chicago | B | 7.4 | None | 513 | 484 | 126 | 81% | 81% | 16 | 18 |
| 63rd St. | B | 7.9 | None | 109 | 154 | 0 | n/a | n/a | 18 | 20 |
| 75th/Grand Crossing | B | 9.3 | None | 61 | 15 | 0 | n/a | n/a | 22 | 23 |
| 79th St./Chatham | B | 10.0 | None | 70 | 57 | 27 | 26% | 26% | 24 | 25 |
| 83rd St./Avalon Park | C | 10.4 | None | 46 | 50 | 0 | n/a | n/a | 25 | 26 |
| 87th St./Woodruff | C | 10.9 | None | 41 | 56 | 15 | 73% | 73% | 26 | 28 |
| 91st St./Chesterfield | C | 11.4 | None | 30 | 26 | 0 | n/a | n/a | 28 | 30 |
| 95th/Chicago St. Univ. | C | 12.0 | None | 17 | 43 | 0 | n/a | n/a | 30 | 31 |
| 103rd St./Rosemoor | C | 13.0 | None | 17 | 43 | 38 | 32% | 32% | 31 | 33 |
| 107th St. | C | 13.5 | None | 18 | 31 | 0 | n/a | n/a | 33 | 35 |
| 111th St./Pullman | C | 14.0 | None | 46 | 19 | 0 | n/a | n/a | 34 | 36 |
| Kensington/115th St. | C | 14.5 | Full | 840 | 1,081 | 362 | 83% | 83% | 25 | 38 |
| Riverdale | D | 17.3 | None | 747 | 201 | 259 | 27% | 27% | 30 | 43 |
| Ivanhoe | D | 18.2 | Full | 1,529 | 697 | 462 | 76% | 64% | 32 | 45 |
| 147th St./Sibley Blvd. | D | 19.0 | None | 990 | 1,060 | 1,121 | 60% | 60% | 34 | 47 |
| Harvey | D | 20.0 | Full | 1,229 | 640 | 875 | 34% | 34% | 36 | 49 |
| Hazel Crest | E | 22.3 | None | 610 | 379 | 140 | 100% | 72% | 33 | 52 |
| Calumet | E | 22.8 | Full | 764 | 1,187 | 1,184 | 92% | 78% | 36 | 54 |
| Homewood | E | 23.5 | Full | 1,602 | 1,244 | 522 | 94% | 85% | 39 | 56 |
| Flossmoor | E | 24.9 | Full | 1,273 | 830 | 275 | 100% | 87% | 42 | 58 |
| Olympia Fields | F | 26.6 | None | 265 | 665 | 504 | 86% | 86% | 38 | 61 |
| 211th St./Lincoln Hwy. | F | 27.6 | Full | 796 | 855 | 694 | 66% | 66% | 41 | 64 |
| Matteson | F | 28.2 | None | 1,080 | 592 | 753 | 48% | 48% | 43 | 66 |
| Richton Park | F | 29.3 | Full | 1,140 | 1,315 | 1,047 | 69% | 58% | 46 | 69 |
| University Park | G | 31.5 | Full | 411 | 939 | 1,066 | 62% | 57% | 51 | 72 |

## TABLE 1C: MED STATION CHARACTERISTICS (continued)

| Station | Fare Zone | Mile Post | Accessibility[1] | Boardings | | Station Parking (2014) | | | Time to Chicago (minutes)[1] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1983[2] | 2014[3] | Capacity (Spaces)[4] | Effective Use[5] | Observed Use[6] | Shortest Trip | Longest Trip |
| **SOUTH CHICAGO BRANCH** | | | | | | | | | | |
| Stony Island | B | 9.1 | Full | 175 | 161 | 0 | n/a | n/a | 23 | 25 |
| Bryn Mawr | B | 9.7 | Full | 153 | 88 | 0 | n/a | n/a | 25 | 27 |
| South Shore | B | 10.3 | Full | 349 | 179 | 9 | 56% | 56% | 27 | 29 |
| Windsor Park | B | 10.9 | Full | 266 | 100 | 27 | 7% | 7% | 29 | 31 |
| Cheltenham/79th St. | B | 11.5 | Full | 232 | 79 | 13 | 62% | 62% | 31 | 33 |
| 83rd St. | B | 12.0 | Full | 417 | 113 | 33 | 36% | 36% | 33 | 35 |
| 87th St. | B | 12.5 | Full | 211 | 117 | 40 | 73% | 73% | 35 | 37 |
| 93rd/South Chicago | B | 13.2 | Full | 635 | 652 | 702 | 31% | 31% | 38 | 40 |
| **BLUE ISLAND BRANCH** | | | | | | | | | | |
| State St. | D | 15.6 | None | 51 | 54 | 0 | n/a | n/a | 31 | 45 |
| Stewart Ridge | D | 16.0 | None | 48 | 37 | 0 | n/a | n/a | 33 | 47 |
| West Pullman | D | 16.7 | None | 57 | 21 | 27 | 0% | 0% | 35 | 49 |
| Racine Ave. | D | 17.0 | None | 41 | 33 | 29 | 38% | 38% | 36 | 51 |
| Ashland Ave. | D | 17.9 | None | 166 | 98 | 89 | 52% | 52% | 38 | 52 |
| Burr Oak | D | 18.4 | None | 350 | 124 | 60 | 107% | 107% | 40 | 54 |
| Blue Island | D | 18.9 | Full | 393 | 169 | 847 | 46% | 46% | 42 | 56 |
| **MED TOTAL** | | | | **36,661** | **31,338** | **11,399** | **64%** | **59%** | | |

[1] Metra Electric District Schedule
[2] Metra 1983 Boarding/Alighting Counts
[3] Metra, "Commuter Rail System Station Boarding/Alighting Counts," Spring 2014
[4] Metra Station Parking Capacity and Use
[5] Effective use: all sold permit spaces are assumed to be used, even if unoccupied during parking survey
[6] Observed use: spaces physically occupied during parking survey

## TABLE 1D: MODE OF ACCESS AT MED METRA STATIONS

| Station Name | Walk/Bike | Drive/Carpool Driver | Carpool Passenger/ Dropped Off | Transit | Other |
|---|---|---|---|---|---|
| **MAIN LINE** | | | | | |
| Millennium Station | 66% | 4% | 4% | 23% | 3% |
| Van Buren St. | 60% | 2% | 11% | 26% | 2% |
| Museum Campus/11th St. | 86% | 5% | 0% | 5% | 5% |
| 18th St. | 100% | 0% | 0% | 0% | 0% |
| McCormick Place[1] | 67% | 0% | 0% | 33% | 0% |
| 27th St. | 100% | 0% | 0% | 0% | 0% |
| 47th St./Kenwood | 79% | 14% | 0% | 7% | 0% |
| 51st/53rd St. Hyde Park | 94% | 4% | 2% | 0% | 0% |
| 55th-56th-57th St. | 68% | 20% | 4% | 6% | 2% |
| 59th St./Univ. of Chicago | 42% | 40% | 7% | 11% | 0% |
| 63rd St. | 38% | 57% | 2% | 3% | 0% |
| 75th St./Grand Crossing[1] | 75% | 0% | 25% | 0% | 0% |
| 79th St./Chatham[1] | 46% | 42% | 8% | 4% | 0% |
| 83rd St./Avalon Park | 68% | 19% | 14% | 0% | 0% |
| 87th St./Woodruff | 33% | 45% | 15% | 6% | 0% |
| 91st St./Chesterfield[1] | 47% | 53% | 0% | 0% | 0% |
| 95th St./Chicago State Univ.[1] | 18% | 36% | 45% | 0% | 0% |
| 103rd St./Rosemoor[1] | 50% | 25% | 25% | 0% | 0% |
| 107th St. | 83% | 0% | 17% | 0% | 0% |
| 111th St./Pullman | 81% | 13% | 0% | 6% | 0% |
| Kensington/115th St. | 13% | 63% | 17% | 7% | 1% |
| Riverdale | 35% | 48% | 17% | 0% | 0% |
| Ivanhoe | 26% | 53% | 20% | 0% | 1% |
| 147th St./Sibley Blvd. | 3% | 71% | 21% | 5% | 0% |
| Harvey | 8% | 65% | 20% | 6% | 0% |
| Hazel Crest | 12% | 65% | 22% | 1% | 0% |
| Calumet | 3% | 84% | 12% | 0% | 0% |
| Homewood | 22% | 46% | 31% | 0% | 1% |
| Flossmoor | 30% | 40% | 29% | 0% | 0% |
| Olympia Fields | 7% | 78% | 15% | 0% | 0% |
| 211th St./Lincoln Hwy. | 7% | 64% | 26% | 3% | 0% |
| Matteson | 16% | 69% | 15% | 0% | 0% |
| Richton Park | 17% | 58% | 22% | 2% | 0% |
| University Park | 1% | 81% | 12% | 2% | 4% |

