

### Plan of Action for Regional Transit

Northeastern Illinois

System improvements: Regional Rail – Recommendations



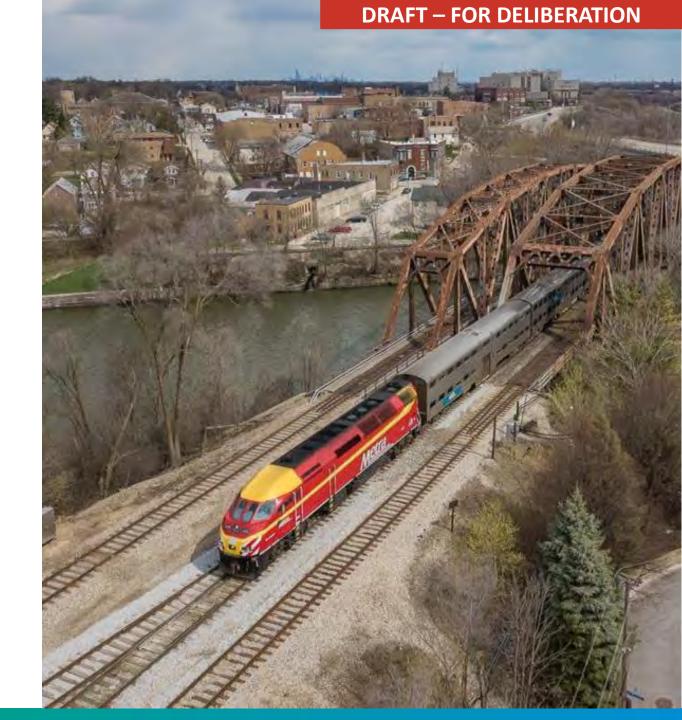


### Regional rail





Our challenge: Adapting service to changing travel patterns with existing infrastructure



### Recommendations summary



Identify needs and dedicate funding to support Metra's transformation into a "regional rail" provider

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Identify and support the development of infill station opportunities to address rail transit service gaps

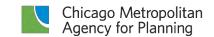
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Integrate planning for and importance of regional rail into railroad and freight system investments (e.g., CREATE)

\$\$

Companion recommendation: Establish complementary fare policies and transit-supportive development practices

See companion materials



### **Recommendation:** Identify needs and dedicate funding to support Metra's transformation into a "regional rail" provider

#### Description

- Identify investment needs (e.g., infrastructure, rolling stock) that would enable Metra's transformation into "regional rail" service
- Integrate into planning and funding for statewide rail investments

#### **Primary rationale**

- Investments would leverage region's vast rail network to expand service and options without requiring significant new construction
- Metra's continued SOGR capital investments can also capture some "win-wins" to advance regional rail
- Local match is needed to secure billions in available federal grants.

#### **Implementation steps**

- Legislative actions:
  - Appropriate funds and/or direct IDOT to flex existing capital funds in support of passenger rail system investments
- State agency actions:
  - Identify linkages with state rail planning and funding supports
- Local/regional actions necessary to support:
  - Identify priority projects to facilitate transformation (e.g., Metra systemwide network plan)

#### **Policy evaluation**

Mobility	High/Med/Low
Equity	High/Med/Low
Economy	High/Med/Low
Environment	High/Med/Low
Regional benefit	Regional/Suburban/Urban

#### **Process evaluation**

Admin. feasibility	High/Med/Low
Political feasibility	High/ <b>Med</b> /Low
Timing	Near/Med/ <b>Long</b>
State control	High/ <b>Med</b> /Low

#### Net cost / investment

	'25	'26	'27	'28	'29	<b>'</b> 30	
Ops.	\$1M	\$5M	\$10M	\$15M	\$20M	\$25M	
Cap.	\$250M/year over ~10 years to implement systemwide						

#### Risks and challenges

- Detailed cost estimates yet to be developed
- Risk of exacerbating regressive Metra operating subsidy

### Recommendation: Identify and support the development of infill station opportunities

#### **Description**

- Identify opportunities where infill stations on rail networks could close significant rail transit service gaps, better serve regional destinations, and/or enable wider access to TOD
- Develop funding mechanisms or sources that could support the construction of a targeted set of infill stations

#### **Primary rationale**

- Infill stations could close rail transit service gaps using existing assets
- Infill stations could enable significant development opportunities and align with *ON TO 2050*'s focus on infill-supportiveness and equity
- External funding is generally needed to add new Metra stations

#### **Implementation steps**

- Legislative actions:
  - Consider establishing designated funding mechanism (e.g., new transit TIF) to facilitate infill station development
- Local/regional actions necessary to support:
  - Identify and prioritize infill station opportunities
  - Integrate infill station planning with transit-supportive land use and development policies

#### **Policy evaluation**

Mobility	High/Med/Low
Equity	High/Med/Low
Economy	High/Med/Low
Environment	High/Med/Low
Regional benefit	Regional/Suburban/Urban

#### **Process evaluation**

Admin. feasibility	High/ <b>Med</b> /Low
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#### **Net cost / investment**

	'25	<b>'26</b>	'27	'28	'29	<b>'</b> 30	
Ops.	Minimal incremental O&M cost to Metra						
Cap.	\$5M - \$5	0M per st	ation depo	ending on	site const	raints	

#### Risks and challenges

- Potential opposition from existing customers and/or infill station communities
- Increased operating costs, longer travel times

### Recommendation: Integrate planning for regional rail into railroad/freight system investments

#### Description

- Integrate planning for and importance of regional rail into public-private capital programs like CREATE
- Direct OIPI to study potential opportunities to relocate major freight yards and/or purchase private railroad ROW for public use

#### **Primary rationale**

- Freight congestion and interference is a significant barrier to expanded passenger service, service reliability, and safety. "Regional rail" will not be possible in the same timeframe on all Metra corridors given existing freight conflicts.
- Freight facilities include areas with significant TOD potential

#### Implementation steps

- Legislative actions:
  - Direct IDOT to coordinate with Metra and other regional transit providers on opportunities to address freight/passenger conflicts
  - Consider appropriating funds to support these investments
- Local/regional actions necessary to support:
  - Identify priority corridors and potential service frequency levels (integrated with Metra's systemwide network plan)
  - CREATE partners to consider portfolio with "regional rail" lens

#### **Policy evaluation**

Mobility	High/Med/Low
Equity	High/ <b>Med</b> /Low
Economy	High/Med/Low
Environment	High/Med/Low
Regional benefit	Regional/Suburban/Urban

#### **Process evaluation**

Admin. feasibility	High/ <b>Med</b> /Low
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Timing	Near/Med/ <b>Long</b>
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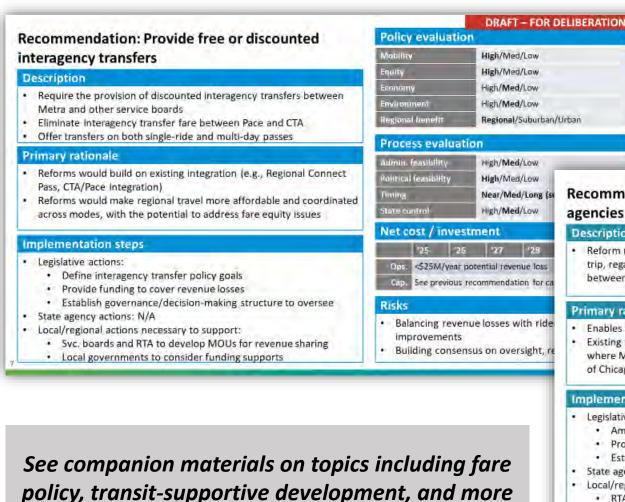
#### Net cost / investment

						30
Ops.	Costs a	re scalable	e, subject	to funding	availabil	ity, and
Cap.	require	e further s	tudy to id	entify spec	cific invest	tments

