

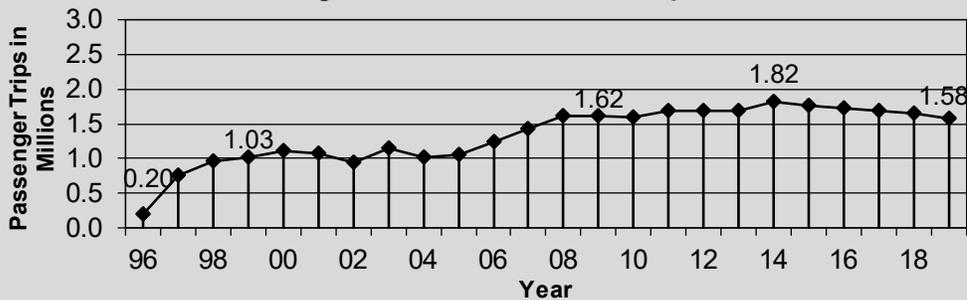


North Central Service

Line at a Glance

- › Average Trip Length (2019) : 31.2 miles
- › Average Fare Paid (2019) : \$5.76
- › Number of Stations: 18
- › Route Length: Main Line: 52.8 miles
- › Number of Weekday Trains (Dec 2019): 20
- › On-Time Performance (2019): 94.3%
- › 66% of NCS riders drive to their boarding station.
- › 1% fewer people live along the NCS than did in 2010.
- › 44% more people work along the NCS than did in 2010.

Figure 1: Annual NCS Ridership



The data included in this document predates the onset of COVID-19, which has greatly impacted Metra's riders and operations. This information is presented to inform the public about Metra's historic and recent operational environment but may not be illustrative of Metra's current or future operations. For the latest information, visit Metra's Operations and Ridership Data webpage at metrarail.com.



Schedules as of Dec 2019

- › 7 trains in the AM Peak
- › 4 trains in the Midday
- › 6 trains in the PM Peak
- › 3 trains in the Evening
- › No trains on Saturdays
- › No trains on Sundays



- › 10th in ridership
- › ORD Connection via O'Hare Transfer



- › Largest (tied) share of non-English speakers among Metra lines (15%)

Chicago to Antioch

Table 1: Metra Capital Investment History

	NCS (\$m)	System (\$m)
Rolling stock	\$49	\$2,978
Track and structure	\$38	\$1,567
Signal, electrical, and communications	\$121	\$1,137
Facilities and equipment	\$19	\$685
Stations and parking	\$10	\$1,120
Acquisitions, extensions, and expansions	\$233	\$603
Support activities	\$19	\$431
TOTAL	\$489	\$8,521
PERCENTAGE	5.7%	100.0%

Notes: 1) Excludes South Shore, preventative maintenance, new lines, and pending grants. 2) Prior expenses not adjusted for inflation. 3) Data subject to budget revisions, audit adjustments, etc. 4) Project costs without specific locations have been allocated to entire lines where appropriate

Table 2: NCS 2018 Weekday Boardings

Time of Day	Inbound	Outbound
AM Peak	2,853	152
Midday	264	325
PM Peak	133	2,371
Evening	6	253
TOTAL	3,256	3,101

Source: 2018 Weekday Station Boardings and Alightings by Time-of-Day and Direction

ON COVID-19 AND HOW TO USE THIS DOCUMENT

The information presented in this chapter is representative of Metra’s operations prior to the onset of COVID-19, which upended almost every aspect of daily life. While Metra’s pre-COVID services may not be replicated in the same manner going forward, the transportation services Metra continues to provide are essential to the vitality of the Chicago region.

There are certain elements of Metra’s situational and operational environment that are unlikely to change in the short or medium term. These are: the location and capacity of each rail line, the location and physical characteristics of each station, the general characteristics of the communities around each station, Metra’s history in each community, and Metra’s mission to provide safe, reliable, efficient commuter rail service that enhances the economic and environmental health of northeast Illinois. On the other hand, there are operational and situational factors that are likely to be quite different. These may be: the number of riders, the time and duration of peak travel demand, the public’s perception of the relative safety of various transportation modes, the way riders access and depart from stations, and the location preferences of people and businesses.