## TABLE 1D: MODE OF ACCESS AT MED METRA STATIONS (continued)

| Station Name | Walk/Bike | Drive/Carpool Driver | Carpool Passenger/ Dropped Off | Transit | Other |
|---|---|---|---|---|---|
| **SOUTH CHICAGO BRANCH** | | | | | |
| Stony Island | 57% | 24% | 15% | 3% | 1% |
| Bryn Mawr | 84% | 8% | 3% | 5% | 0% |
| South Shore | 80% | 16% | 4% | 0% | 0% |
| Windsor Park | 78% | 15% | 3% | 5% | 0% |
| Cheltenham/79th St. | 81% | 8% | 8% | 3% | 0% |
| 83rd St. | 70% | 22% | 7% | 0% | 0% |
| 87th St. | 48% | 38% | 13% | 0% | 2% |
| 93rd/South Chicago | 15% | 59% | 24% | 2% | 0% |
| **BLUE ISLAND BRANCH** | | | | | |
| State St. | 82% | 4% | 7% | 4% | 4% |
| Stewart Ridge[1] | 67% | 19% | 14% | 0% | 0% |
| West Pullman[1] | 36% | 9% | 45% | 9% | 0% |
| Racine Ave.[1] | 55% | 25% | 20% | 0% | 0% |
| Ashland Ave. | 34% | 52% | 13% | 0% | 2% |
| Burr Oak | 27% | 63% | 10% | 0% | 0% |
| Blue Island | 17% | 35% | 14% | 33% | 2% |
| **MED TOTAL[2]** | **23%** | **55%** | **18%** | **3%** | **1%** |
| **SYSTEM TOTAL** | **25%** | **52%** | **17%** | **3%** | **3%** |

[1] Data not statistically significant due to number of survey responses received
[2] Line total does not include downtown terminals (Millennium and Van Buren Street)

*Source: Metra, Spring 2014 Origin-Destination Survey*

The freight tracks that parallel the MED main line between McCormick Place and University Park are now owned by Canadian National (CN). Although CN has trackage rights to serve industries located on Metra's corridor, no freight trains currently operate on the MED itself. The CN tracks are also used by Amtrak trains to Carbondale and New Orleans, and passengers can transfer between MED and Amtrak trains at Homewood Station. (However, passengers not transferring to other Amtrak trains in Chicago cannot board northbound Amtrak trains at Homewood, to avoid competition with Metra service.)

Most midday servicing of the MED fleet takes place at the 18th Street MU Facility (also known as Weldon Yard), located near Soldier Field. Inspections and mechanical work are performed at Kensington Yard (also known as "KYD"), located south of the Kensington/115th Station, or at 18th Street. Most main line trainsets are stored overnight at Richton Yard with a small number of additional trainsets held at the end of the line in University Park. Rolling stock serving the Blue Island Branch is stored at the Vermont Street terminal, and South Chicago Branch trainsets are stored at Millennium Station.

TABLE 2: METRA CAPITAL INVESTMENT HISTORY
1985 — June 2015, in millions of dollars

| Asset | MED | System |
|---|---|---|
| Rolling stock | $857 | $2,449 |
| Track and structure | 91 | 1,329 |
| Signal, electrical, and mechanical | 170 | 777 |
| Facilities and equipment | 126 | 548 |
| Stations and parking | 229 | 1,084 |
| Acquisitions, extensions, and expansions | 17 | 599 |
| Support activities | 77 | 348 |
| **TOTAL** | **$1,567** | **$7,134** |
| **PERCENTAGE** | **22.0%** | **100.0%** |

*Notes: 1) Excludes South Shore, preventative maintenance, new lines, and pending grants. 2) Prior expenses are not adjusted for subsequent inflation. 3) Data is subject to budget revisions, audit adjustments, etc. at any time. 4) For many projects, work locations and associated costs have not been identified, so budget amounts have been allocated among lines by various criteria.*

## IMPROVEMENTS SINCE THE START OF METRA

Since 1985, Metra has invested over $1.5 billion (in year of expenditure dollars) in improvements to the MED corridor. The MED consumed 22% of Metra's total capital spending during that time. In addition to the track, signal, and other components found on Metra's diesel lines, operation of the MED depends on an extensive electrical infrastructure, which accounts for the line's increased capital needs. Indeed, the overhead catenary and other elements of the MED's power supply have been likened to a "second railroad" requiring ongoing investment.

Table 2 indicates the amount of investment in different asset categories. The amounts shown reflect the cost of replacing interlockings at 67th Street, Kensington, and the Millennium Station terminal, upgrading customer and operations communications systems, and replacing the entire MED railcar fleet. In addition, Metra has completed improvements at a number of MED stations since 1985 (see right).

Until 2006, when 26 new EMUs entered service, the entire MED fleet dated from the 1970s , and had been inherited from the IC. Replacing the MED fleet was a long-time agency priority, and in 2010, the State of Illinois committed $585 million in Bond Program funds to purchase 160 new EMUs. From fall of 2012 until early 2016, four to six new EMUs arrived from the Rochelle, Illinois plant each month, and old cars were retired.

Half of the new cars are equipped with restrooms, an amenity missing from the retired EMUs. The new cars use the latest technology and include a variety of new features, including larger windows, better seats with reversible seatbacks, brighter lighting, an improved public address system, and power outlets for customer use. The new EMUs are made of stainless steel and use alternating current (AC) propulsion, which supplies more power and requires less maintenance than the direct current (DC) cars they replaced.

In the last 20 years, numerous adjustments have been made to the MED's schedule, increasing midday service on the main line, reducing crowding during peaks, adding through-trains to Millennium Station from the branch lines, improving transfer opportunities, and improving efficiency.

Approximately 86% of MED boardings take place at stations that are in compliance with the accessibility requirements of the Americans with Disabilities Act (ADA). Metra's station compliance program started with designating nine of the busiest MED stations, including Millennium Station (formerly Randolph Street Station) in downtown Chicago, as "key stations," all of which were made fully accessible by 2007. Since 1985, Metra has completed access improvements at a number of non-downtown MED stations, and 22 non-downtown stations on the line are fully accessible to disabled riders. Metra will bring the remaining stations into full ADA

**Depots and warming houses constructed since 1985 at:**

47th/Kenwood
53rd/Hyde Park
55th-56th-57th Street
83rd Street (South Chicago)
87th Street (South Chicago)
93rd/South Chicago
Blue Island
Bryn Mawr
Calumet
Cheltenham/79th
Flossmoor
Harvey
Hazel Crest
Homewood
Ivanhoe
Kensington/115th
Matteson
McCormick Place
Millennium Station
Museum Campus/11th
Olympia Fields
Richton Park
Riverdale
South Shore
Stony Island
University Park
Van Buren Street
Windsor Park

**Other significant improvements completed since 1985 at:**

95th/Chicago State University
211th/Lincoln Highway

**Improvements planned for:**

59th/Univ. of Chicago
63rd Street
Ashland Ave.
Burr Oak
Hazel Crest
Millennium Station *(South Water Street entrance)*
Racine
Van Buren Street

compliance as they are rehabilitated, so that eventually all will be accessible. It should be noted that although the high-level platforms and grade-separated right-of-way on the MED facilitate speed and reliability, these features complicate track maintenance and station improvement projects, resulting in higher costs.

## PRESENT AND FUTURE DEMAND

In 2014, over 31,000 boardings took place each weekday on the MED, with nearly 75% of boardings occurring on peak-period, peak-direction trains. MED ridership has decreased 15% since 1983 (see Table 1c). Of outlying stations within the City of Chicago, 40% of boardings occur at the three Hyde Park Stations (51st/53rd Street, 55th-56th-57th Street, and 59th Street), which serve as both origin and destination stations due to nearby residential development and institutional complexes. An additional 16% occurs at Kensington/115th, where express service provides a sub-regional draw, and another 10% of boardings at outlying Chicago stations occur at the 93rd Street endpoint of the South Chicago Branch, which serves a portion of Chicago isolated