#### Risks and challenges

- Challenging negotiations (e.g., with railroads)
- Importance of freight activity to regional economy
- Local community opposition

**Companion recommendation: Establish complementary fare** policies and transit-supportive development practices



Recommendation: Align fare structures agencies for similar trips

#### Description

Reform regional fares so that travelers pay the same fare for a given trip, regardless of which mode they choose (i.e., taking Metra vs. CTA between the same start and end points would have the same cost)

#### Primary rationale

- Enables travelers to choose the mode that works best for their needs
- Existing fare disparities create equity concerns in lower-income areas where Metra is the primary rail service provider (e.g., far south side of Chicago)

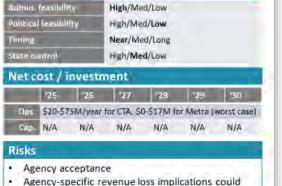
#### Implementation steps

- Legislative actions:
  - Amend RTA Act to establish principle of fare structure alignment
  - Provide funding to cover revenue losses
  - Establish governance/decision-making structure to oversee
- State agency actions: N/A
- Local/regional actions necessary to support:
  - · RTA and service boards to consider models of fare alignment, with interim and final goals and timelines



Regional benefit

Process evaluation



vary (based on fare levels and ridership shifts)

High/Med/Low

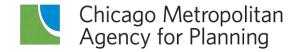
High/Med/Low

Regional/Suburban/Urban

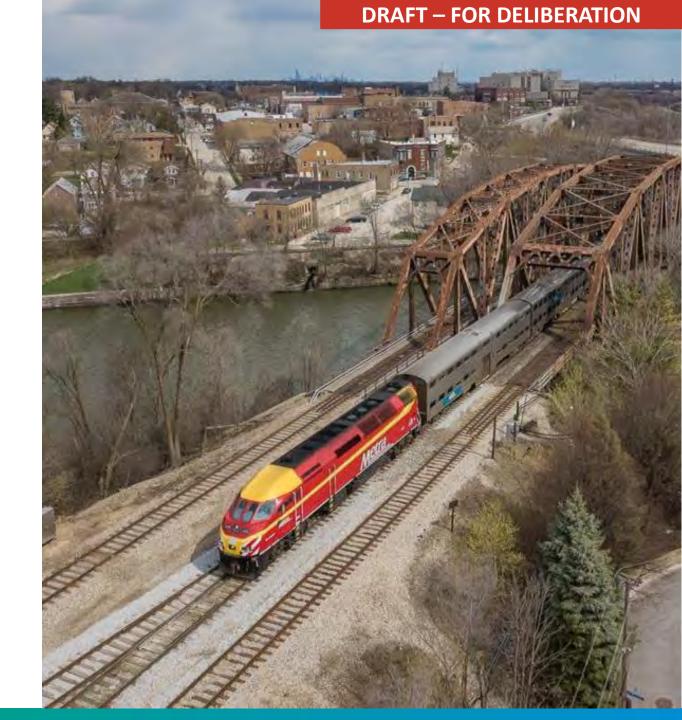


# Overview: Challenges and opportunities





Our challenge: Adapting service to changing travel patterns with existing infrastructure





Our region is underutilizing our greatest infrastructure asset: our vast rail network.



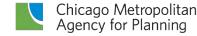
#### **SYSTEMWIDE**

- 1,155 track miles
- 146 communities served
- 242 stations
- +2 new stations under construction

#### **CITY OF CHICAGO**

- 74 Metra stations
- **35** Community Areas served





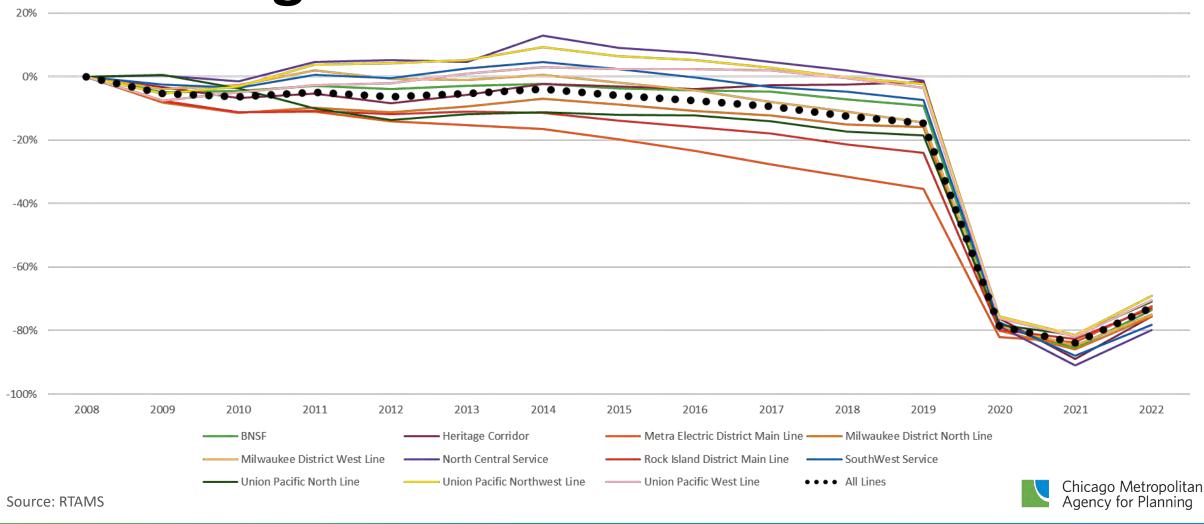


The pandemic changed work and commuting habits formed over decades.

But commuter rail faced significant challenges even before COVID-19.



# Even before COVID, Metra ridership was decreasing across most lines

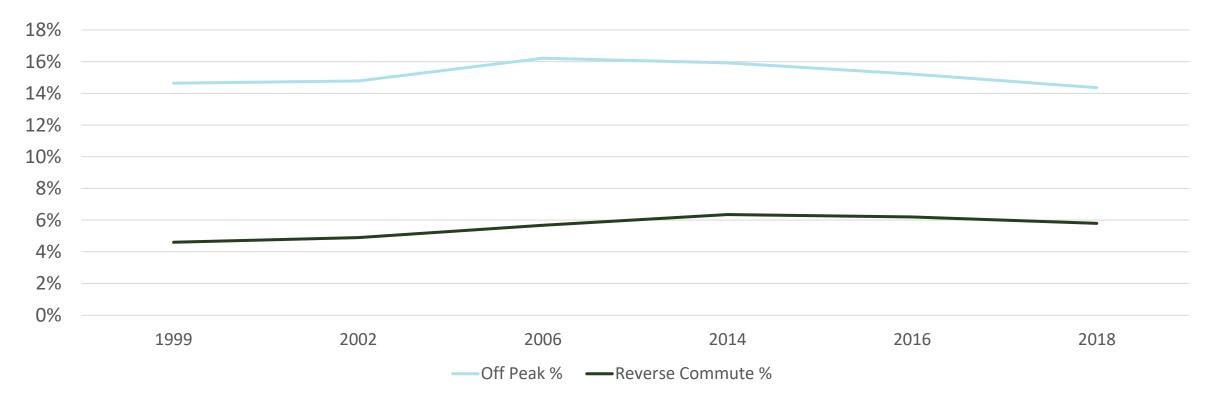


### Metra's downtown-oriented service has been losing ridership since 2008, even as downtown employment has grown significantly

	2008	2019	2022
Regional Employment	3,443,504	3,628,442	3,520,303
Downtown Chicago Employment*	520,409	619,991	604,561
% of Employment in Downtown	15.1%	17.1%	17.2%

