

Introduction

System at a Glance

- › System Route Length: 488 miles
- › System Track Length: 1,155 miles
- › Parking Spaces: 90,483
- › 54% of Metra riders drive while 26% walk or bike to their boarding station
- › 2% more people live and work in the Metra service area than did in 2010
- › System ridership decreased 10% over the past 10 years
- › Annual Estimated Passenger Trips (2019): 74.0 million
- › Average Trip Length (2019) : 22.3 miles
- › Average Fare Paid (2019) : \$4.99
- › Number of Weekday Trains (Dec 2019): 692
- › Number of Saturday Trains (Dec 2019): 273
- › Number of Sunday Trains (Dec 2019): 181
- › On-Time Performance (2019): 94.6%
- › Number of Stations: 242

- › 50% of riders are female, 50% are male
- › 94% of riders are between the ages of 18 and 64
- › 69% of riders are white, 13% Black, 10% Asian, 7% Hispanic
- › 41% of riders have household incomes between \$100k-\$200k
- › 91% of trips are work-related
- › 8% of weekday trips are intermediate (do not begin or end in downtown Chicago)

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

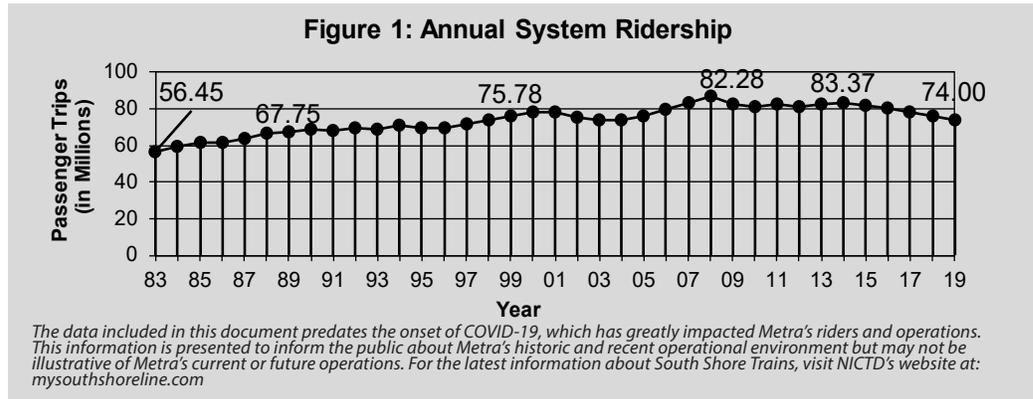


Table 2: System-wide Weekday Boardings

Time of Day	Inbound	Outbound
AM Peak	111,519	6,893
Midday	13,011	12,720
PM Peak	8,635	102,348
Evening	2,481	10,226
TOTAL	135,646	132,187

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

PURPOSE OF THE DOCUMENT

The *State of the System* Report provides a broad view of Metra's operating environment and customer base to help readers gain perspective on the complexities of Metra's system and provide context for the agency's strategic planning efforts. Following the Chicago Central Business District chapter, which presents Metra's operations and ridership related to its five downtown stations, are line-specific chapters that include historical information about each corridor as well as descriptions of each line's infrastructure, particular operating limitations, and service and station characteristics. Past, present, and projected 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.

This report 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.

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

- 3 – System Overview
- 4 – Ridership
- 5 – Mode of Access
- 6 – Population by Line
- 6 – Households by Line
- 6 – Employment by Line
- 7 – Rider Profile
- 8 – Intermediate and Reverse Trips
- 9 – Agency Governance
- 10 – Ownership and Operations
- 10 – Capital Investments

SYSTEM OVERVIEW

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, 692 trains serve 242 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 a combined 600 freight trains and Amtrak intercity trains operating in the Chicago region each day.

FIGURE 2: ANNUAL RIDERSHIP BY LINE (2019)