FIGURE 2A: ORIGINS OF RIDERS USING NON-CBD MED STATIONS

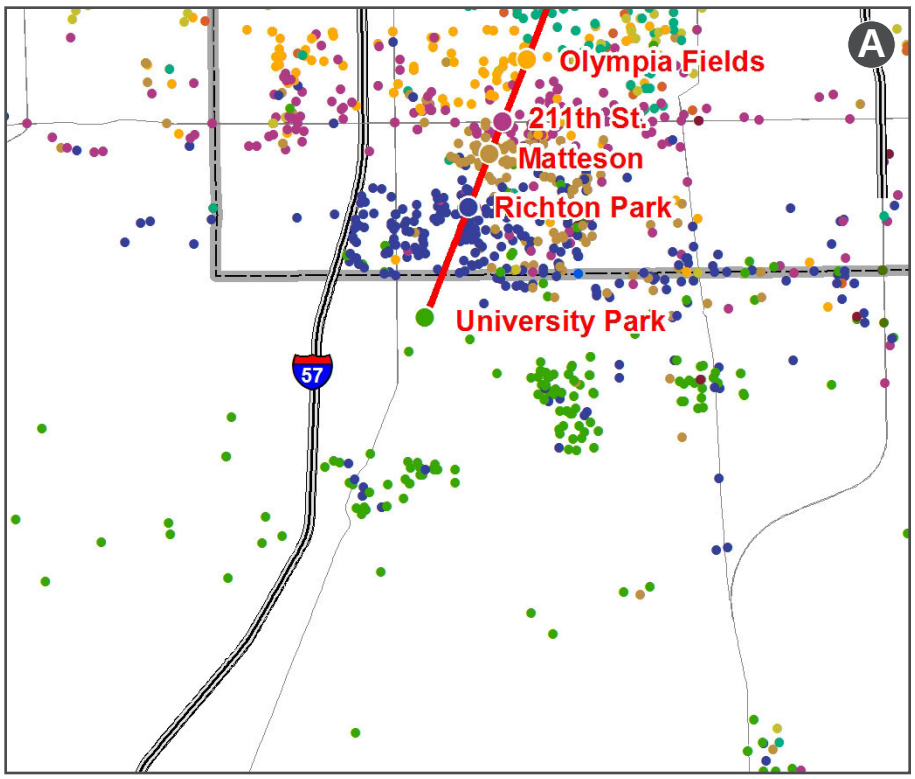


FIGURE 2B: ORIGINS OF RIDERS USING NON-CBD MED STATIONS

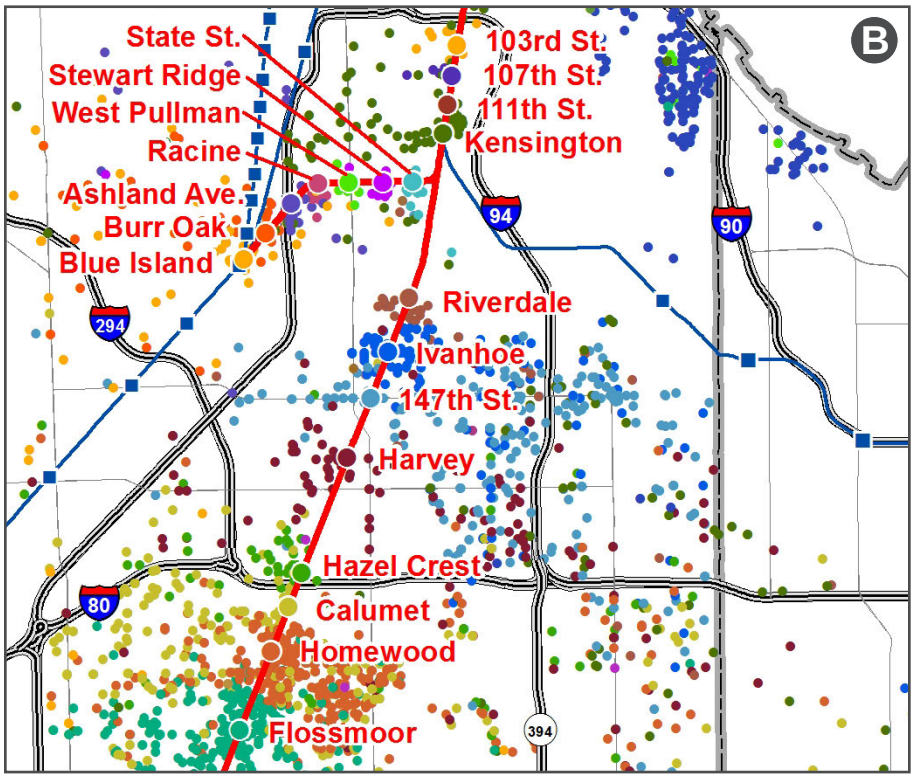
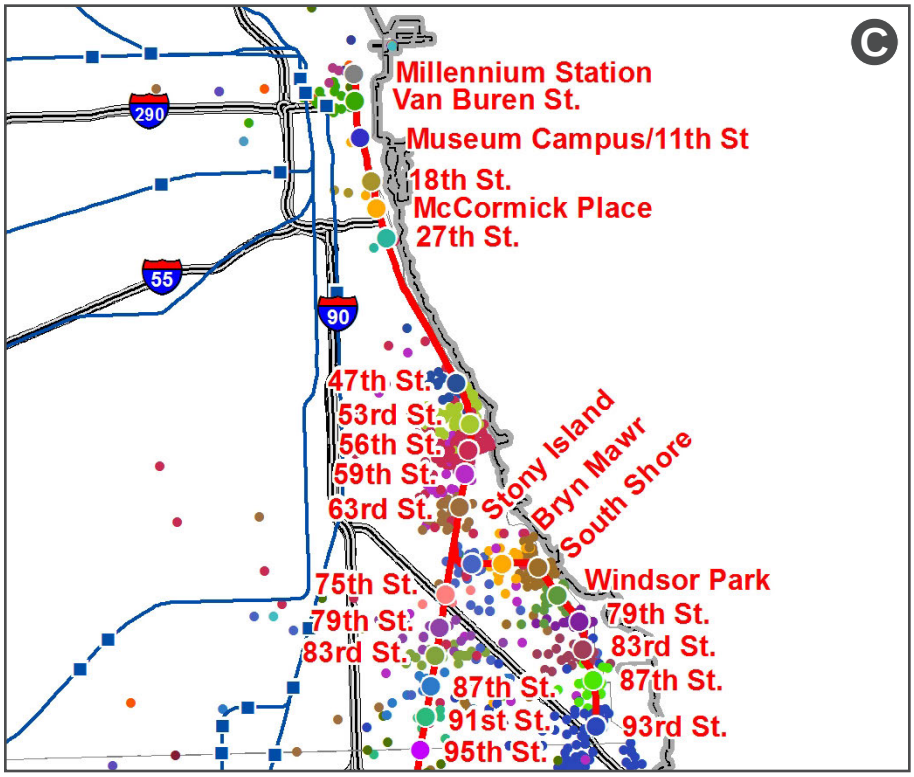
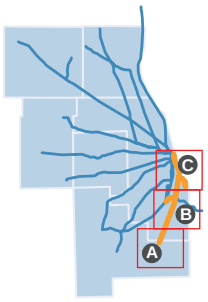



FIGURE 2C: ORIGINS OF RIDERS USING NON-CBD MED STATIONS




**Metra Lines**

MED Line

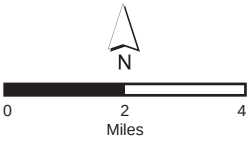
Other Metra Lines

**Major Roads**

Expressways

U.S./State Highways

Source: Metra 2014 Origin-Destination Survey



from Chicago Transit Authority rail alternatives and has ample commuter parking available to serve a larger area. While many areas along the MED have struggled to maintain the levels of ridership levels experienced in previous decades, the MED riders still represent a significant portion of Metra's customer base. Overall passenger ridership on the MED Line totaled 9.4 million in 2014, the third-highest of Metra's 11 lines. Figure 2 shows the origins of MED riders using stations outside the Central Business District (CBD).

Of all Metra lines, the MED has the greatest number of stations located within the City of Chicago, and many of these stations have no identified commuter parking (see Table 1c). Still, nearly 11,400 parking spaces serve the riders of the MED. According to parking counts conducted in 2014, the average effective rate of utilization at all stations on the line is 64%. At seven stations, effective occupancy exceeds 85%, Metra's threshold to determine if a station is in need of additional parking.

Due to anticipated residential growth in the MED corridor, the demand for commuter parking—and Metra service in general—is expected to grow. Tables 3, 4, and 5 show that although population and employment has declined in much of the corridor in recent years, demographic forecasts anticipate significant growth along the line by 2040. The Chicago Metropolitan Agency for Planning (CMAP) forecasts that the MED corridor will attract nearly 285,000 new residents between 2010 and 2040, a 32% increase. Over 167,000 jobs will be added, a 43% rise.

Population and household growth in the MED marketshed zone closest to the CBD (Fare Zone A), which was rapid between 2000 and 2010, is expected to taper off, though employment growth is expected to remain strong until 2040. By 2040, employment is expected to increase substantially from the far South Side of Chicago to University Park. However, CMAP forecasts that, by 2040, the number of jobs in the MED marketshed zone closest to the CBD will be close to the number in all other MED marketsheds combined. Population and household growth is expected to be strongest in the marketsheds near the southern end of the MED, from Olympia Fields to University Park.

## TABLE 3: MED CORRIDOR POPULATION

| Station | Fare Zone | Area Sq. Mi. | Population in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Millennium Station, Van Buren St., Museum Campus/11th, 18th St., McCormick Place, 27th St. | A | 8.6 | 90,081 | 117,733 | 125,207 | 23.5% | 6.3% |
| 47th/Kenwood, 51st/53rd Hyde Park, 55th-56th-57th, 59th/Univ. of Chicago, 63rd St., 75th/Grand Crossing, 79th/Chatham *(Main Line)* | B | 14.6 | 177,630 | 159,209 | 193,767 | -11.6% | 21.7% |
| Stony Island, Bryn Mawr, South Shore, Windsor Park, Cheltenham/79th, 83rd St., 87th St., 93rd/ South Chicago *(South Chicago Branch)* | B | 14.8 | 137,725 | 120,021 | 150,979 | -14.8% | 25.8% |
| **ZONE SUBTOTAL** | **B** | **29.4** | **315,355** | **279,230** | **344,746** | **-12.9%** | **23.5%** |
| 83rd/Avalon Park, 87th/Woodruff, 91st/ Chesterfield, 95th/Chicago St. Univ., 103rd/ Rosemoor, 107th St., 111th/ Pullman, Kensington/115th | C | 15.5 | 95,196 | 80,935 | 93,728 | -17.6% | 15.8% |
| Riverdale, Ivanhoe, 147th St./Sibley Blvd., Harvey *(Main Line)* | D | 24.4 | 106,224 | 94,450 | 118,910 | -12.5% | 25.9% |
| State St., Stewart Ridge, West Pullman, Racine Ave., Ashland Ave., Burr Oak, Blue Island *(Blue Island Branch)* | D | 7.4 | 50,282 | 42,683 | 52,695 | -17.8% | 23.5% |
| **ZONE SUBTOTAL** | **D** | **31.8** | **156,506** | **137,133** | **171,605** | **-14.1%** | **25.1%** |
| Hazel Crest, Calumet, Homewood, Flossmoor | E | 48.4 | 104,568 | 103,410 | 124,245 | -1.1% | 20.1% |
| Olympia Fields, 211th St./Lincoln Hwy., Matteson, Richton Park | F | 59.3 | 112,176 | 116,187 | 164,774 | 3.5% | 41.8% |
| University Park | G | 179.4 | 32,888 | 41,632 | 136,059 | 21.0% | 226.8% |
| **MED TOTAL** | | **372.4** | **906,770** | **876,260** | **1,160,364** | **-3.4%** | **32.4%** |
| **REGION TOTAL** | | **3,748.0** | **8,091,717** | **8,456,762** | **11,717,936** | **4.5%** | **38.6%** |