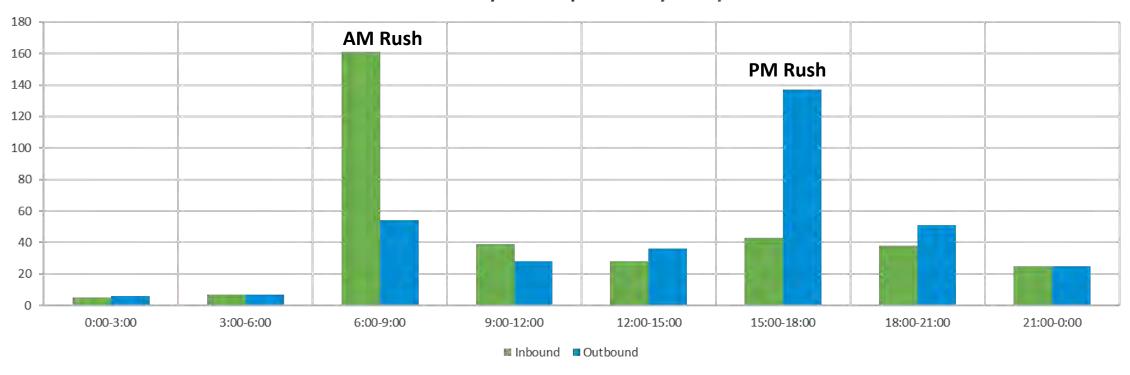
<sup>\*</sup>Employment is private sector only. Downtown includes the Loop and portions of Near North, Near West, and Near South Side community areas.

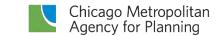
## Before COVID, off-peak and reverse commute trips accounted for about 20% of Metra trips.



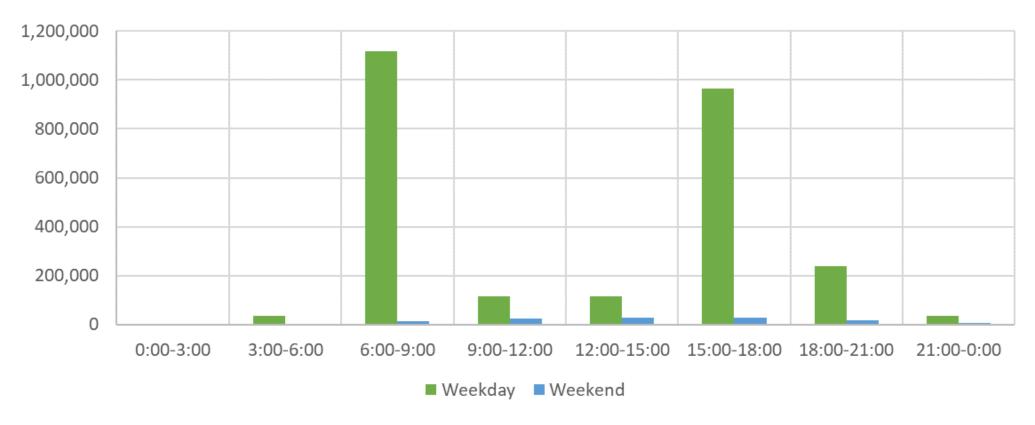
# Extremely peak-oriented service model results in poor utilization of assets

#### Metra weekday train departures by time period

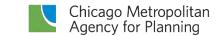




# Unlike weekday trips, weekend trips are spread throughout the day (2019 data)



Source: Analysis of Ventra usage data

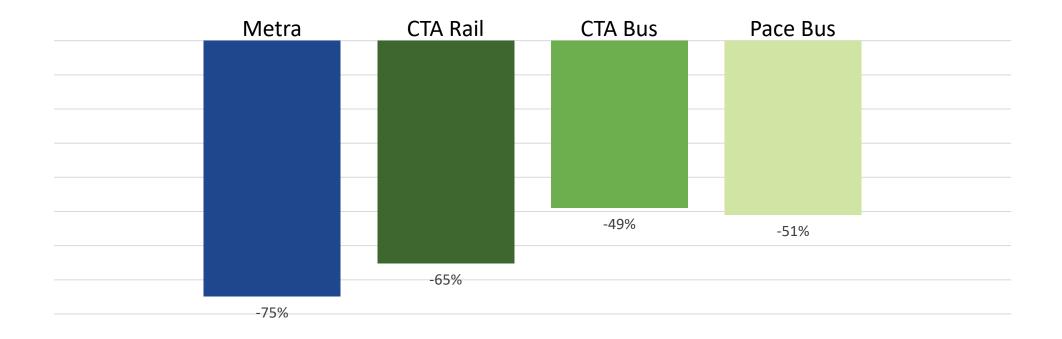




COVID-19 accelerated prior trends

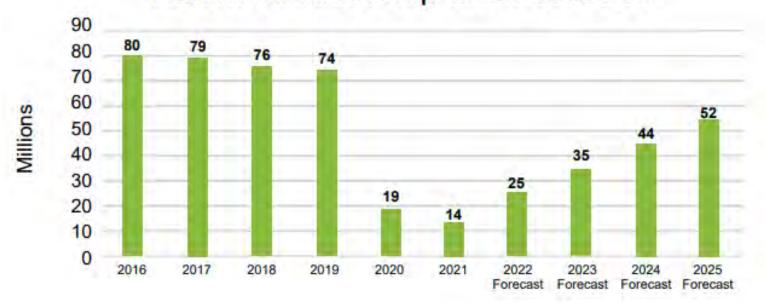


### In 2020, Metra ridership fell by 75%.



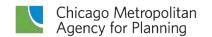
## Metra ridership is forecasted to recover slowly but not to pre-COVID numbers.

#### Historical Ridership and Forecasts



2022 Forecasted: 24.6M

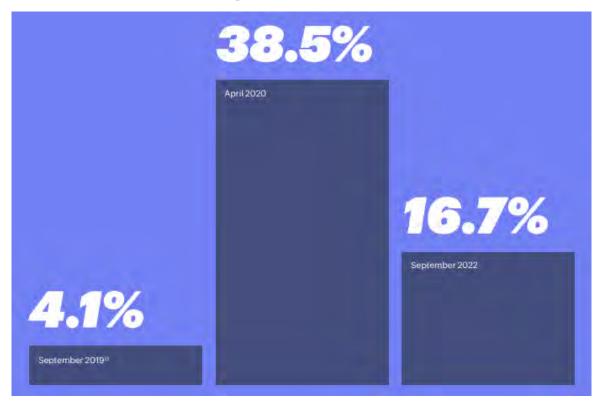
2022 Actual: 23.7M



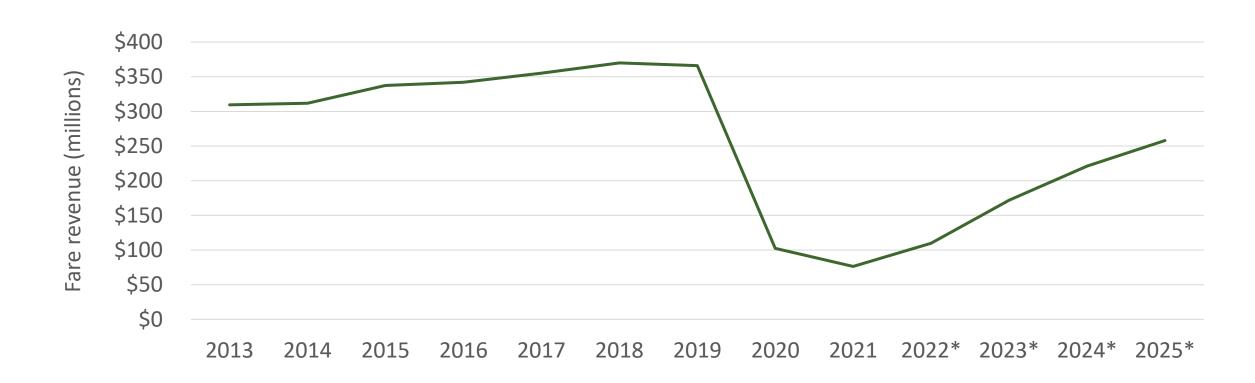
# Growth in remote and hybrid work poses challenges to Metra's existing model