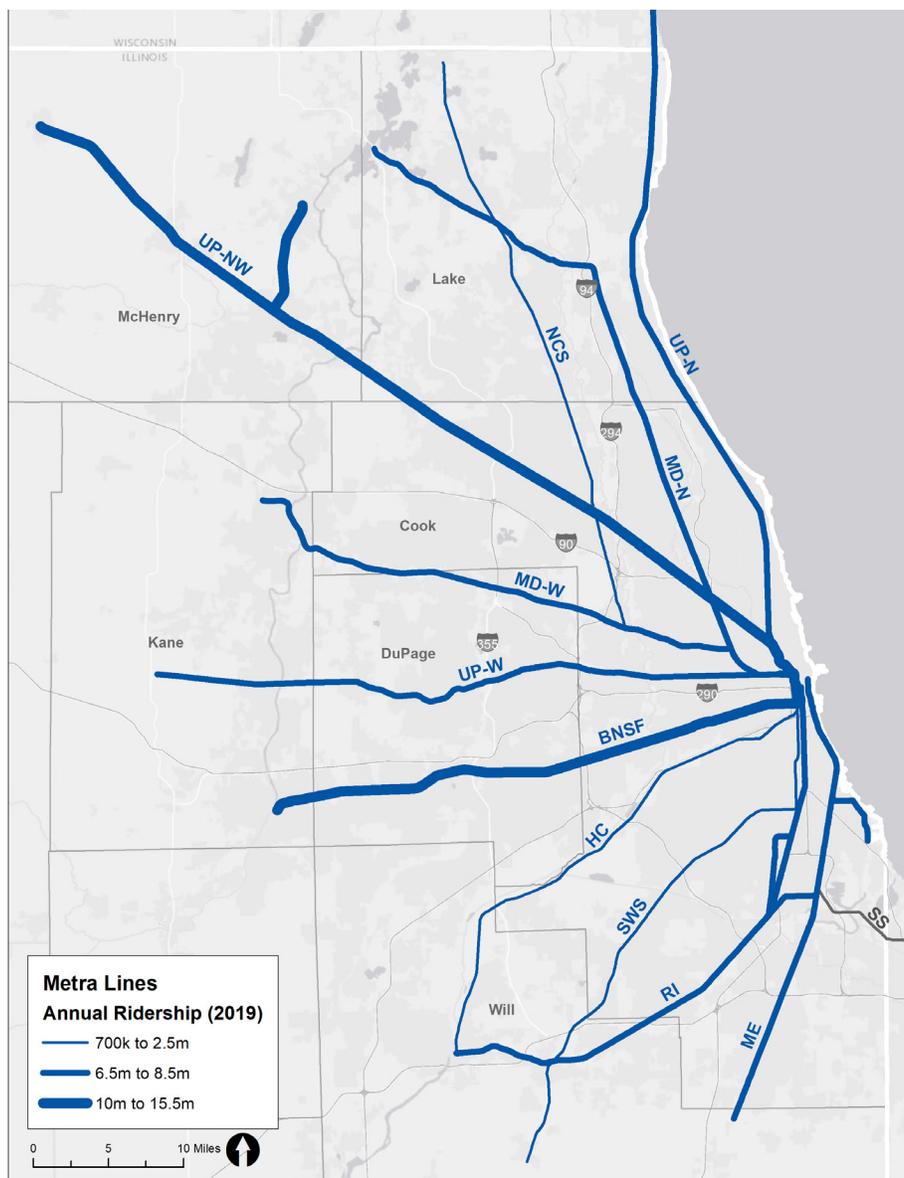


TABLE 2: WEEKDAY RIDERSHIP BY LINE

Line	2018 Boardings
UP-N	31,400
MD-N	23,300
NCS	6,400
UP-NW	37,600
MD-W	20,800
UP-W	28,000
BNSF	54,900
HC	2,700
SWS	8,800
RI	26,300
ME	27,400
System	267,800

RIDERSHIP

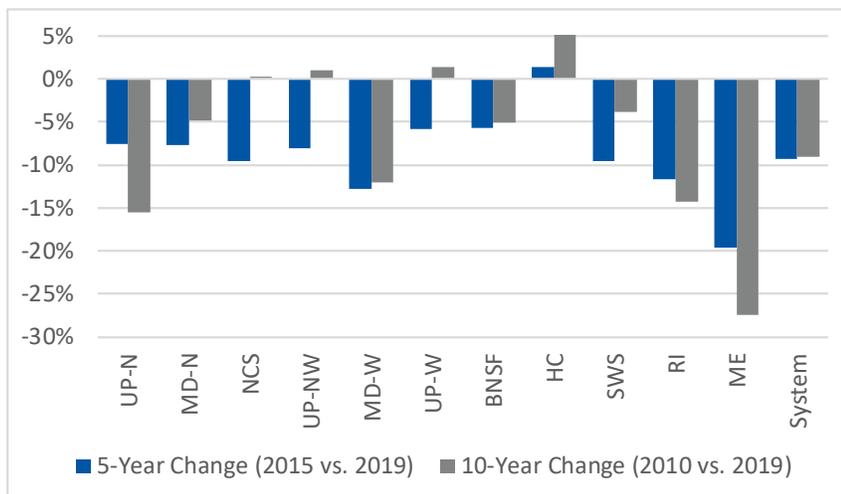
In 2019, Metra riders made 74 million trips within the system. Figure 2 and Table 2 show the ridership variation across the Metra system by line. The BNSF, UP-NW, and UP-N lines attract the most ridership while the limited service HC and NCS have the least.