## TABLE 4: MED CORRIDOR HOUSEHOLDS

| Station | Fare Zone | Area Sq. Mi. | Households in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Millennium Station, Van Buren St., Museum Campus/11th, 18th St., McCormick Place, 27th St. | A | 8.6 | 54,602 | 67,408 | 74,036 | 23.5% | 9.8% |
| 47th/Kenwood, 51st/53rd Hyde Park, 55th-56th-57th, 59th/Univ. of Chicago, 63rd St., 75th/Grand Crossing, 79th/Chatham *(Main Line)* | B | 14.6 | 70,700 | 65,137 | 82,742 | -7.9% | 27.0% |
| Stony Island, Bryn Mawr, South Shore, Windsor Park, Cheltenham/79th, 83rd St., 87th St., 93rd/ South Chicago *(South Chicago Branch)* | B | 14.8 | 49,853 | 45,695 | 54,881 | -8.3% | 20.1% |
| **ZONE SUBTOTAL** | **B** | **29.4** | **120,553** | **110,832** | **137,623** | **-8.1%** | **24.2%** |
| 83rd/Avalon Park, 87th/Woodruff, 91st/ Chesterfield, 95th/Chicago St. Univ., 103rd/ Rosemoor, 107th St., 111th/ Pullman, Kensington/115th | C | 15.5 | 34,436 | 31,541 | 34,655 | -8.4% | 9.9% |
| Riverdale, Ivanhoe, 147th St./Sibley Blvd., Harvey *(Main Line)* | D | 24.4 | 34,802 | 31,344 | 39,597 | -9.9% | 26.3% |
| State St., Stewart Ridge, West Pullman, Racine Ave., Ashland Ave., Burr Oak, Blue Island *(Blue Island Branch)* | D | 7.4 | 15,597 | 14,251 | 16,697 | -8.6% | 17.2% |
| **ZONE SUBTOTAL** | **D** | **31.8** | **50,399** | **45,595** | **56,294** | **-9.5%** | **23.5%** |
| Hazel Crest, Calumet, Homewood, Flossmoor | E | 48.4 | 37,231 | 36,925 | 44,687 | -0.8% | 21.0% |
| Olympia Fields, 211th St./Lincoln Hwy., Matteson, Richton Park | F | 59.3 | 40,472 | 41,549 | 60,395 | 2.7% | 45.4% |
| University Park | G | 179.4 | 11,901 | 15,305 | 48,215 | 28.6% | 215.0% |
| **MED TOTAL** | | **372.4** | **349,594** | **349,155** | **455,905** | **-0.1%** | **30.6%** |
| **REGION TOTAL** | | **3,748.0** | **2,906,924** | **3,050,134** | **4,224,349** | **4.9%** | **38.5%** |

TABLE 3: MED CORRIDOR EMPLOYMENT

| Station | Fare Zone | Area Sq. Mi. | Employment in Zone | | | Percent Change | |
|---|---|---|---|---|---|---|---|
| | | | 2000 | 2010 | 2040 | 2000 vs 2010 | 2010 vs 2040 |
| Millennium Station, Van Buren St., Museum Campus/11th, 18th St., McCormick Place, 27th St. | A | 8.6 | 323,244 | 221,457 | 270,786 | -31.5% | 22.3% |
| 47th/Kenwood, 51st/53rd Hyde Park, 55th-56th-57th, 59th/Univ. of Chicago, 63rd St., 75th/Grand Crossing, 79th/Chatham *(Main Line)* | B | 14.6 | 20,231 | 41,750 | 45,992 | 106.4% | 10.2% |
| Stony Island, Bryn Mawr, South Shore, Windsor Park, Cheltenham/79th, 83rd St., 87th St., 93rd/ South Chicago *(South Chicago Branch)* | B | 14.8 | 7,666 | 8,612 | 19,923 | 12.3% | 131.3% |
| **ZONE SUBTOTAL** | **B** | **29.4** | **27,897** | **50,362** | **65,915** | **80.5%** | **30.9%** |
| 83rd/Avalon Park, 87th/Woodruff, 91st/ Chesterfield, 95th/Chicago St. Univ., 103rd/ Rosemoor, 107th St., 111th/ Pullman, Kensington/115th | C | 15.5 | 13,622 | 9,889 | 19,412 | -27.4% | 96.3% |
| Riverdale, Ivanhoe, 147th St./Sibley Blvd., Harvey *(Main Line)* | D | 24.4 | 32,400 | 25,517 | 35,873 | -21.2% | 40.6% |
| State St., Stewart Ridge, West Pullman, Racine Ave., Ashland Ave., Burr Oak, Blue Island *(Blue Island Branch)* | D | 7.4 | 5,198 | 5,436 | 11,169 | 4.6% | 105.5% |
| **ZONE SUBTOTAL** | **D** | **31.8** | **37,598** | **30,953** | **47,042** | **-17.7%** | **52.0%** |
| Hazel Crest, Calumet, Homewood, Flossmoor | E | 48.4 | 41,149 | 32,153 | 49,394 | -21.9% | 53.6% |
| Olympia Fields, 211th St./Lincoln Hwy., Matteson, Richton Park | F | 59.3 | 31,669 | 30,268 | 52,293 | -4.4% | 72.8% |
| University Park | G | 179.4 | 10,551 | 11,069 | 48,921 | 4.9% | 342.0% |
| **MED TOTAL** | | **372.4** | **485,730** | **386,151** | **553,763** | **-20.5%** | **43.4%** |
| **REGION TOTAL** | | **3,748.0** | **4,340,215** | **3,786,224** | **5,267,696** | **-12.8%** | **39.1%** |

## REVERSE COMMUTE AND NON-DOWNTOWN MARKETS

Although Metra's primary market involves commuters who follow the traditional suburb-to-CBD trip pattern, in recent years Metra has seen a demand for city-to-suburb reverse-commute options (Metra's primary commuter market is discussed in the Central Business District Market chapter). The shift of employment to suburban locations has left many commuters with limited transit accessibility to jobs. Figure 3 shows AM alightings at non-CBD MED stations.

According to Metra's 2014 Boarding and Alighting Count, 12% of AM peak-period MED riders alight at stations outside central Chicago (i.e., south of Millennium, Van Buren Street, and Museum Campus/11th). The three Hyde Park stations (51st/53rd Street, 55th-56th-57th Street, and 59th Street) account for 60% of MED AM peak-period alightings outside central Chicago, as riders travel to the University of Chicago and other destinations in the area. Approximately a third of these riders boarded at stations closer to the CBD, and traveled in the reverse-commute (outbound) direction. At 59th Street, a greater number of passengers using the station during the morning peak alight rather than board.

Metra's McCormick Place Station, located inside the convention center, is another MED station with non-traditional ridership, most notably that generated by major tradeshows staged at the center. To promote Metra as an alternative to shuttle buses and taxis for travel to downtown Chicago, select conventions contract with Metra to allow their attendees to ride between downtown and McCormick Place with the event manager billed for service. Metra typically works with four major events each year, generating about 30,000 to 35,000 Zone A rides. According to Metra's 2014 Boarding/Alighting Count, only 23 riders boarded at the station on a weekday before noon (when boardings at non-downtown stations are typically highest), while 60 riders alighted at the station during that period. Metra's last weekend counts, performed in 2010, indicate that the McCormick Place Station attracts a similar or greater number of riders during the weekend than on weekdays.

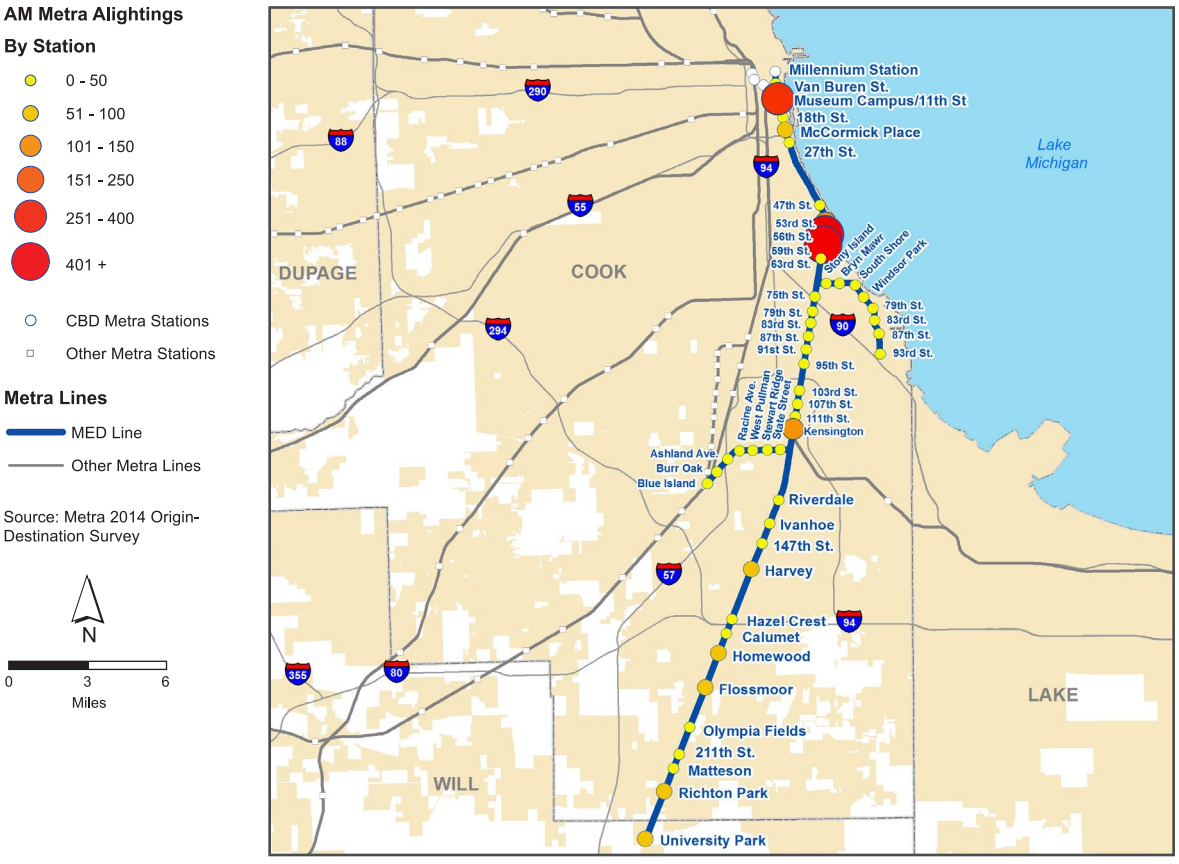
Factors that increase reverse-commute trip patterns are the growth of employment in the suburbs as well as the growth of population in the city and inner ring suburbs (see Tables 3, 4, and 5). While only modest population growth in MED marketshed zone closest to the CBD is expected by 2040, from 2000 and 2010 these marketsheds increased rapidly in population (by