The challenges posed by the pandemic were significant and likely will result in the emergence of a very different operational environment. Even so, understanding Metra’s past performance, pre-COVID service levels, and established community baselines is vital to making informed decisions about the reality that is taking shape. Through this process Metra will continue to achieve Metra’s mission, realizing its vision, and pursuing its strategic goals.

In this section

- 1 – Annual Passenger Trips
- 2 – NCS Overview
- 4 – Station Characteristics
- 5 – Mode of Access and Parking
- 6 – Present and Future Demand
- 7 – Reverse Commute and Non-Downtown Markets
- 7 – Major Capital Projects
- 8 – ADA Accessibility
- 9 – NCS Corridor Demographics
- 9 – NCS Corridor Household Data
- 9 – NCS Corridor Employment Data
- 10 – Major Trip Generators

As part of a regional transportation network, Metra provides safe, reliable, efficient commuter rail service that enhances the economic and environmental health of northeast Illinois.

- Metra’s Mission Statement

NCS OVERVIEW

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. In addition to CUS, the line serves 17 other stations along its 53-mile route. In 2019, passenger trips on the NCS totaled nearly 1.58 million, ranking 10th among the 11 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. There were 20 daily trains scheduled on the NCS immediately prior to the onset of COVID.

The NCS route includes 40 miles owned by Canadian National (CN) and 12 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. 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 both Milwaukee District lines 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