Residents working from home from 2019–2022

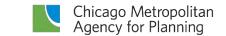
RTA surveys and CMAP analysis show a dramatic and sustained growth in remote work today vs. before COVID-19



# Metra fare revenue is projected to only recover to 70% of 2019 values by 2025



Source: Metra



<sup>\* 2022-2025</sup> values are projections from 2023 Metra budget book



As the region emerges from COVID-19, Metra can play more to its strengths, identifying the most resilient and robust markets it serves

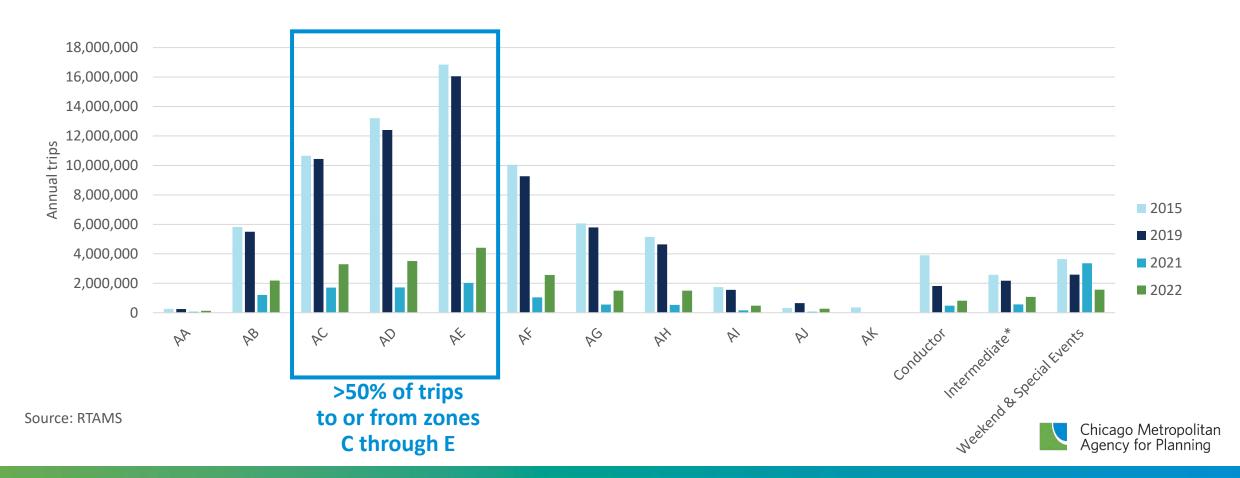


# The system has made some progress in response, but challenges remain

Metra has taken positive steps to respond to new and emerging travel patterns on existing commuter rail lines:

- Investing in more midday service on some lines
- Recognizing that AM peak now lasts longer and PM peak begins earlier
- Deploying pass products like the Regional Connect Pass to create a more seamless experience

# While Metra stretches more than 70 miles from Chicago, most trips originate closer



## Off-peak travel is a relatively small but much more resilient market

#### Ridership Recovery by Line & Service Period (Apr 2023 as a percentage of Apr 2019)

Line	Peak	Rev Peak	Midday	Evening	Weekday	Saturday	Sunday
BNSF	40%	44%	69%	39%	43%	72%	65%
HC	39%		-	190	37%		÷
MD-N	47%	36%	60%	39%	47%	65%	73%
MD-W	35%	40%	58%	49%	38%	58%	62%
ME	37%	133%	87%	85%	51%	129%	148%
NCS	39%	30%	74%	0%	40%	- 13	- 6
RI	42%	102%	78%	64%	47%	82%	78%
SWS	34%	33%	31%	16%	33%	0%	
UP-N	51%	64%	93%	79%	59%	90%	88%
UP-NW	50%	54%	74%	50%	53%	92%	89%
UP-W	51%	54%	54%	48%	51%	70%	66%
Total	43%	58%	72%	52%	48%	83%	81%

While peak period rush hour ridership is roughly half of its pre-COVID levels, mid-day and weekend ridership has recovered much more quickly – exceeding 80% of pre-COVID levels on Saturdays and Sundays.

Source: Metra Monthly Ridership Report, April 2023

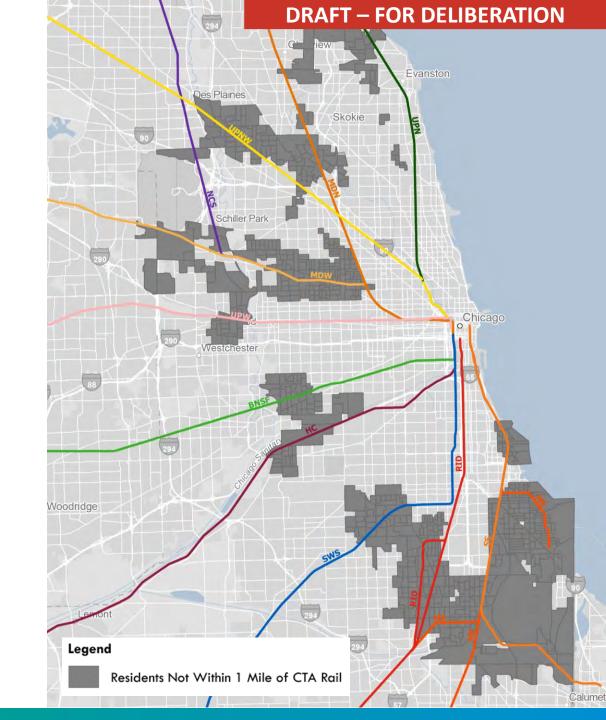


Metra's service model makes it less useful for certain kinds of travel and is a missed opportunity for urban areas where Metra is the only rail option



Many Metra stations in or near Chicago serve neighborhoods where CTA rail service is not available.

But the low service frequency, especially during off peak hours, limits its usefulness for non-downtown/non-commute trips



### The fares are much higher, even for short trips...

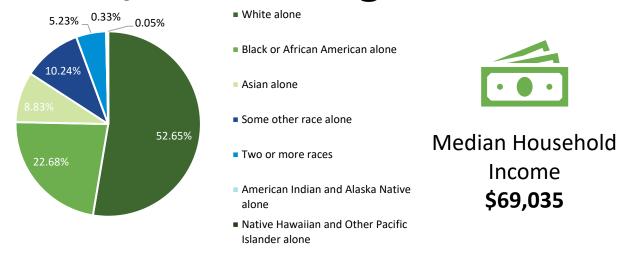
One-way Commuter Rail Fare by Zone Pair – Metra							
	Α	В	С	D			
А	\$4.00	\$4.25	\$5.50	\$6.25			
В	\$4.25	\$4.00	\$4.25	\$5.50			
С	\$5.50	\$4.25	\$4.00	\$4.25			
D	\$6.25	\$5.50	\$4.25	\$4.00			

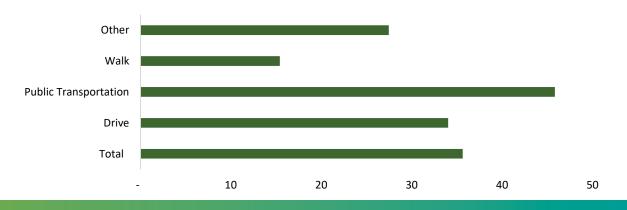
One-way 'L' Fare – CTA	One-way bus fare – CTA
\$2.50	\$2.25
	One-way bus fare – Pace
	\$2.00