*MED train crosses 70th Street on the South Chicago Branch*

*Photo: Mark Llanuza*

24%, or 28,000) and lost over 100,000 jobs. According to projections, this area is expected to regain only about half of these jobs by 2040. Residents of the CBD marketsheds have convenient access to employment opportunities in downtown Chicago, but the substantial number of jobs expected to be added further south along the MED are likely to attract CBD residents, as well as others living along the MED corridor, and potentially increase reverse-commute trips. Table 6 shows major trip generators along the MED, including top employers.

## FIGURE 3: AM ALIGHTINGS AT NON-CBD MED STATIONS



## TABLE 6: MAJOR TRIP GENERATORS IN THE MED CORRIDOR

| Generator Type | Name | Comments | Municipality |
|---|---|---|---|
| **Colleges and Universities** | Illinois Institute of Technology | 6,900 students; 650 employees | Chicago |
| | Illinois College of Optometry | 600 students; 50 employees | Chicago |
| | University of Chicago | 13,000 students | Chicago |
| | Chicago State University | 8,500 students; 470 employees | Chicago |
| | Olive-Harvey College | A City College of Chicago; 4,400 students | Chicago |
| | South Suburban College | Community college; 8,000 students | South Holland |
| | Prairie State College | Community college; 5,400 students; 80 employees | Chicago Heights |
| | Governors State University | 5,400 students; 725 employees | University Park |
| **Culture and Entertainment** | Art Institute of Chicago | 1.4 million visitors annually; 1,100 employees | Chicago |
| | DuSable Museum of African American History | Located in Washington Park; 175,000 visitors annually | Chicago |
| | McCormick Place | Convention facility; nearly 3 million visitors per year | Chicago |
| | Museum of Science and Industry | 1.4 million visitors annually; 370 employees | Chicago |
| | Museum Campus | 3.7 million visitors annually, 870 employees at 3 museums; includes Soldier Field, capacity 61,500 | Chicago |
| | Northerly Island | 91-acre park; site of Charter One Pavilion concert venue | Chicago |
| **Shopping*** | River Oaks Center | 140 specialty stores, 4 dept. stores; 1.3M sq. ft. of retail | Calumet City |
| | Country Club Plaza | Community shopping center; 450,000 sq. ft. of retail | Country Club Hills |
| **Government** | Cook County District 6 Courthouse | Cook County circuit court suburban location | Markham |
| **Hospitals** | Advocate Trinity Hospital | 263 beds; 750 employees | Chicago |
| | Mercy Hospital & Medical Ctr. | 494 beds; 2,000 employees | Chicago |
| | Jackson Park Hospital | 326 beds; 500 employees | Chicago |
| | Provident Hospital of Cook County | 222 beds; 800 employees | Chicago |
| | Roseland Community Hospital | 162 beds; 400 employees | Chicago |
| | University of Chicago Hospitals | 633 beds; 4,500 employees | Chicago |
| | Ingalls Memorial Hospital | 582 beds; 1,700 employees | Harvey |
| | Advocate South Suburban Hospital | 286 beds; 1,000 employees | Hazel Crest |
| | Franciscam St. James Hospital | 200 beds; 2,300 employees | Olympia Fields |
| **Top Private Employers** | Allied Tube and Conduit Corp. | Welded pipe and tube manufacturing; 750 employees | Harvey |
| | Consolidated Medical Transport | Local passenger transportation; 800 employees | Dolton |
| | GNU Inc. | Motor vehicle parts/accessories; 550 employees | Chicago Heights |
| | Ford Chicago Stamping Plant | Ford Chicago Stamping Plant; 1,920 employees | Chicago Heights |
| | Applied Systems, Inc. | Computer services; 500 employees | University Park |

*Significant shopping areas exist at several stations along the line.

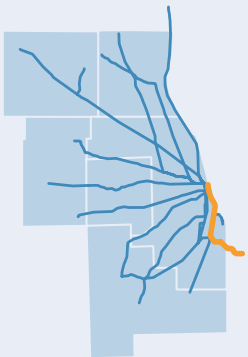

*South Shore riders alight at Museum Campus/11th Street Station in Chicago's South Loop*

*Photo: David Wilson*

# SOUTH SHORE LINE

## EXISTING SERVICE AND CONDITIONS

Commuter rail service on the **South Shore Line (SS)** between downtown Chicago and South Bend, Indiana is operated by the Northern Indiana Commuter Transportation District (NICTD). Like the Metra Electric District (MED), the SS is powered by an overhead catenary wire system, and the two services operate on MED track from Millennium Station to Kensington Interlocking at 115th Street in Chicago. The SS then diverges onto its own tracks, extending across northern Indiana to the line's eastern terminal at South Bend International Airport. In 2014, passenger trips on the SS totaled 3.9 million.



Implementation of commuter service on the present-day SS route took place in the early 1900s, as various segments of the line were completed. The Chicago, South Shore and South Bend Railroad (CSS&SB), incorporated in 1925, operated commuter and freight service on the line for nearly 60 years. In 1977, the Indiana General Assembly created NICTD to partially subsidize the CSS&SB for its passenger service. The agency's administrative offices are located in Chesterton, Indiana, with the SS's dispatching office and main rail

yard in Michigan City. NICTD took over operation of the commuter rail service after the CSS&SB declared bankruptcy in 1989, and the agency purchased the railroad's assets the following year. Anacostia & Pacific assumed operation of the diesel-powered freight service on the line, under the name "Chicago, *SouthShore* and South Bend Railroad."

Under a purchase of service agreement (PSA), Metra reimburses NICTD for an agreed-upon portion of net operating losses (operating and maintenance costs less operating revenues) associated with commuter rail service on the SS. Metra's portion of net operating losses is designed to reflect the "benefit" received from SS service (as measured by passenger boardings) within the State of Illinois. Under the current PSA, which expires in 2016, Metra pays NICTD a flat annual fee. NICTD pays Metra under a trackage rights agreement to operate SS service on the MED between Millennium Station and Kensington Station. NICTD is generally responsible for all operating and capital-related costs associated with maintenance and improvements of right-of-way and facilities located within the State of Illinois that are used exclusively by the SS (i.e., the portion of the SS between Kensington Interlocking and the Indiana border).