FIGURE 2: METRA STATIONS ON THE NCS LINE

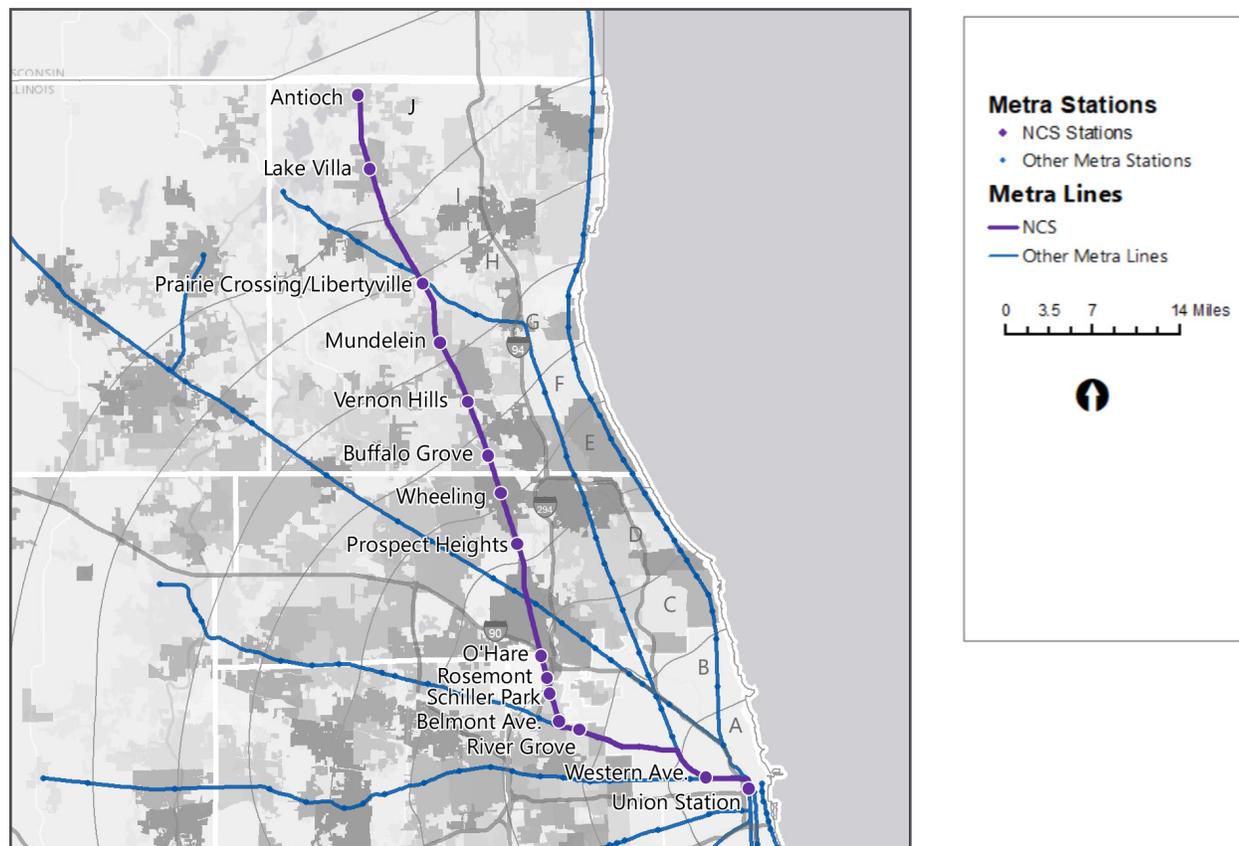


TABLE 3: NCS STATION CHARACTERISTICS

Station	Accessibility ¹	Fare Zone	Mile Post	Responsibility and Maintenance			Boardings				Weekday trains serving each station as of Dec 2019
				Platform	Depot	Parking	1983 ²	2006 ³	2016 ³	2018 ³	
Union Station	●	A	0.0	--	--	--	--	2,173	2,772	2,825	20
Western Ave. ⁴	●	A	2.9	Metra	Metra	Metra	--	35	53	85	14
River Grove ⁵	●	C	11.4	Metra	Metra	Multiple	--	124	174	189	10
Belmont Ave./Franklin Park	●	C	13.0	Metra	Muni	Muni	--	25	32	24	16
Schiller Park	●	C	14.8	Metra	Multiple	Multiple	--	29	36	41	16
Rosemont	●	D	15.6	Metra	Metra	Muni	--	23	35	27	16
O'Hare Transfer	●	D	17.1	Metra	Metra	--	--	106	123	113	19
Prospect Heights	●	E	24.0	Metra	Muni	Muni	--	245	266	304	19
Wheeling	●	F	27.2	Metra	Muni	Muni	--	306	353	348	19
Buffalo Grove	●	F	29.5	Metra	Muni	Muni	--	545	590	695	19
Prairie View	●	G	31.6	Metra	Muni	Muni	--	299	388	415	19
Vernon Hills	●	G	33.0	Metra	Muni	Muni	--	353	370	409	19
Mundelein	●	H	36.9	Metra	Muni	Muni	--	283	277	276	19
Prairie Crossing ⁶	●	H	40.7	Metra	Muni	Muni	--	117	102	87	19
Washington St./Grayslake	●	I	43.9	Metra	Muni	Muni	--	109	110	86	20
Round Lake Beach	●	J	45.9	Metra	Muni	Muni	--	154	115	111	20
Lake Villa	●	J	48.2	Metra	Muni	Muni	--	150	148	130	20
Antioch	●	J	52.8	Metra	Muni	Muni	--	262	184	192	20
TOTAL NCS							--	5,338	6,128	6,357	20

¹ Accessibility information is displayed using a three dot system. A complete dot means the station is fully accessible. No dot means that the station is inaccessible. A hollow dot means the station is partially accessible. Customers who use wheelchairs at partially accessible stations will be able to access train platforms from the street. However, ramps, ticket windows, buildings and shelters may not fully conform to ADA guidelines.

² NCS service began in 1996

³ Metra, "Commuter Rail System Station Boarding/Alighting Counts," Fall 2006, Spring 2014, and Fall 2018.

⁴ Western Ave. Station serves MD-N, MD-W and NCS Lines

⁵ River Grove Station serves MD-W and NCS Lines

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TABLE 4: 2019 MODE OF ACCESS AND 2018 COMMUTER PARKING AT NCS METRA STATIONS