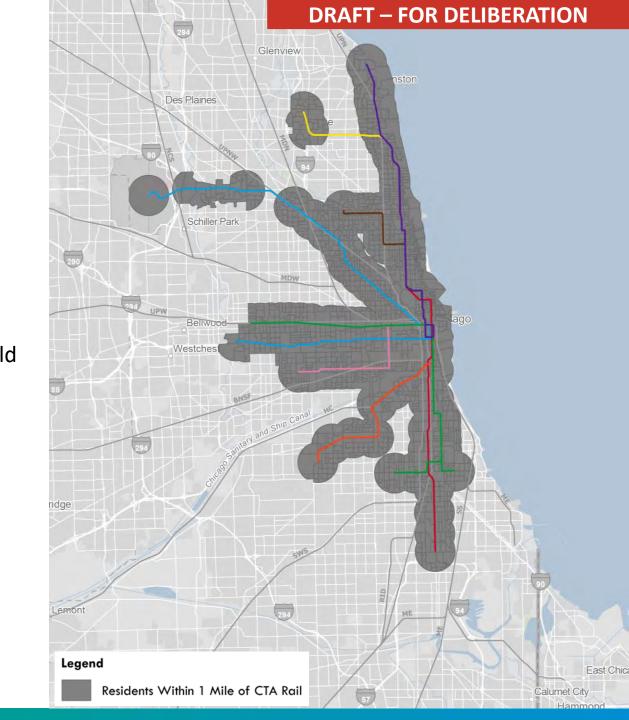
...and transferring from Metra to other transit services incurs an additional fare of \$2.00 or more.



## Residents Served by CTA Rail In/Near Chicago

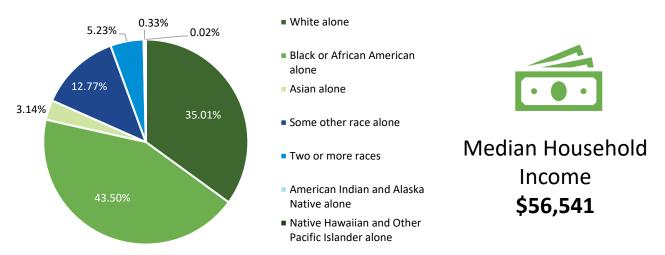


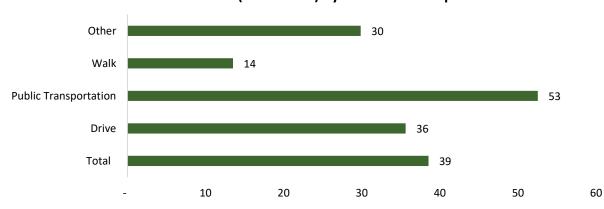


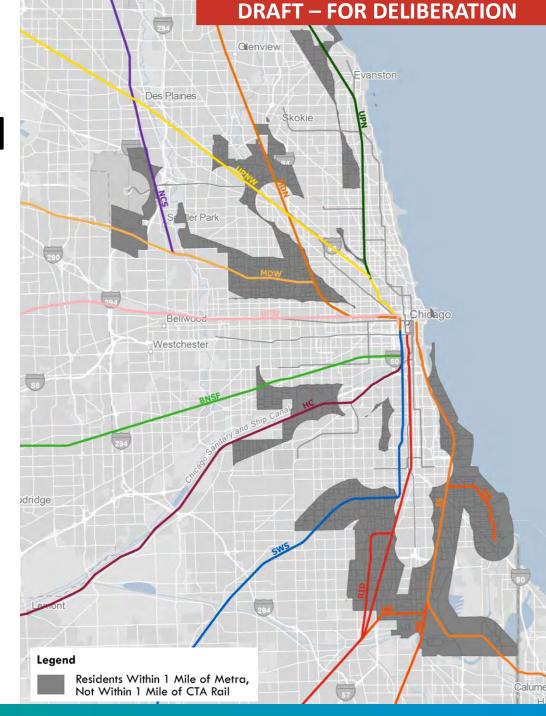




## Residents Near Metra, Not Served by CTA Rail In/Near Chicago

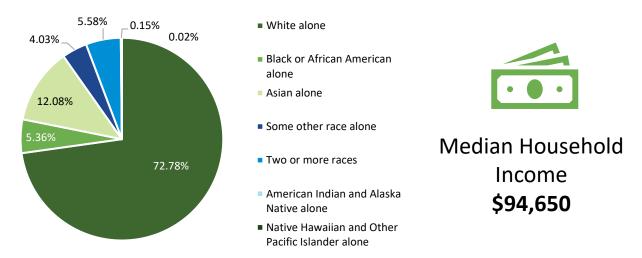


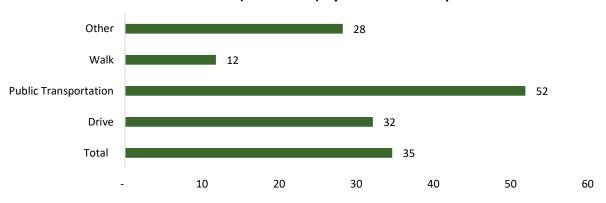


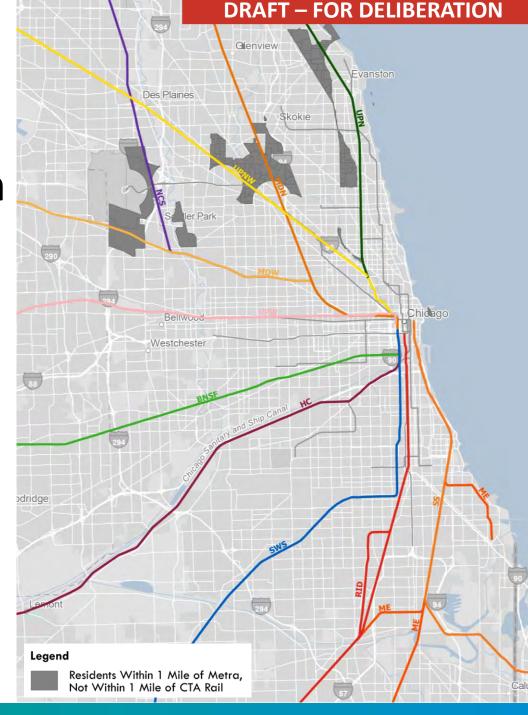




## Residents Near Metra, Not Served by CTA Rail In/Near Chicago, North

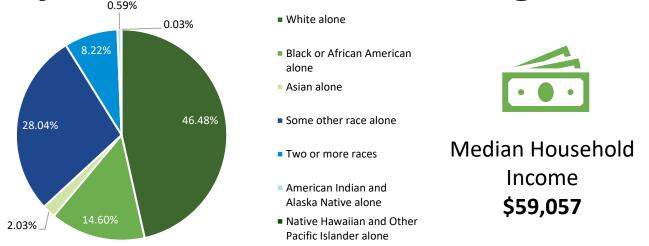


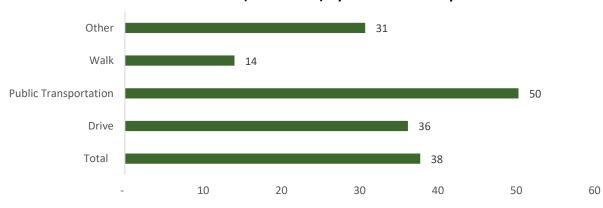






## Residents Near Metra, Not Served by CTA Rail In/Near Chicago, West

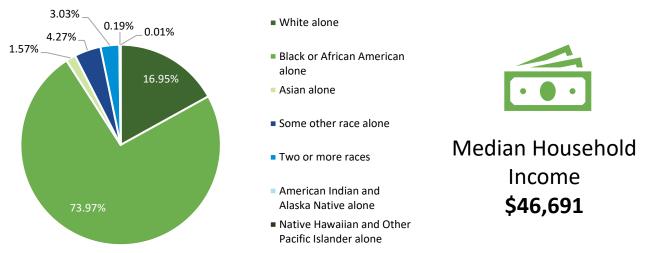


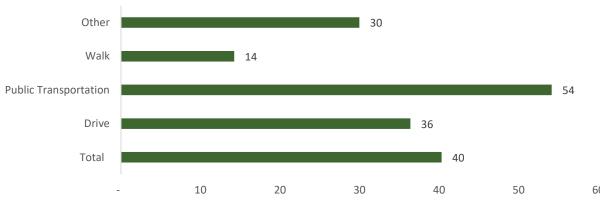






## Residents Near Metra, Not Served by CTA Rail In/Near Chicago, South









Metra's traditional commuter rail service model is also very expensive to operate and requires a high operating subsidy.