Ridership change, as shown in Figure 3, has generally trended negatively over the previous five and ten year time horizons with ridership losses accelerating in more recent years. Many factors contribute to recent ridership declines; however, low gas prices, telecommuting, and the continued decentralization of jobs in low-density, suburban environments away from the Metra stations are likely the largest contributors.

Most Metra riders use the system to travel to and from work. Commuters generated 91% of all trips on the system in 2019. While the vast majority travelled to downtown from suburban stations, a small but growing reverse-commute market has been developing in recent years. Reverse commuters are people who travel in the opposite direction of the majority of commuters.

Each line-level chapter explores the latest ridership data for each line and station. While there are broad trends affecting the entire system, each line has different factors affecting both the supply and demand of transit along each corridor.

FIGURE 3: 2019 RIDERSHIP CHANGE BY LINE



MODE OF ACCESS

Mode of Access refers to the way that Metra riders arrive to the station where they begin each of their trips. Metra gathers information about this by conducting regular surveys of riders. Figure 4 displays the results of Metra's 2019 Survey. Just over half of Metra riders drive or carpool to the station where they begin their trip, 26% walk or bike, 16% are dropped off, 4% take another form of public transportation, while the remaining 1% do something else like taking a taxi. While these numbers are broadly stable across the system, there are a few notable exceptions.

The UP-N has the highest walk and bike access of any line in the system with over half of its riders arriving to the station under their own power. This high walk and bike "mode share," as it is referred to by planners, is largely a product of the street networks, land use, and housing densities surrounding UP-N stations. Conversely, riders taking the NCS or HC drive to their stations in greater proportions than riders of other lines. These lines serve areas that have street networks designed to meet the needs of automobiles and low housing densities near the station. Understanding these trends and discrepancies is important to building stations and services that meet the needs of all Metra riders regardless of how they arrive at their station.

SYSTEM DEMOGRAPHIC PROJECTIONS

Tables 3, 4, and 5 show the population, household, and employment characteristics of each corridor in the Metra system. The underlying data is provided by the Chicago Metropolitan Agency for Planning (CMAP) and is used by an array of planners across agencies to make plans for the decades ahead.

CMAP projects that by 2050 the six-county region that makes up the Metra service area will add 1.68 million new residents, 799,000 new households, and 713,000 new jobs. Understanding where this growth is likely to occur is important as Metra adjusts service plans and programs capital investments.

While the majority of Metra riders use the system to travel between suburban stations and downtown Chicago, there are small but growing intermediate travel and reverse-commute markets that Metra tracks. Intermediate travelers, as shown in Table 8, are those whose destination station is one other than the terminal. Ten percent or more of the travelers taking the UP-N, UP-NW, and MD-NW lines are intermediate travelers. Reverse commuters, shown in Table 9, are those who travel in the opposite, or reverse, direction of the majority of travelers during peak-travel times. For Metra, any rider who is travelling away from downtown Chicago in the morning, or toward it in the evening, is a reverse commuter. The UP-N and MD-N lines serve a plurality of Metra's current reverse-commute market.