Station Name	Mode of Access (2019)					Station Parking (2019)		
	Walk/Bike	Drive ¹	Dropped Off ²	Transit	Other	Capacity	Effective Use ³	Observed Use ⁴
Union Station	42%	5%	9%	28%	16%	0	n/a	n/a
Western Ave. ⁵	30%	39%	12%	14%	6%	23	100%	100%
River Grove ⁶	31%	54%	14%	1%	0%	178	89%	81%
Belmont Ave./Franklin Park	0%	33%	50%	0%	17%	96	9%	9%
Schiller Park	11%	56%	33%	0%	0%	114	38%	38%
Rosemont	0%	80%	0%	20%	0%	104	20%	20%
O'Hare Transfer	22%	33%	33%	11%	0%	--	--	--
Prospect Heights	7%	69%	19%	0%	5%	336	74%	51%
Wheeling	4%	64%	32%	0%	0%	508	35%	35%
Buffalo Grove	8%	71%	19%	0%	1%	1071	35%	35%
Prairie View	29%	56%	15%	0%	0%	363	92%	76%
Vernon Hills	14%	66%	18%	1%	1%	661	35%	35%
Mundelein	5%	67%	27%	0%	1%	433	39%	39%
Prairie Crossing ⁷	4%	73%	22%	0%	0%	258	21%	21%
Washington St./Grayslake	4%	61%	31%	4%	0%	155	20%	20%
Round Lake Beach	3%	63%	29%	1%	4%	380	14%	14%
Lake Villa	5%	71%	23%	1%	0%	235	32%	32%
Antioch	7%	70%	22%	0%	1%	328	36%	36%
TOTAL NCS	11%	66%	22%	0%	1%	5,243	40%	37%
SYSTEM TOTAL	26%	54%	16%	4%	1%	91,558	70%	63%

¹ Includes carpool drivers

² Includes carpool passengers

³ Effective use: all sold permit spaces are assumed to be used, even if unoccupied during parking survey

⁴ Observed use: spaces physically occupied during parking survey

⁵ Western Ave. Station serves MD-N, MD-W and NCS Lines

⁶ River Grove Station serves MD-W and NCS Lines

⁷ Parking area at Prairie Crossing Station serves MD-N and NCS Lines

Sources: Metra, Origin-Destination Survey, Fall 2019; Metra Station and Parking Capacity and Use Survey, 2018

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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.)

PRESENT AND FUTURE DEMAND

In 2018, more than 6,300 boardings took place each weekday on the NCS, with 82% of boardings occurring on peak-period, peak-direction trains. Figure 4 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 1.58 million in 2019.

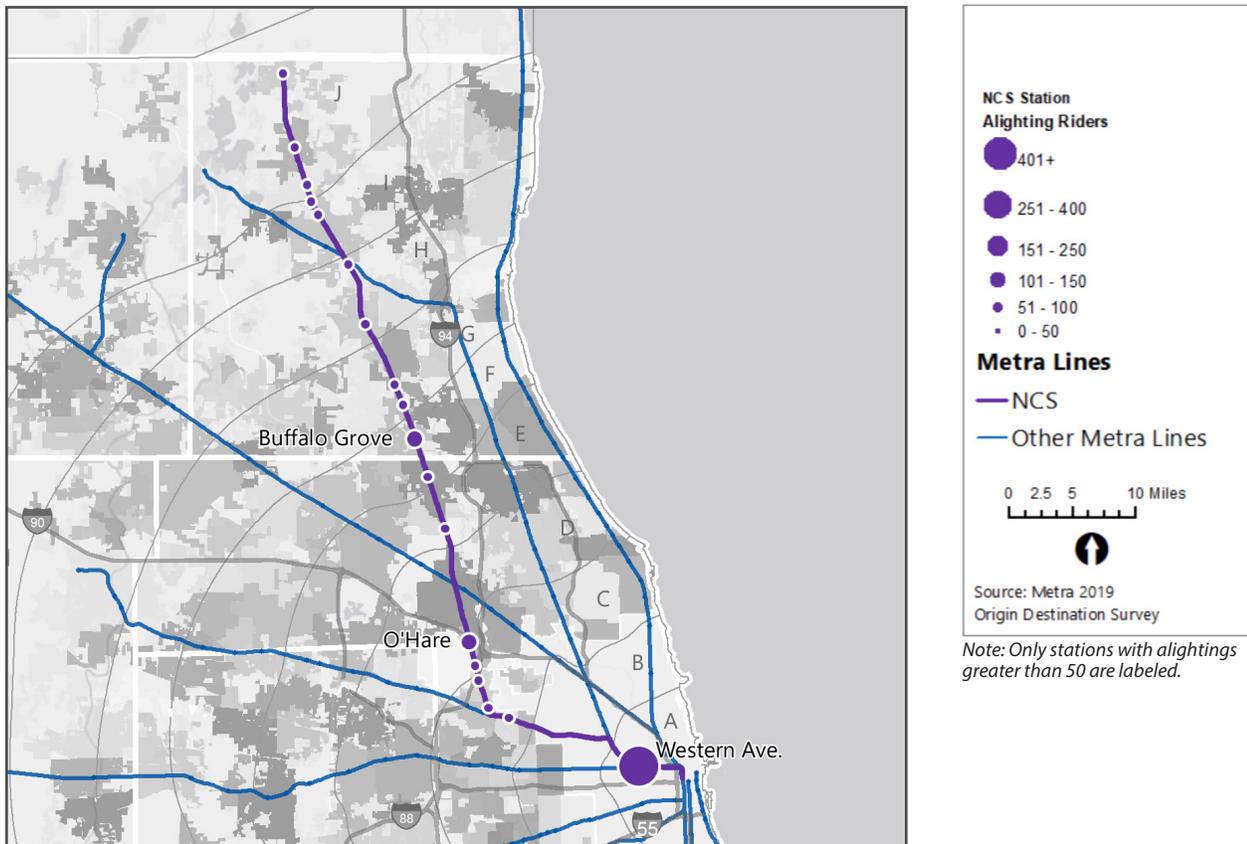
Over 5,000 parking spaces serve the riders of the NCS, as shown in Table 4. According to parking counts conducted in 2019, the effective rate of utilization at all stations on the line averages 40%. Because parking was expanded substantially as part of the 2006 NCS/MD-W upgrade to accommodate anticipated 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