2013 Average trip length:
**28.9 miles**

2013 Average fare paid:
**$5.36**

*Source: National Transit Database*

Number of Stations:
**19**

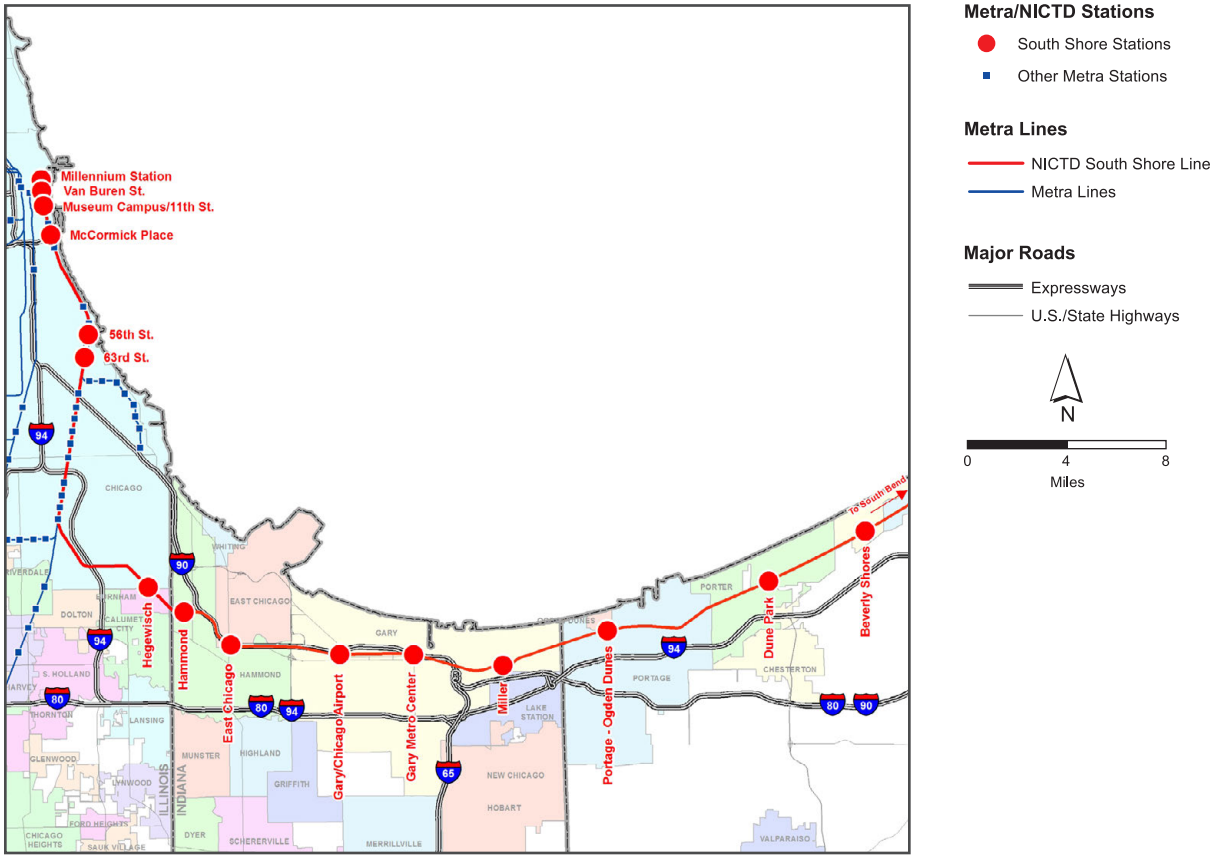
Route Length:
**90.1 miles**

Number of weekday trains:
**41**

2014 On-time performance*:
**85.8%**

*Source: NICTD 2014 Year-End Performance Report*

## FIGURE 1: STATIONS ON THE SS LINE

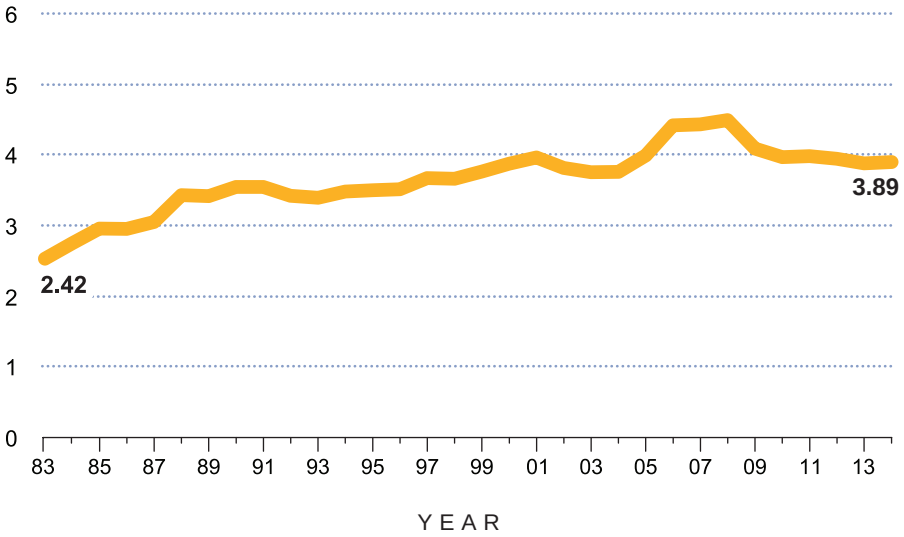


The SS Line serves 19 stations along its 90-mile route, including six stations on the 14.5-mile segment shared with the MED. To avoid competition with Metra service, passengers may not board inbound SS trains from 63rd Street to Millennium Station, and outbound SS passengers may not disembark at these stations. The SS station located in Chicago's Hegewisch neighborhood is the only non-MED station in Illinois served by SS trains. Since the station is located within the Regional Transportation Authority's (RTA) service area, Metra funded construction of new station buildings and a parking lot at Hegewisch in 1992, and retains ownership of these facilities. Meanwhile, NICTD owns the land and other parking lots at the station, and is responsible for platform maintenance.[1] Passengers traveling between Hegewisch and other stations in Chicago are charged based on Metra's fare structure rather than NICTD's.

NICTD and Metra have a history of assisting each other during service disruptions. In order to minimize passenger delays, the two agencies have accepted each other's fare media and used their equipment to move the other operator's disabled rolling stock.

[1] NICTD completed installation of high-level platforms at Hegewisch in 2006.

TABLE 1A: SS ANNUAL PASSENGER TRIPS
1983 — 2014, in millions



## TABLE 1B: 2011 SS WEEKDAY BOARDINGS

| Time of Day | Inbound | Outbound |
|---|---|---|
| AM Peak | 4,753 | 159 |
| Midday | 910 | 905 |
| PM Peak | 322 | 4,366 |
| Evening | 111 | 701 |
| **TOTAL** | **6,096** | **6,131** |

*Source: NICTD, 2011 South Shore Passenger Count*

## TABLE 1C: SS STATION CHARACTERISTICS

| Station | Fare Zone | Mile Post | Accessibility[1] | Boardings | | Time to Chicago (minutes)[1] | |
|---|---|---|---|---|---|---|---|
| | | | | 1983[2] | 2011[3] | Shortest Trip | Longest Trip |
| Millennium Station[4] | 1 | 0.0 | Full | 3,180 | 3,719 | -- | -- |
| Van Buren Street[4] | 1 | 0.8 | Full | 715 | 1,654 | 2 | 6 |
| Museum Campus/11th St.[4] | 1 | 1.4 | Full | 45 | 272 | 4 | 9 |
| McCormick Place[4] | 1 | 2.7 | Full | 171 | 0[5] | -- | 8 |
| 55th-56th-57th St.[4] | 2 | 7.0 | Full | 143 | 238 | 11 | 18 |
| 63rd St.[4] | 2 | 7.9 | None | 30 | 12 | -- | 21 |
| Kensington/115th St.[4,6] | -- | -- | -- | 38 | 74 | -- | -- |
| Hegewisch | 3 | 19.0 | Full | 1,042 | 1,153 | -- | 41 |
| Hammond | 4 | 20.9 | Full | n/a | 972 | -- | 48 |
| East Chicago | 4 | 23.4 | Full | n/a | 1,533 | 35 | 53 |
| Gary/Chicago Airport | 5 | 28.0 | None | n/a | 149 | -- | 61 |
| Gary Metro Center | 5 | 30.9 | Full | n/a | 594 | -- | 66 |
| Miller | 5 | 34.7 | None | n/a | 344 | -- | 74 |
| Portage/Ogden Dunes | 6 | 38.9 | Full | n/a | 264 | -- | 80 |
| Dune Park | 6 | 46.0 | Full | n/a | 518 | 59 | 88 |
| Beverly Shores | 7 | 50.4 | None | n/a | 33 | -- | 95 |
| 11th St. (Michigan City) | 8 | 55.8 | None | n/a | 203 | -- | 105 |
| Carroll Ave. (Mich. City) | 8 | 57.5 | Full | n/a | 272 | -- | 111 |
| Hudson Lake | 10 | 74.6 | None | n/a | 3 | -- | 136 |
| South Bend Airport | 11 | 90.1 | Full | n/a | 212 | 115 | 160 |
| **TOTAL SS** | | | | **5,364** | **12,219** | | |

[1] South Shore Line Schedule

[2] Metra, 1983 Boarding/Alighting Counts; Indiana SS stations not counted in 1983.

[3] NICTD, 2011 South Shore Passenger Count

[4] Station shared with Metra service; inbound SS trains stop to discharge passengers only and outbound SS trains stop to pick up passengers only.

[5] SS does not serve McCormick Place on weekdays, when 2011 South Shore count was conducted.

[6] South Shore service to Kensington/115th ended in February 2012, following completion of the Kensington Interlocking bypass project.

## IMPROVEMENTS SINCE THE START OF NICTD

Since its creation, NICTD has invested hundreds of millions of dollars in maintaining and upgrading the SS Line. Among NICTD's first activities was the acquisition of new rolling stock in the early 1980s, which allowed the line's oldest vehicles—dating from the 1920s—to be retired. The RTA contributed funding towards the purchase, and eight single-level cars used on the SS are still owned by Metra, though they are operated, stored, and maintained by NICTD. Other rolling stock purchases have been made in the following years. The SS fleet consists of approximately 70 electric self-propelled coaches and small number of unpowered trailer cars that are placed between cab cars in a trainset. Most SS cars are single-level, but 14 bi-level gallery cars—similar to the new MED cars—entered service in 2009.

In 1992, the SS was extended 3.2 miles to the airport in South Bend. Since the 1990s, NICTD has rebuilt a number of SS stations with high-level platforms, giving passengers step-free access to train cars and reducing dwell time. At these stations, gauntlet tracks allow SS trains to align with the platform while providing freight trains the extra width needed to clear the platform edge.

NICTD completed installation of Centralized Traffic Control (CTC) signaling from Michigan City to South Bend in 2007, and in 2011 finished replacement of nearly 70 miles of catenary from Kensington to Michigan City. In 2012, NICTD and Metra completed a new bypass track for SS trains through Kensington Interlocking (funded by NICTD). The project streamlines the SS connection with MED tracks, cutting travel times and improving on-time performance on the SS, and adding operational flexibility on the high-volume portion of the MED north of Kensington. As a result of this project, SS trains no longer serve the Kensington/115th Street Station on the MED.