FIGURE 4: MODE OF ACCESS BY LINE

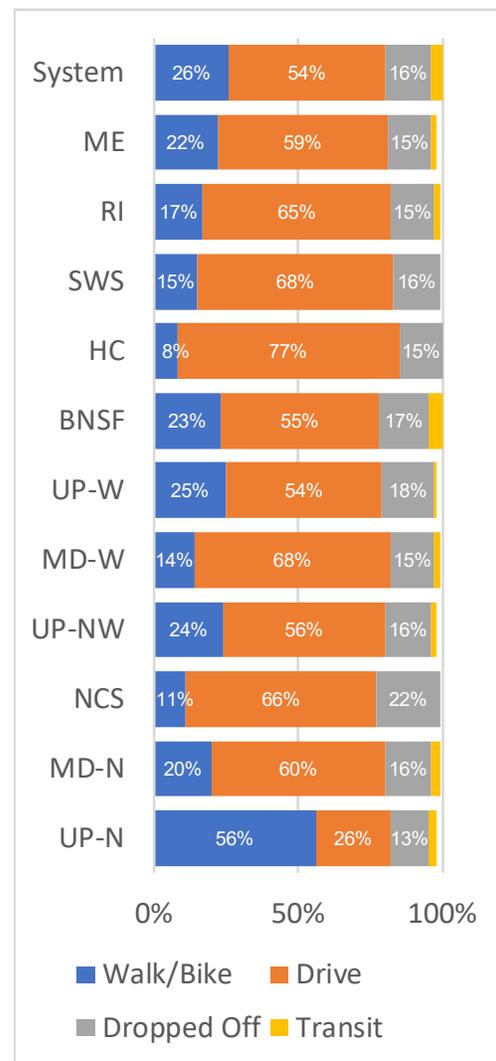


TABLE 3: CORRIDOR POPULATION BY LINE

Line	Area Sq. Mi.	Population in Zone			Percent Change	
		2010	2020	2050	2010 vs 2020	2020 vs 2050
UP-N	184.8	1,013,407	1,009,316	1,098,565	0%	9%
MD-N	239.9	668,829	671,371	760,191	0%	13%
NCS	268.9	449,765	446,478	523,159	-1%	17%
UP-NW	786.2	1,205,221	1,273,345	1,483,928	6%	17%
MD-W	359.3	952,868	991,417	1,166,625	4%	18%
UP-W	418.9	789,587	837,238	996,220	6%	19%
BNSF	297.8	1,149,035	1,194,231	1,402,380	4%	17%
HC	317.0	578,388	566,943	737,478	-2%	30%
SWS	428.2	543,382	565,717	687,949	4%	22%
RI	268.9	812,885	781,186	1,001,112	-4%	28%
ME	368	915,885	917,783	1,157,048	0%	26%
System Total	3,748.0	8,523,863	8,672,509	10,354,840	2%	19%

TABLE #4 CORRIDOR HOUSEHOLDS BY LINE

Line	Area Sq. Mi.	Households in Zone			Percent Change	
		2010	2020	2050	2010 vs 2020	2020 vs 2050
UP-N	184.8	441,055	461,685	495,038	5%	7%
MD-N	239.9	235,791	257,067	303,121	9%	18%
NCS	268.9	170,279	175,940	213,320	3%	21%
UP-NW	786.2	478,593	533,885	632,858	12%	19%
MD-W	359.3	327,085	358,530	439,610	10%	23%
UP-W	418.9	283,717	326,824	402,763	15%	23%
BNSF	297.8	387,632	424,621	515,331	10%	21%
HC	317.0	203,940	204,495	281,706	0%	38%
SWS	428.2	183,403	197,833	257,279	8%	30%
RI	268.9	281,723	290,153	394,226	3%	36%
ME	368	361,721	394,988	514,453	9%	30%
System Total	3,748.0	3,100,987	3,341,064	4,140,227	8%	24%

TABLE 5: CORRIDOR EMPLOYMENT BY LINE

Line	Area Sq. Mi.	Employment in Zone			Percent Change	
		2010	2020	2050	2010 vs 2020	2020 vs 2050
UP-N	184.8	494,656	585,674	627,388	18%	7%
MD-N	239.9	387,879	370,803	418,989	-4%	13%
NCS	268.9	278,727	400,238	441,143	44%	10%
UP-NW	786.2	694,409	730,201	820,642	5%	12%
MD-W	359.3	477,081	485,917	571,431	2%	18%
UP-W	418.9	533,736	571,351	640,957	7%	12%
BNSF	297.8	581,587	634,212	727,338	9%	15%
HC	317.0	267,566	305,289	391,136	14%	28%
SWS	428.2	214,047	251,449	304,343	17%	21%
RI	268.9	380,115	296,287	376,292	-22%	27%
ME	368	538,076	553,697	649,881	3%	17%
System Total	3,748.0	4,141,355	4,231,961	4,945,892	2%	17%