Terms Defined

“Peak-Direction Trains” are those that travel in the direction with the most demand from riders. During the “AM Peak,” trains travelling toward the Loop are “Peak-Direction” while trains travelling away from the Loop are “Peak-Direction” during the “PM Peak.”

“Effective Parking Utilization” is calculated by assuming that all parking pass holders will need a parking space at the same time. This ensures that there is always a space for those who hold a parking pass.

FIGURE 3: NON-DOWNTOWN DESTINATIONS DURING AM PEAK



parking. Western Avenue, River Grove, and Prairie View are the only NCS stations to meet this standard.

Tables 5, 6, and 7 show that NCS station marketsheds experienced mixed population and household growth between 2010 and 2020. The Chicago Metropolitan Agency for Planning (CMAP) forecasts modest population growth by 2050 along the NCS—an overall increase of 17% in the corridor. Employment expansion will be the greatest factor stimulating ridership growth as CMAP projects substantial job growth in northern Lake County.

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. 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. The O’Hare Transfer Station is likely to see an increase in activity due to the recent construction of a multi-modal facility adjacent to the station. The new facility consolidated rental cars, public parking, public roadways, shuttle buses, CTA and the Metra station into one access point. The Airport Transit System (ATS) is being extended to the facility, which will speed up the transfer from the O’Hare Transfer Metra Station to the airport. 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 CAPITAL PROJECTS ALONG THE NCS

Since 1985, Metra has invested \$394 million (in year of expenditure dollars) in improvements to the NCS corridor, as shown in Table 1. Since the line’s 1996 inauguration, numerous adjustments have been made to the schedule, increasing service and reducing delays. 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 have also benefitted riders on NCS trains.

Terms Defined

“Reverse Commuting” refers to riders who regularly travel in the opposite direction of most commuters. For Metra riders, this refers to people who are travelling away from the Loop during the AM Peak and toward the Loop during the PM Peak.

“Alighting Riders” are those who get off the train. They are the opposite of a “boarding rider.”

Over the years, Metra has partnered with Amtrak, the owner of CUS, to complete a number of upgrades to the terminal's commuter facilities. For more information on proposed CUS improvements, see the CBD chapter of this report.

NCS ACCESSIBILITY IMPROVEMENTS

All NCS stations comply with the accessibility requirements of the Americans with Disabilities Act (ADA).