NICTD recently completed a preliminary engineering study that considered options for realignment of the SS through Michigan City, where the SS currently runs on a single track embedded in the middle of a roadway, which is shared with other traffic. The selected alternative retains the existing route, but the roadway would be narrowed to a one-way, single-lane street, while the SS would be expanded to two tracks. Relocation of the terminal station at the South Bend Airport has been proposed, in order to accommodate runway expansion and cut travel times for SS passengers. NICTD is currently completing an environmental study of the "West Lake Corridor," a potential nine-mile extension of the SS from Hammond to Dyer. Preliminary engineering and environmental studies are also underway on the addition of a second track to a 25-mile segment between Gary and Michigan City.

In 2015, the SS launched a pair of weekday limited-stop trains (morning inbound and afternoon outbound), cutting the travel time between South Bend and Millennium Station about 45 minutes compared to all-stop trains. The service began as a pilot program, and was continued based on rider demand.

*South Shore Line commuters*

# APPENDIX

## TABLE A1: METRA OPERATING AND SERVICE CHARACTERISTICS AS OF 2015

| Carrier/Line | | Revenue Trains | | | Train Miles | Car Miles | Average Scheduled Speeds | | | On-Time Performance | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Weekday | Sat | Sun/Hol | Jul14-Jun15 | Jul14-Jun15 | Weekday Peak | Weekday Off-Peak | Weekend/ Holiday | 2014 Average | Jan-Jun15 Average |
| BNSF Railway | | 94 | 28 | 18 | 948,488 | 6,972,911 | 34.9 | 30.5 | 28.0 | 89.7% | 94.1% |
| Union Pacific | North | 70 | 26 | 18 | 756,726 | 4,349,008 | 30.4 | 28.9 | 30.1 | 96.7% | 97.6% |
| | Northwest | 65 | 24 | 15 | 940,321 | 6,283,683 | 33.9 | 32.7 | 34.0 | 95.2% | 95.9% |
| | West | 59 | 20 | 18 | 699,299 | 4,734,488 | 31.9 | 30.8 | 30.6 | 94.4% | 94.8% |
| **Total** | | **194** | **70** | **51** | **2,396,346** | **15,367,179** | | | | **95.5%** | **96.2%** |
| Electric District | Main Line | 79 | 46 | 20 | 727,610 | 3,792,075 | 23.9 | 22.7 | 22.8 | 97.0% | 96.4% |
| | Blue Island | 37 | 30 | 0 | 156,964 | 500,260 | 32.2 | 29.4 | 28.8 | 97.9% | 98.0% |
| | South Chicago | 54 | 48 | 20 | 229,027 | 857,880 | 20.2 | 19.7 | 20.4 | 98.0% | 98.6% |
| **Total** | | **170** | **124** | **40** | **1,113,601** | **5,150,215** | | | | **97.5%** | **97.4%** |
| Heritage Corridor | | 6 | 0 | 0 | 56,996 | 265,949 | 34.3 | -- | -- | 91.4% | 90.4% |
| Milwaukee District | North | 60 | 24 | 20 | 766,136 | 4,682,699 | 32.1 | 30.3 | 31.1 | 91.7% | 93.1% |
| | West | 58 | 24 | 18 | 660,459 | 4,534,878 | 29.5 | 29.3 | 29.0 | 93.5% | 95.3% |
| **Total** | | **118** | **48** | **38** | **1,426,595** | **9,217,577** | | | | **92.6%** | **94.2%** |
| North Central Service | | 22 | 0 | 0 | 295,067 | 1,342,480 | 34.2 | 33.9 | -- | 89.9% | 92.5% |
| SouthWest Service | | 30 | 6 | 0 | 249,285 | 1,826,357 | 27.0 | 27.4 | 28.8 | 92.6% | 93.9% |
| Rock Island District | | 69 | 20 | 16 | 702,088 | 5,127,098 | 29.2 | 28.8 | 27.4 | 93.8% | 97.6% |
| **System Totals/ Averages*** | | **703** | **296** | **163** | **7,188,466** | **45,269,766** | **31.4** | **29.4** | **29.0** | **94.3%** | **95.8%** |

** South Shore (NICTD) is not included*

## TABLE A2: METRA PHYSICAL DESCRIPTION

| | | | | Number of Stations | | | Accessible Stations | | Rolling Stock | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Carrier/Line** | | **Location of Outlying Terminal** | **Downtown Terminal** | **Illinois** | **Out of State** | **Total** | **Partial** | **Full** | **Loco-motives** | **Trailer Cars** | **Cab Cars** | **Electric Propelled** | **Track Miles** | **Route Miles** |
| BNSF Railway | | Aurora, IL (Kane Co.) | Chicago Union Station | 25 | 0 | 25 | 5 | 17 | 26 | 134 | 32 | 0 | 144.0 | 37.5 |
| Union Pacific | North Line | Kenosha, WI (Kenosha Co.) | Ogilvie Trans. Ctr. | 24 | 1 | 25 | 1 | 20 | | | | | 107.5 | 51.6 |
| | Northwest Line | Harvard, IL (McHenry Co.) | Ogilvie Trans. Ctr. | 21 | 0 | 21 | 0 | 18 | | | | | 161.1 | 63.1 |
| | McHenry Branch | McHenry, IL (McHenry Co.) | Ogilvie Trans. Ctr. | 1 | 0 | 1 | 0 | 1 | | | | | 8.0 | 7.4 |
| | West Line | Elburn, IL (Kane Co.) | Ogilvie Trans. Ctr. | 18 | 0 | 18 | 2 | 14 | | | | | 144.2 | 43.6 |
| **Total** | | | | **64** | **1** | **65** | **3** | **53** | **55** | **268** | **65** | **0** | **418.2** | **162.3** |
| Electric District | Main Line | University Park, IL (Will Co.) | Millennium Station | 32 | 0 | 32 | 0 | 13 | | | | | 86.0 | 31.5 |
| | Blue Island Branch | Blue Island, IL (Cook Co.) | Millennium Station | 7 | 0 | 7 | 0 | 1 | | | | | 5.0 | 4.4 |
| | S. Chicago Branch | Chicago, IL (Cook Co.) | Millennium Station | 8 | 0 | 8 | 0 | 8 | | | | | 11.3 | 4.7 |
| **Total** | | | | **47** | **0** | **47** | **0** | **22** | **0** | **0** | **0** | **185** | **102.3** | **40.6** |
| Heritage Corridor | | Joliet, IL (Will Co.) | Chicago Union Station | 5 | 0 | 5 | 0 | 5 | 3 | 12 | 3 | 0 | 78.0 | 37.2 |
| Milwaukee District | North Line | Fox Lake, IL (Lake Co.) | Chicago Union Station | 20 | 0 | 20 | 2 | 15 | | | | | 97.0 | 49.5 |
| | West Line | Elgin, IL (Kane Co.) | Chicago Union Station | 21 | 0 | 21 | 0 | 20 | | | | | 102.8 | 39.8 |
| **Total** | | | | **41** | **0** | **41** | **2** | **35** | **33** | **111** | **42** | **0** | **186.4** | **83.9** |
| North Central Service | | Antioch, IL (Lake Co.) | Chicago Union Station | 15 | 0 | 15 | 0 | 15 | 6 | 21 | 7 | 0 | 85.0 | 52.8 |
| SouthWest Service | | Manhattan, IL (Will Co.) | Chicago Union Station | 12 | 0 | 12 | 0 | 12 | 6 | 31 | 6 | 0 | 59.3 | 40.8 |
| Rock Island District | Main Line | Joliet, IL (Will Co.) | LaSalle St. Station | 14 | 0 | 14 | 1 | 12 | | | | | 83.8 | 40.0 |
| | Beverly Branch | Blue Island, IL (Cook Co.) | LaSalle St. Station | 12 | 0 | 12 | 5 | 5 | | | | | 13.3 | 6.6 |
| **Total** | | | | **26** | **0** | **26** | **6** | **17** | **17** | **79** | **32** | **0** | **96.9** | **46.6** |
| Downtown Stations | | | | 5 | 0 | 5 | 0 | 5 | | | | | | |
| **System Totals*** | | | | **240** | **1** | **241** | **16** | **181** | **146** | **656** | **187** | **185** | **1,154.9** | **487.5** |