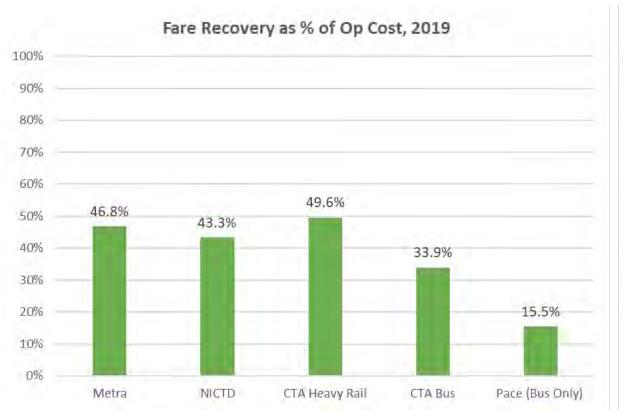


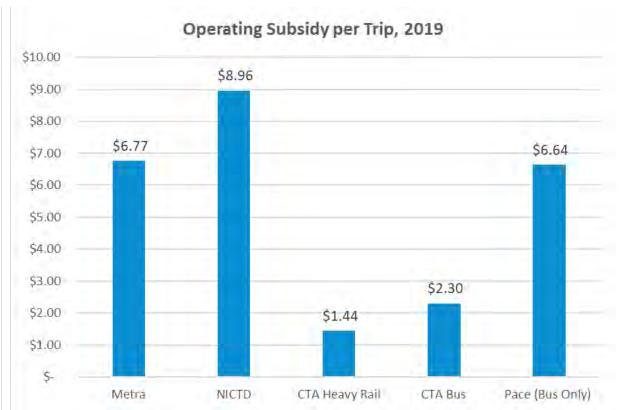


## Metra's cost per train-mile, and per passenger, is the highest of Chicago transit services (2019)

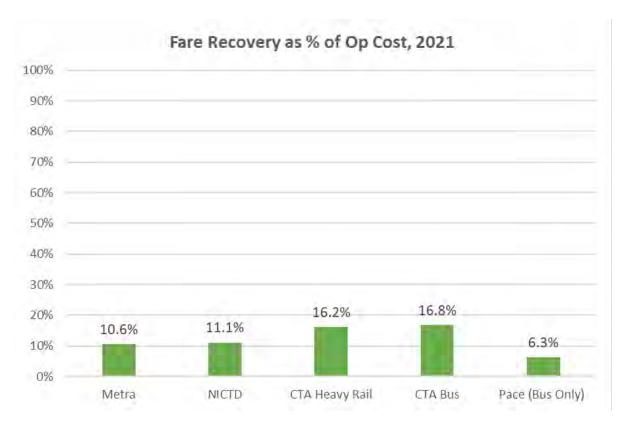


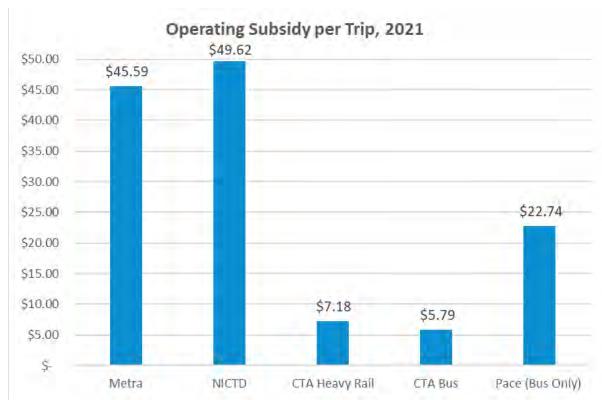
## Metra's farebox recovery is also high, but so is the subsidy required per passenger (2019)

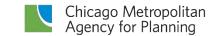




### COVID-19 only widened the gap (2021)



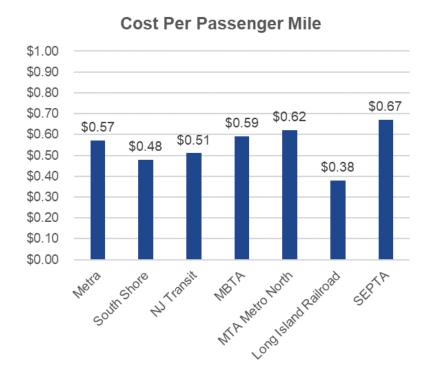




### Metra operating costs are comparable to peer commuter rail services (2019)



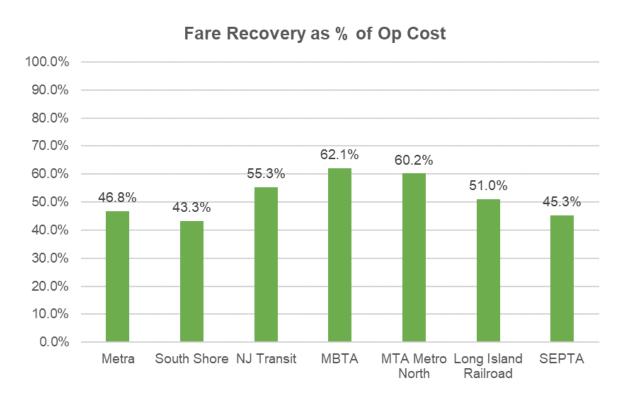




Source: HNTB analysis of National Transit Database (2019 data)



# Metra's farebox recovery is lower than peer commuter rail services, and its per-passenger subsidy is higher (2019)





Source: HNTB analysis of National Transit Database (2019 data)



# Transit is still less costly per passenger-mile than driving a car (2019)



Source: HNTB analysis of National Transit Database (2019 data); Per-Mile Costs of Owning and Operating an Automobile from USDOT (2019

Note: Private vehicle cost does not include parking costs



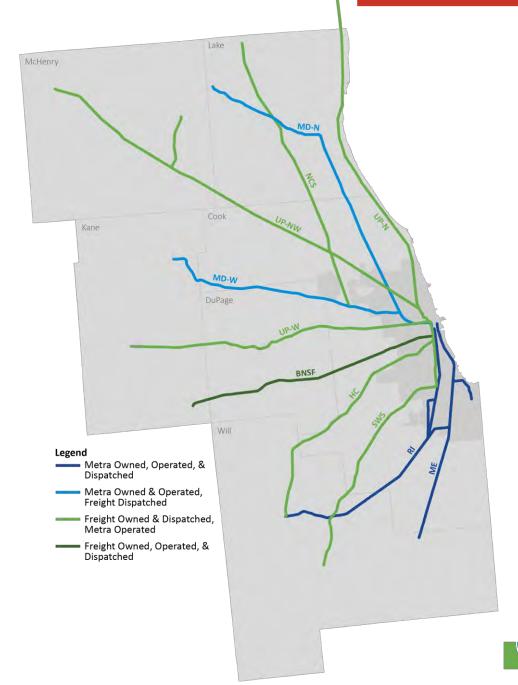


Much of Metra's system operates using infrastructure assets outside of its ownership or control.