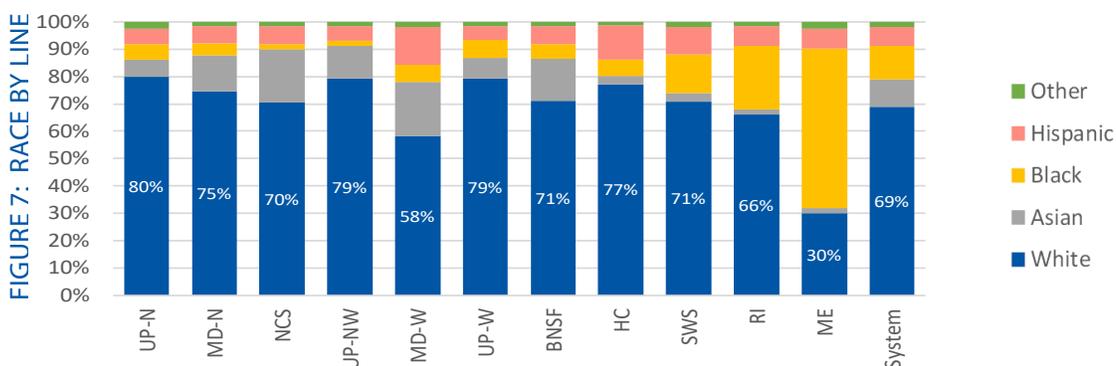
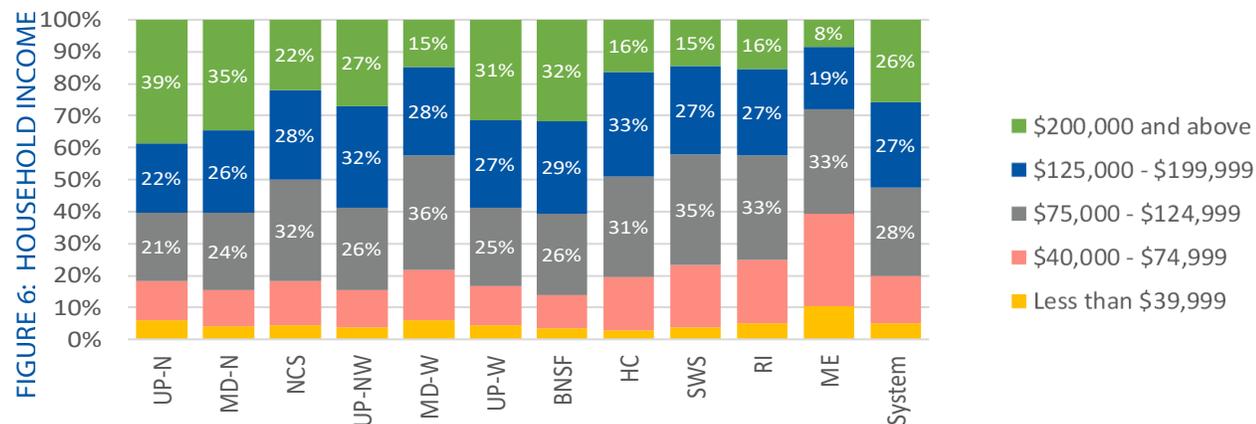
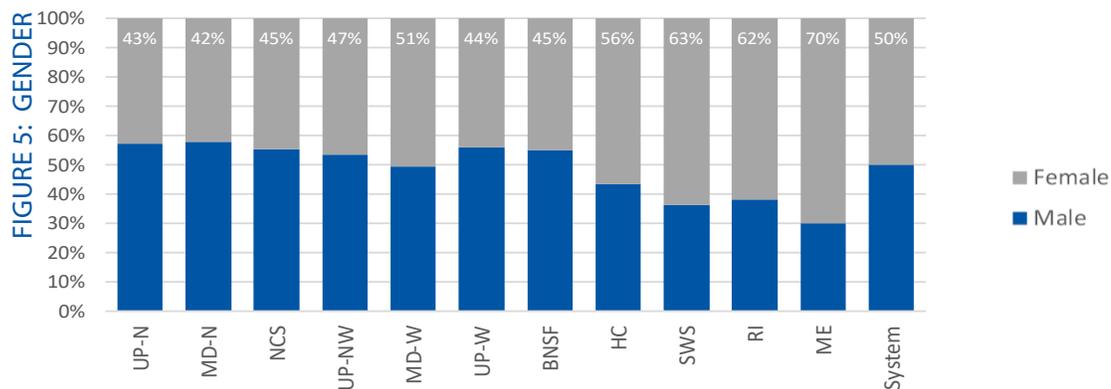
The data included in this document predates the onset of COVID-19, which has greatly impacted Metra's riders and operations. This information is presented to inform the public about Metra's historic and recent operational environment but may not be illustrative of Metra's current or future operations.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

Note: Values for population, households, and employment include areas of overlap for each rail line, but do not include areas of overlap for the system totals.