** South Shore (NICTD) is not included*

## TABLE A3: METRA COMMUTER RAIL STATIONS BY FARE ZONE

| ZONE (mile post) | BNSF | | ELECTRIC MAIN LINE | | ELECTRIC BLUE ISLAND | | ELECTRIC S. CHICAGO | | HERITAGE | | MILWAUKEE NORTH | | MILWAUKEE WEST | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A (0.0-5.0) | Union Station | 0.0 | Millennium | 0.0 | | | | | Union Station | 0.0 | Union Station | 0.0 | Union Station | 0.0 |
| | Halsted St | 1.8 | Van Buren | 0.8 | | | | | | | Western Ave | 2.9 | Western Ave | 2.9 |
| | Western Ave | 3.8 | Museum Campus/11th St | 1.4 | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | 18th St | 2.2 | | | | | | | | | | |
| | | | McCormick Pl. | 2.7 | | | | | | | | | | |
| | | | 27th St | 3.2 | | | | | | | | | | |
| B (5.1-10.0) | Cicero | 7.0 | 47th St | 5.9 | | | Stony Island | 9.1 | | | Healy | 6.4 | Grand/Cicero | 6.5 |
| | LaVergne | 9.1 | 53rd St | 6.5 | | | Bryn Mawr | 9.7 | | | Grayland | 8.2 | Hanson Park | 7.7 |
| | Berwyn | 9.6 | 56th St | 7.0 | | | South Shore | 10.3 | | | Mayfair | 9.0 | Galewood | 8.6 |
| | Harlem Ave | 10.1 | 59th St | 7.4 | | | Windsor Park | 10.9 | | | | | Mars | 9.1 |
| | | | 63rd St | 7.9 | | | 79th St | 11.5 | | | | | Mont Clare | 9.5 |
| | | | 75th St | 9.3 | | | 83rd St | 12.0 | | | | | | |
| | | | 79th St | 10.0 | | | 87th St | 12.5 | | | | | | |
| | | | | | | | 93rd St | 13.2 | | | | | | |
| C (10.1-15.0) | Riverside | 11.1 | 83rd St | 10.4 | | | | | Summit | 11.9 | Forest Glen | 10.2 | Elmwood Park | 10.2 |
| | Hollywood | 11.8 | 87th St | 10.9 | | | | | | | Edgebrook | 11.6 | River Grove | 11.4 |
| | Brookfield | 12.3 | 91st St | 11.4 | | | | | | | Morton Grove | 14.3 | Franklin Park | 13.2 |
| | Congress Park | 13.1 | 95th St | 12.0 | | | | | | | | | Mannheim | 14.0 |
| | LaGrange Rd | 13.8 | 103rd St | 13.0 | | | | | | | | | | |
| | Stone Ave | 14.2 | 107th St | 13.5 | | | | | | | | | | |
| | | | 111th St | 14.0 | | | | | | | | | | |
| | | | Kensington | 14.5 | | | | | | | | | | |
| D (15.1-20.0) | Western Springs | 15.5 | Riverdale | 17.3 | State St | 15.6 | | | Willow Springs | 17.5 | Golf | 16.2 | Bensenville | 17.2 |
| | Highlands | 16.4 | Ivanhoe | 18.2 | Stewart Ridge | 16.0 | | | | | Glenview | 17.4 | Wood Dale | 19.1 |
| | Hinsdale | 16.9 | 147th St | 19.0 | W. Pullman | 16.7 | | | | | Glen/N.Glenview | 18.8 | | |
| | W. Hinsdale | 17.8 | Harvey | 20.0 | Racine Ave | 17.0 | | | | | | | | |
| | Clarendon Hills | 18.3 | | | Ashland Ave | 17.9 | | | | | | | | |
| | Westmont | 19.5 | | | Burr Oak | 18.4 | | | | | | | | |
| | | | | | Blue Island | 18.9 | | | | | | | | |
| E (20.1-25.0) | Fairview Ave | 20.4 | Hazel Crest | 22.3 | | | | | Lemont | 25.3 | Northbrook | 21.1 | Itasca | 21.1 |
| | Main St | 21.2 | Calumet | 22.8 | | | | | | | Lake Cook Road | 23.0 | Medinah | 23.0 |
| | Belmont | 22.6 | Homewood | 23.5 | | | | | | | Deerfield | 24.2 | Roselle | 23.9 |
| | Lisle | 24.5 | Flossmoor | 24.9 | | | | | | | | | | |
| F (25.1-30.0) | Naperville | 28.5 | Olympia Fields | 26.6 | | | | | | | Lake Forest | 28.4 | Schaumburg | 26.5 |
| | | | 211th St | 27.6 | | | | | | | | | Hanover Park | 28.4 |
| | | | Matteson | 28.2 | | | | | | | | | Bartlett | 30.1 |
| | | | Richton Park | 29.3 | | | | | | | | | | |
| G (30.1-35.0) | Route 59 | 31.6 | University Park | 31.5 | | | | | Lockport | 32.9 | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| H (35.1-40.0) | Aurora | 37.5 | | | | | | | Joliet | 37.2 | Libertyville | 35.5 | National St | 36.0 |
| | | | | | | | | | | | Prairie Crossing/ Libertyville | 39.2 | Elgin | 36.6 |
| | | | | | | | | | | | | | Big Timber | 39.8 |
| I (40.1-45.0) | | | | | | | | | | | Grayslake | 41.0 | | |
| | | | | | | | | | | | Round Lake | 44.0 | | |
| J (45.1-50.0) | | | | | | | | | | | Long Lake | 46.0 | | |
| | | | | | | | | | | | Ingleside | 47.8 | | |
| | | | | | | | | | | | Fox Lake | 49.5 | | |
| K (50.1-55.0) | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| M (60.1-65.0) | | | | | | | | | | | | | | |

| NORTH CENTRAL SERVICE | | ROCK ISLAND MAIN | | ROCK ISLAND BRANCH | | SOUTHWEST SERVICE | | UNION PACIFIC NORTH | | UNION PACIFIC NORTHWEST | | UNION PACIFIC WEST | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Union Station | 0.0 | LaSalle St. | 0.0 | | | Union Station | 0.0 | Ogilvie | 0.0 | Ogilvie | 0.0 | Ogilvie | 0.0 |
| Western Ave | 2.9 | 35th St./"Lou" Jones | 3.1 | | | | | Clybourn | 2.9 | Clybourn | 2.9 | Kedzie | 3.6 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | Gresham | 9.8 | | | | | Ravenswood | 6.5 | Irving Park | 7.0 | Oak Park | 8.5 |
| | | | | | | | | Rogers Park | 9.4 | Jefferson Park | 9.1 | River Forest | 9.7 |
| | | | | | | | | | | Gladstone Park | 10.1 | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| River Grove | 11.4 | 95th St | 10.9 | Brainerd | 10.6 | Wrightwood | 11.2 | Main St | 11.0 | Norwood Park | 11.4 | Maywood | 10.5 |
| Belmont Ave | 13.0 | Washington Hts | 12.0 | 91st St | 11.3 | Ashburn | 12.6 | Davis St | 12.0 | Edison Park | 12.6 | Melrose Park | 11.3 |
| Schiller Park | 14.8 | | | 95th St | 11.7 | | | Central St | 13.3 | Park Ridge | 13.5 | Bellwood | 12.6 |
| | | | | 99th St | 12.3 | | | Wilmette | 14.4 | Dee Road | 15.0 | Berkeley | 14.3 |
| | | | | 103rd St | 12.8 | | | | | | | | |
| | | | | 107th St | 13.3 | | | | | | | | |
| | | | | 111th St | 13.8 | | | | | | | | |
| | | | | 115th St | 14.3 | | | | | | | | |
| | | | | 119th St | 14.8 | | | | | | | | |
| Rosemont | 15.6 | Vermont St | 15.7 | 123rd St | 15.2 | Oak Lawn | 15.2 | Kenilworth | 15.2 | Des Plaines | 17.1 | Elmhurst | 15.7 |
| O'Hare Transfer | 17.1 | Robbins | 17.2 | Prairie St | 15.8 | Chicago Ridge | 16.8 | Indian Hill | 15.8 | Cumberland | 18.6 | Villa Park | 17.8 |
| | | Midlothian | 18.4 | Vermont St | 16.5 | Worth | 18.2 | Winnetka | 16.6 | Mt Prospect | 20.0 | Lombard | 19.9 |
| | | | | | | Palos Heights | 18.7 | Hubbard Woods | 17.7 | | | | |
| | | | | | | | | Glencoe | 19.2 | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Prospect Heights | 24.0 | Oak Forest | 20.4 | | | Palos Park | 20.3 | Braeside | 20.5 | Arlington Hts. | 22.8 | Glen Ellyn | 22.4 |
| | | Tinley Park | 23.5 | | | 143rd St | 23.6 | Ravinia | 21.5 | Arlington Park | 24.4 | College Ave | 23.8 |
| | | 80th Ave | 25.1 | | | 153rd St | 25.2 | Highland Park | 23.0 | | | Wheaton | 25.0 |
| | | | | | | | | Highwood | 24.5 | | | | |
| Wheeling | 27.2 | Hickory Creek | 27.5 | | | 179th St | 28.9 | Fort Sheridan | 25.7 | Palatine | 26.8 | Winfield | 27.5 |
| Buffalo Grove | 29.5 | Mokena | 29.6 | | | | | Lake Forest | 28.3 | | | West Chicago | 29.8 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Prairie View | 31.6 | New Lenox | 34.0 | | | | | Lake Bluff | 30.2 | Barrington | 31.9 | | |
| Vernon Hills | 33.0 | | | | | | | Great Lakes | 32.2 | | | | |
| | | | | | | | | North Chicago | 33.7 | | | | |
| Mundelein | 36.9 | Joliet | 40.0 | | | Laraway Road | 35.8 | Waukegan | 35.9 | Fox River Grove | 37.3 | Geneva | 35.5 |
| Prairie Crossing/ Libertyville | 40.7 | | | | | | | | | Cary | 38.6 | | |
| | | | | | | | | | | | | | |
| Washington St | 43.9 | | | | | Manhattan | 40.8 | Zion | 42.1 | Pingree Road | 41.7 | La Fox | 40.9 |
| | | | | | | | | Winthrop Harbor | 44.5 | Crystal Lake | 43.2 | Elburn | 43.6 |
| Round Lk Beach | 45.9 | | | | | | | | | | | | |
| Lake Villa | 48.2 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Antioch | 52.8 | | | | | | | Kenosha | 51.5 | McHenry | 50.6 | | |
| | | | | | | | | | | Woodstock | 51.6 | | |
| | | | | | | | | | | Harvard | 63.1 | | |