Chicago Metropolitan Agency for Planning

Metra services rely on a network with fragmented ownership and operations

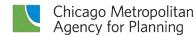


Track and station coordination requirements with **freight and Amtrak** present additional operational restrictions and safety challenges.

# Some downtown terminal stations are also owned by others.

Downtown Terminal	Owner
Union Station	Amtrak
Ogilvie Transportation Center	Union Pacific Railroad, Metra
LaSalle Street Station	Metra
Millennium Station	Metra







What is regional rail?



### What is Regional Rail?

Hybrid
between
traditional
commuter rail
and rapid
transit

Fast, frequent, all-day service

stations spaced closer together

Trips run
through
downtown
instead of
terminating

**Lightweight** trains

- Quicker acceleration/ deceleration
- Cheaper to operate

Integrated fare collection with other transit modes

## A regional rail model can leverage our assets. Defining characteristics include:

Fast, frequent, all-day service

**Nimble trains** 

Regional connections

Integrated, affordable fares

**Everyone** benefits

**Easier schedules** 

More
trips outside
of traditional AM
inbound / PM
outbound
commute
periods

Faster starts and stops

**Quicker boarding** 

Lower operating cost

Low or no emissions

Through-running service to destinations throughout the region – not just the Loop

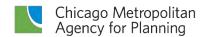
Potential neighborhood infill stations

**Seamless mobility** 

More options for getting around regardless of mode

Faster,
streamlined
service for riders
in outer suburbs

Increased frequency for those closer to Chicago's core



# "Multiple-Unit" Self-Propelled trainsets vs conventional diesel "push-pull"

- 2x faster acceleration
- Much lighter
- Much lower fuel consumption
- Scalable for more frequent lower-ridership off-peak trips



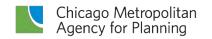






## What our peers are doing to implement regional rail service

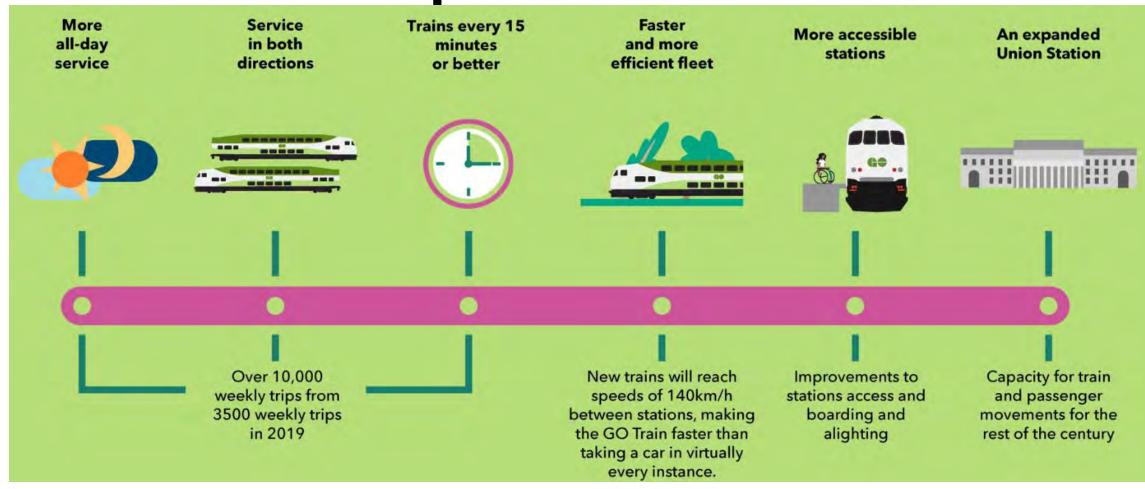
Agency	Region	Description
<b>♠ ★</b> METROLINX	Toronto, Canada	<ul> <li>GO Expansion: frequent, fast, accessible, two-way, all- day service; large-scale electrification</li> </ul>
Massachusetts Bay Transportation Authority	Boston, MA	<ul> <li>Rail Vision endorses electrification, higher frequency service, accessibility improvements, and lower fares</li> <li>MBTA/MassDOT buying freight assets outright to control and expand passenger service</li> </ul>
RER	Paris, France	<ul> <li>Hybrid commuter/heavy rail with through-service and connections to Paris Métro and commuter rail</li> </ul>
Caltrain.	Bay Area, CA	<ul> <li>Electric trains for faster service, increased capacity (ridership and revenue), and noise and emissions reduction</li> <li>Caltrain corridor will carry California High Speed Rail trains (funding/construction partnership)</li> </ul>





#### **REGIONAL RAIL**

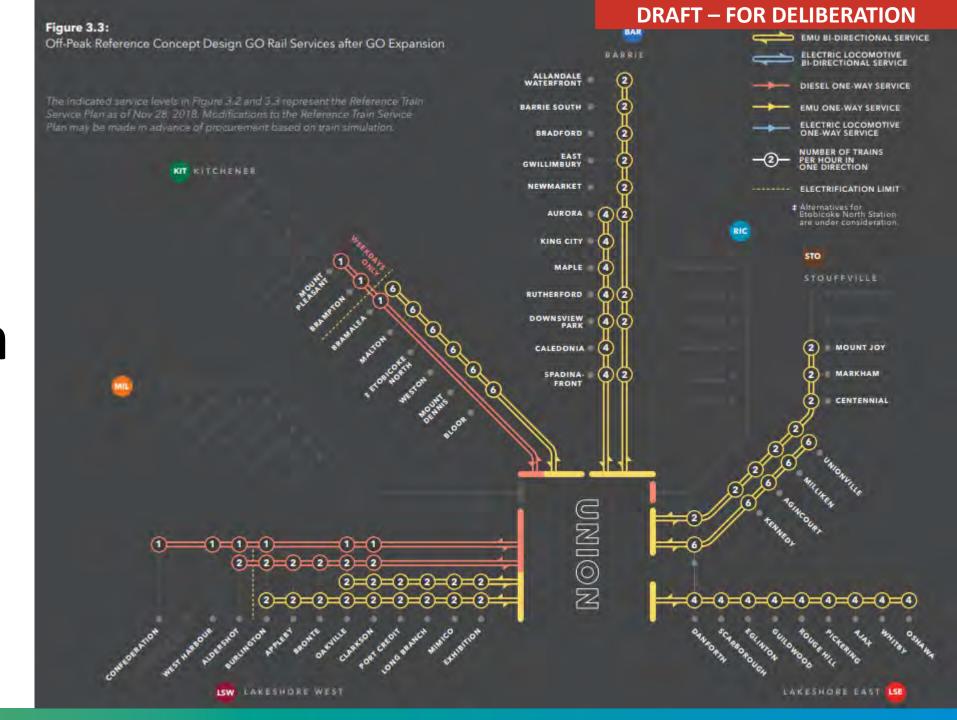
**Toronto: GO Expansion** 





**REGIONAL RAIL** 

# Toronto:<br/>GO<br/>Expansion





#### **REGIONAL RAIL**

# Boston: MBTA Rail Vision

Six alternatives explored for transformation of commuter rail system





#### **FREIGHT AGREEMENTS**

### Massachusetts **DOT** buys freight rail assets to improve passenger service

- 2008: State agrees to buy CSX main freight line into Boston to increase speed, frequency, and reliability of commuter rail service
  - State also buys four other lines with current or potential future passenger service from CSX
- 2013: With State assistance, CSX completely vacates its main Boston freight yard, moves 40 miles west
  - Eliminates most freight trains on the line
  - Opens 60+ acres of prime real estate for redevelopment and a major new Regional Rail station



#### **FREIGHT AGREEMENTS**

### Massachusetts **DOT** buys freight rail assets to improve passenger service







What could regional rail look like in Northeastern Illinois?