RIDER PROFILE

Figures 5-7 present the characteristics of Metra riders, including line-level statistics for gender, household income, and race. On the next page, Tables 6 and 7 provide system-level statistics for rider ages and trip purposes. These have been aggregated because line-level variation is minimal.

Despite a systemwide average ridership that is 50% male and 50% female, there are some notable variations between lines. The Metra Electric is the “most female” line with 70% of riders identifying as female. The MD-N is the “most male” line in the system with 58% identifying as such.



Source: Metra, Origin-Destination Survey, Spring 2019

Along with being the “most female” line, the Metra Electric has the greatest proportion of Black riders among lines in the Metra system. Metra tracks each of these demographic factors for a variety of reasons; however, each one is vital for Title VI analyses and other equity standards that Metra tracks and assesses when making investment and service decisions.

When taken together, each of the metrics on pages 7 and 8 are important to understanding who is riding Metra, how they are riding, and what strategies Metra may be able to use to better serve current riders and attract new ones.

FIGURE 8: INTERMEDIATE TRIPS BY LINE

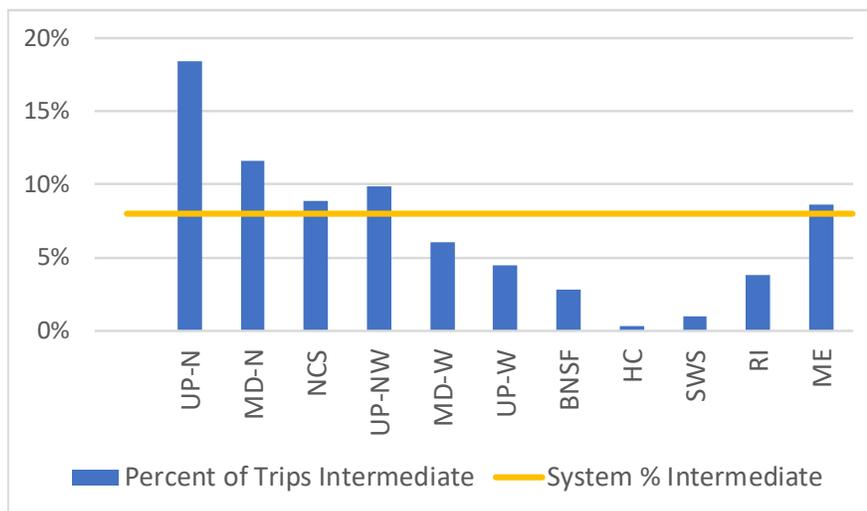
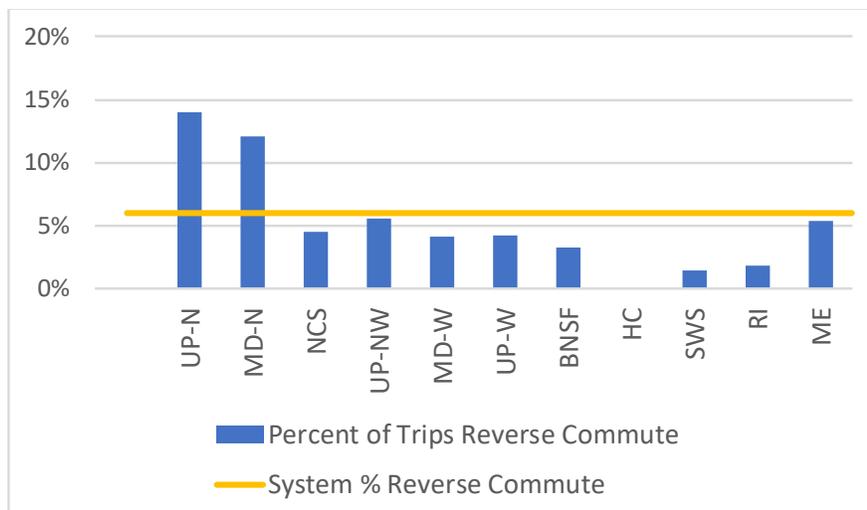