FIGURE 4 ORIGINS OF RIDERS USING NON-CBD NCS STATIONS

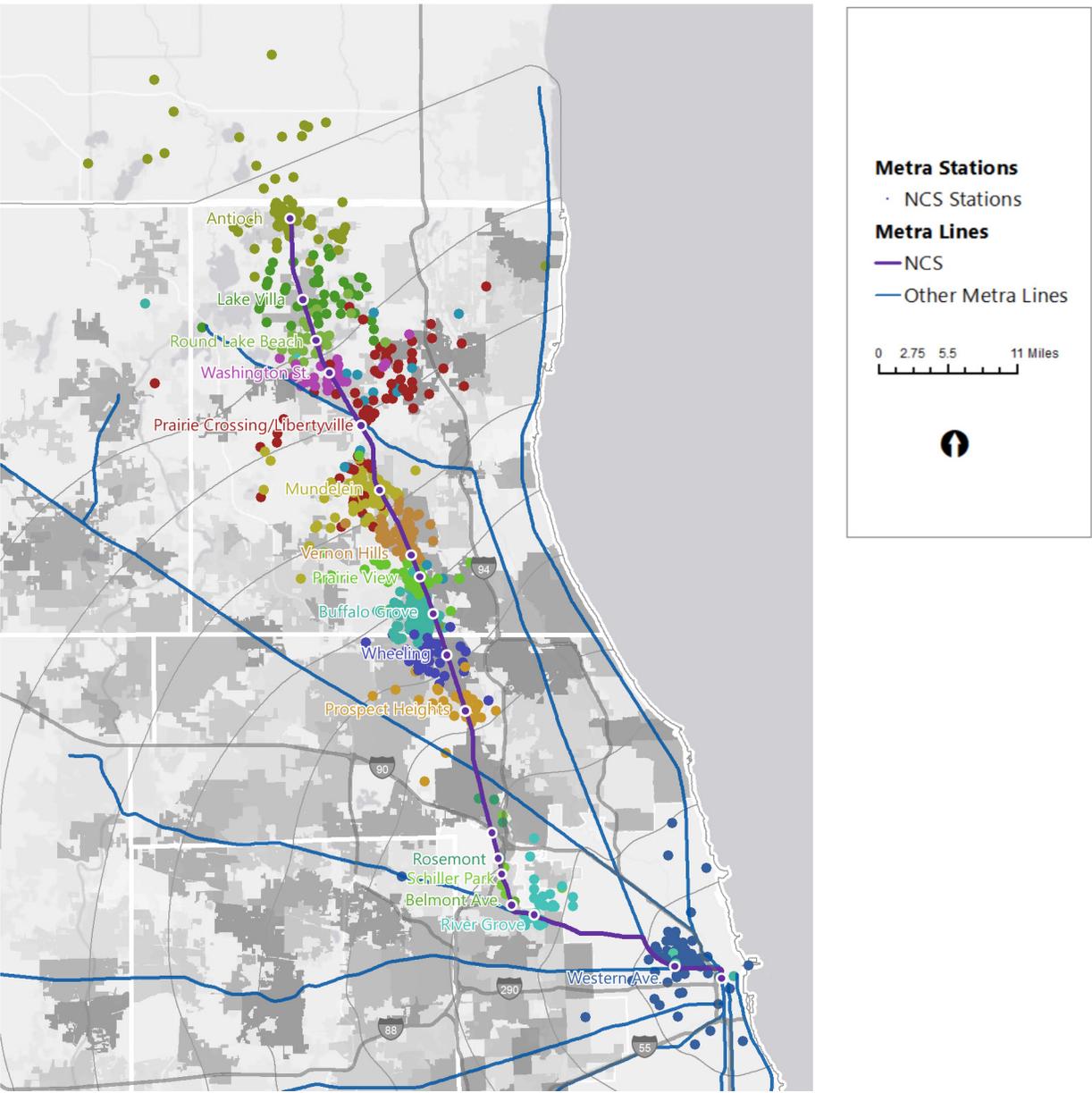


TABLE 5: NCS CORRIDOR POPULATION

Station	Fare Zone	Area Sq. Mi.	Population in Zone			Percent Change	
			2010	2020	2050	2010 vs 2020	2020 vs 2050
Union Station, Western Ave.	A	3.6	60,407	59,736	65,410	-1%	9%
River Grove, Belmont Ave./Franklin Park, Schiller Park	C	10.2	18,252	20,355	23,341	12%	15%
Rosemont, O'Hare Transfer	D	12.5	21,052	22,560	24,679	7%	9%
Prospect Heights	E	11.8	34,900	36,791	41,292	5%	12%
Wheeling, Buffalo Grove	F	25.9	90,554	95,067	104,248	5%	10%
Prairie View, Vernon Hills	G	30.1	47,303	48,946	58,135	3%	19%
Mundelein, Prairie Crossing	H	36.5	48,870	53,330	66,880	9%	25%
Washington St./Grayslake	I	14.0	34,731	32,478	39,438	-6%	21%
Round Lake Beach, Lake Villa, Antioch	J	78.5	78,673	77,215	99,736	-2%	29%
NCS TOTAL		268.9	449,765	446,478	523,159	-1%	17%
REGION TOTAL		3,748.0	8,523,863	8,672,509	10,354,840	2%	19%

TABLE 6: NCS CORRIDOR HOUSEHOLDS

Station	Fare Zone	Area Sq. Mi.	Households in Zone			Percent Change	
			2010	2020	2050	2010 vs 2020	2020 vs 2050
Union Station, Western Ave.	A	3.6	24,034	27,865	29,730	16%	7%
River Grove, Belmont Ave./Franklin Park, Schiller Park	C	10.2	7,440	8,421	10,151	13%	21%
Rosemont, O'Hare Transfer	D	12.5	8,890	9,355	10,452	5%	12%
Prospect Heights	E	11.8	13,276	14,449	17,055	9%	18%
Wheeling, Buffalo Grove	F	25.9	34,246	38,971	44,331	14%	14%
Prairie View, Vernon Hills	G	30.1	15,994	18,682	23,169	17%	24%
Mundelein, Prairie Crossing	H	36.5	16,169	18,889	25,380	17%	34%
Washington St./Grayslake	I	14.0	11,431	11,449	14,443	0%	26%
Round Lake Beach, Lake Villa, Antioch	J	78.5	26,861	27,859	38,609	4%	39%
NCS TOTAL		268.9	170,279	175,940	213,320	3%	21%
REGION TOTAL		3,748.0	3,100,987	3,341,064	4,140,227	8%	24%