FIGURE 9: REVERSE COMMUTE TRIPS BY LINE



Source: Commuter Rail System Station Boarding/Alighting Counts, Fall 2018

TABLE 6: RIDER AGE

Age Range	System Riders
Under 18	0.7%
18 - 64	94.3%
65 and over	5.0%

TABLE 7: TRIP PURPOSE

Trip Purpose	System Riders
Work-Related	92.3%
Primary or High School	0.5%
College or University	1.9%
Home	1.5%
Other	3.8%

TABLE 8: INTERMEDIATE TRIPS

Line	Daily Intermediate Trips
UP-N	5,800
MD-N	2,700
NCS	600
UP-NW	3,700
MD-W	1,300
UP-W	1,300
BNSF	1,500
HC	0
SWS	100
RI	1,000
ME	2,400
System	20,300

TABLE 9: REVERSE COMMUTE TRIPS

Line	Daily Reverse Commute Trips
UP-N	4,400
MD-N	2,800
NCS	300
UP-NW	2,000
MD-W	900
UP-W	1,200
BNSF	1,800
HC	0
SWS	100
RI	500
ME	1,500
System	15,500

Source: Metra, Origin-Destination Survey, Spring 2018

AGENCY GOVERNANCE

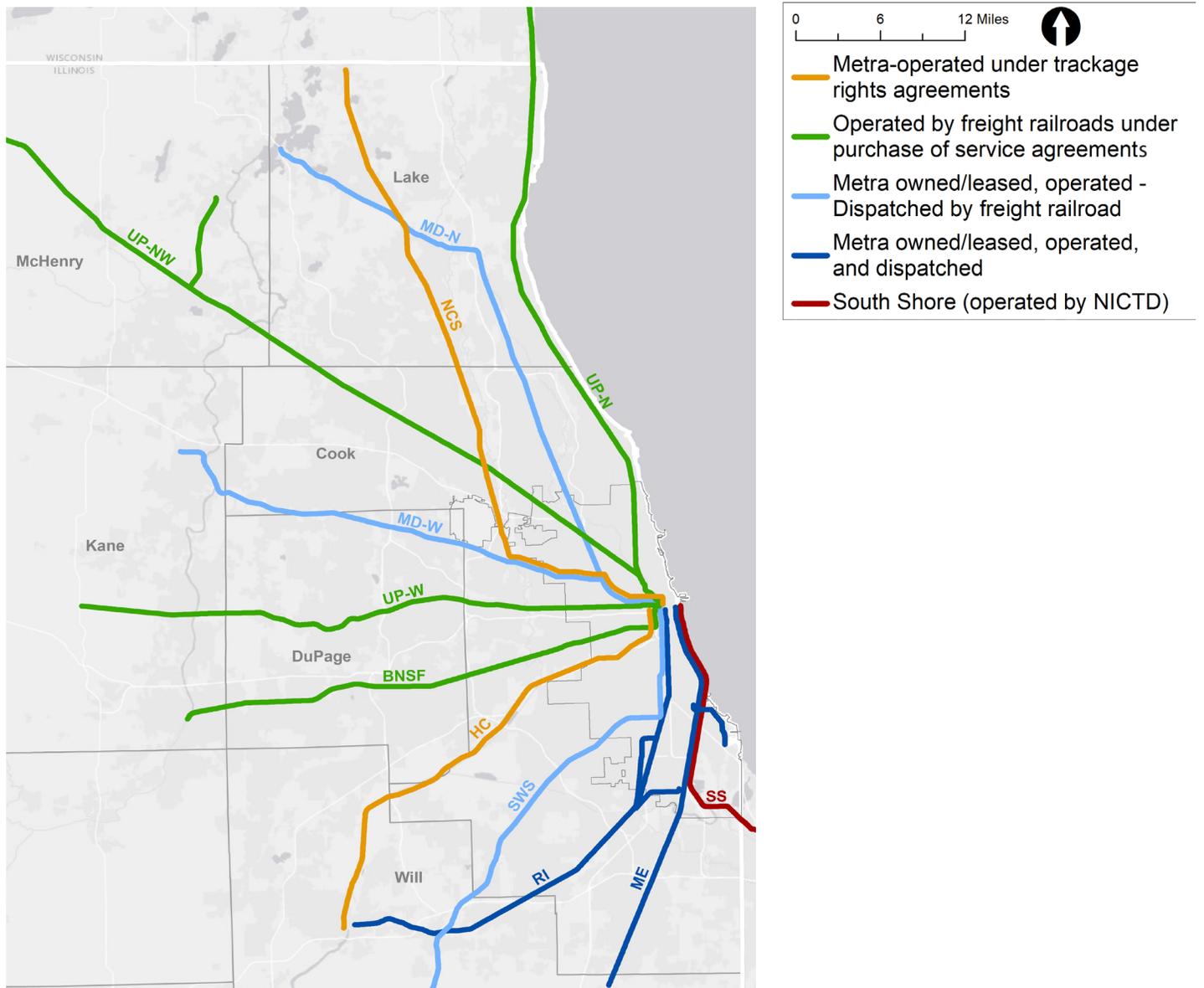
Metra's operations and policies are guided by an 11-member Board of Directors. The Board chairs of the counties of DuPage, Kane, Lake, McHenry and Will each appoint one director. Four additional directors are appointed by the suburban members of the Cook County Board. One director is appointed by the president of the Cook County Board and one director is appointed by the mayor of the city of Chicago. The chair of the Metra Board is elected by a vote of the Board members. The Board typically meets monthly.

The Citizens Advisory Board is made up of 10 representatives from across the Metra service area. It meets quarterly and further advises the Board on the impact of Metra's policies and programs on the communities it serves.

TABLE 10: METRA BOARD OF DIRECTORS APPOINTING AUTHORITY

Appointing Authority	Number of Members
Suburban Cook County Board	4
Cook County President	1
Mayor of Chicago	1
Lake County	1
McHenry County	1
Kane County	1
Will County	1
DuPage County	1
Total Metra Board Members	11

FIGURE 10: OWNERSHIP AND OPERATIONS



OWNERSHIP AND OPERATIONS

Metra operates 11 main rail lines radiating from the Chicago CBD throughout Chicago and the six-county area. Figure 10 displays the general ownership and operational arrangement of each of Metra's 11 lines.

Metra passenger service on the BNSF Line and the three UP lines is operated by the employees of each railroad under terms specified by purchase of service agreements (PSAs) with Metra.

The remaining lines are operated directly by Metra employees; however, ownership and dispatch services still vary by line. Metra operates service on two lines, the HC and NCS, via trackage rights agreements with Canadian National (CN). The SWS is operated via a trackage lease agreement with Norfolk Southern.

There are four Metra-owned lines, the MD-N, MD-W, ME, and RI; however, Canadian Pacific is responsible for dispatching trains along most of the route for the MD-N and MD-W lines. Only the ME and RI are fully owned, operated, and dispatched by Metra.

CAPITAL INVESTMENT HISTORY

Table 11 provides a brief overview of Metra's capital investments by line and asset class since the agency was founded in 1984. The values below have been rounded and may not add to the exact system values on the right. Preventative maintenance, new lines, and pending grants are not included.

The RI and ME have been the most capital-intensive lines up to this point; however, both are completely owned and operated by Metra and the electrical infrastructure along the ME increases maintenance costs for that particular line. More specific information can be found in each line chapter.

TABLE 11: METRA CAPITAL INVESTMENT HISTORY (IN MILLIONS)

Asset Class	UP-N	MD-N	NCS	UP-NW	MD-W	UP-W	BNSF	HC	SWS	RI	ME	System
Rolling stock	\$214	\$206	\$49	\$266	\$227	\$229	\$471	\$30	\$93	\$300	\$892	\$2,978
Track and structure	\$241	\$123	\$38	\$169	\$146	\$97	\$152	\$8	\$35	\$447	\$113	\$1,567
Signal, electrical, and communications	\$81	\$121	\$121	\$99	\$145	\$100	\$121	\$26	\$42	\$108	\$228	\$1,137
Facilities and equipment	\$22	\$94	\$19	\$30	\$92	\$19	\$67	\$12	\$23	\$155	\$151	\$685
Stations and parking	\$135	\$74	\$10	\$147	\$67	\$147	\$74	\$11	\$33	\$182	\$234	\$1,120
Acquisitions, extensions, and expansions	\$3	\$2	\$233	\$6	\$56	\$119	\$8	\$1	\$152	\$2	\$17	\$603
Support activities	\$27	\$50	\$19	\$31	\$43	\$24	\$36	\$14	\$19	\$62	\$100	\$431
TOTAL	\$721	\$670	\$489	\$748	\$776	\$735	\$929	\$102	\$397	\$1,256	\$1,735	\$8,521
PERCENTAGE	8.5%	7.9%	5.7%	8.7%	9.1%	8.6%	10.9%	1.2%	4.6%	14.7%	20.3%	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