TABLE 7: NCS CORRIDOR EMPLOYMENT

Station	Fare Zone	Area Sq. Mi.	Employment in Zone			Percent Change	
			2010	2020	2050	2010 vs 2020	2020 vs 2050
Union Station, Western Ave.	A	3.6	88,493	108,121	116,366	22%	8%
River Grove, Belmont Ave./Franklin Park, Schiller Park	C	10.2	10,472	12,229	13,458	17%	10%
Rosemont, O'Hare Transfer	D	12.5	34,678	100,478	102,767	190%	2%
Prospect Heights	E	11.8	33,233	27,407	30,522	-18%	11%
Wheeling, Buffalo Grove	F	25.9	48,233	58,157	63,480	21%	9%
Prairie View, Vernon Hills	G	30.1	36,998	43,278	48,086	17%	11%
Mundelein, Prairie Crossing	H	36.5	24,997	23,376	29,020	-6%	24%
Washington St./Grayslake	I	14.0	12,962	11,411	14,176	-12%	24%
Round Lake Beach, Lake Villa, Antioch	J	78.5	16,763	15,781	23,268	-6%	47%
NCS TOTAL		268.9	278,727	400,238	441,143	44%	10%
REGION TOTAL		3,748.0	4,141,355	4,231,961	4,945,892	2%	17%

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TABLE 8: MAJOR TRIP GENERATORS ACCESSIBLE ALONG 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	Community college; 11,400 students	River Grove
	College of Lake County - Southlake campus	Community college; 1 of 3 campuses	Vernon Hills
	University of St. Mary of the Lake	250 students	Mundelein
	College of Lake County - Grayslake campus	Community college; 1 of 3 campuses	Grayslake
Culture and Entertainment	Allstate Arena	Sports arena; cap. 17,500	Rosemont
	Rosemont Entertainment District	Fashion Outlets of Chicago/MB Financial Park/Rosemont Theatre/Stephens Conv. Ctr.	Rosemont
	Marytown	Catholic shrine and retreat center	Libertyville
Shopping	Lake County Fairgrounds	Hosts events throughout the year	Grayslake
	Hawthorn Mall	Super-regional mall	Vernon Hills
Government	Cook County Juvenile Court	28 courtrooms; juvenile temporary detention center	Chicago