# Etampl

# EXAMPLE: Divide Metra's network into Inner and Outer Suburban Service areas with distinct service models:

- Inner Suburban Service:
  - Frequent, all-day service for Chicago and Suburban Cook County riders
  - Lighter vehicles
  - Proof-of-Payment fare collection with free or discounted transfers to CTA and Pace
- Outer Suburban Service:
  - Express trains offer faster travel to downtown for Collar County riders
  - Larger trains, like Metra's service today

#### **EXAMPLE**

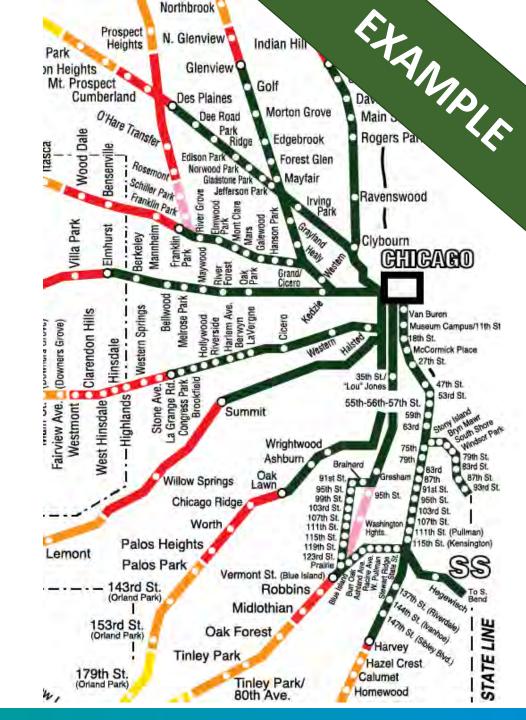
## Inner Suburban Service prioritizes frequency...

Frequent – Trains at least every 20 minutes

**All-Day** – 6 am to 10 pm, every day current service operates

**Faster** – Lighter equipment accelerates more rapidly, boards through multiple doors, and offers near-level boarding

**Affordable** – Flat Zone C fare includes free interagency transfer



#### **EXAMPLE**

# ...Outer Suburban Service prioritizes speed

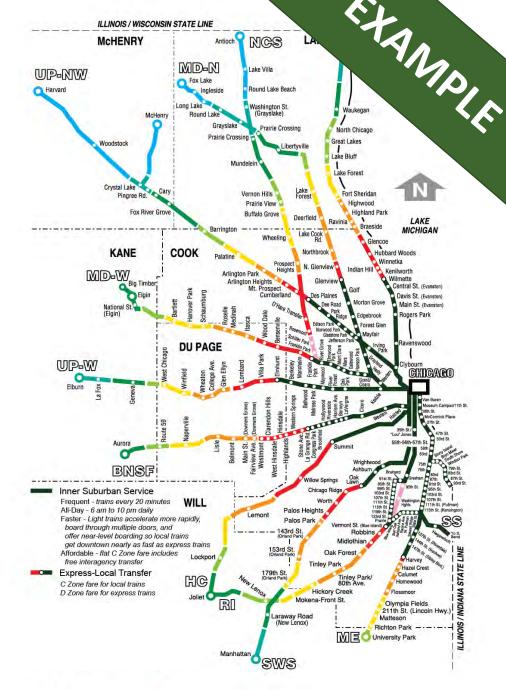
#### **Express-Local Transfer**

Typically at major suburban downtown station where some trips begin/end and near current Zone C-D boundary

Zone C fare for local trains / Zone D fare for express trains

Peak-oriented, directional service similar to existing Metra service

Generally operates non-stop between Transfer Station and Downtown Terminal



# ISS and OSS will use different vehicle types best suited for different service needs

#### **Inner Suburban Service (ISS)**

Diesel / Battery Electric / Hydrogen propulsion

200-250 seats

Four doors per side with low-floor boarding (ADA compliant)

FRA Alternate Compliance for mixed traffic

#### **Outer Suburban Service (OSS)**

Diesel-electric locomotive-hauled push-pull coaches remain

Peak-oriented, directional service with downtown layovers

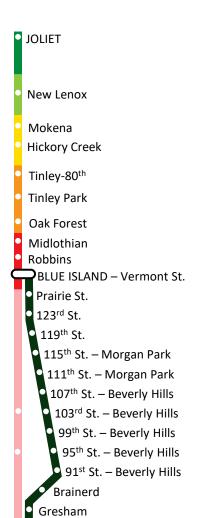
Larger trains suited to longer trips

Current procurements bring OSS fleet to state of good repair sooner

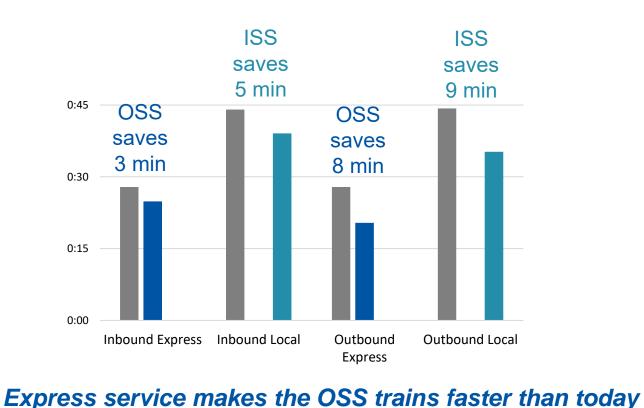




### Rock Island example



35<sup>th</sup> St. – Lou Jones CHICAGO LaSalle St



#### Service hours and miles by service pattern



**O&M** Cost

+\$0.6m

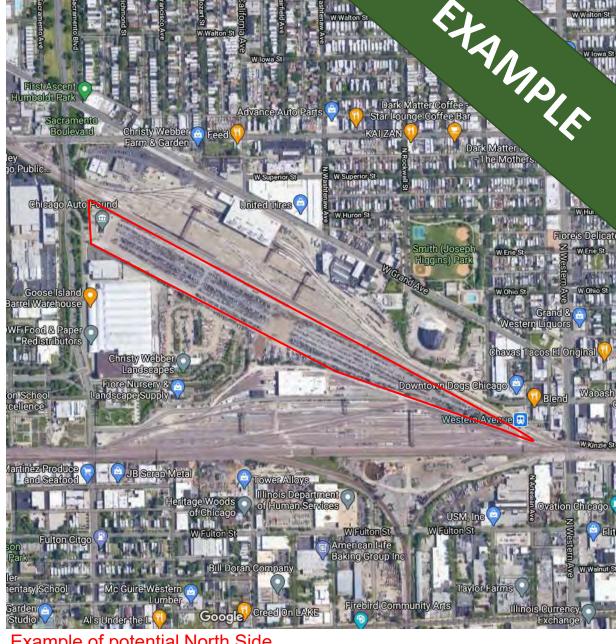
Chicago Metropolitan Agency for Planning

Different rolling stock makes the ISS trains faster than today

More efficient ISS trains mean more service at minimal cost

## Infrastructure Investment Needs

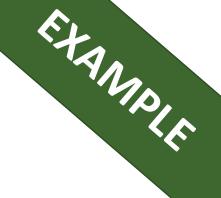
- Layover facilities at each Transfer Station
- Layover siding track
- Crossovers
- Signal changes
- New or renovated rail yards and maintenance facilities



Example of potential North Side Light Trainset Yard

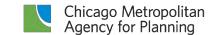






Existing Metra System O&M (2019)		•	Incremental cost as share of Metra's 2019 operating budget
\$782 million	\$841m	\$59m	7.4%

<sup>\*</sup>these estimates serve as proof-of-concepts, actual costs may differ based on service planning decisions



### Detail: System O&M cost estimates

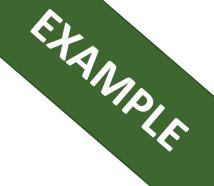
AN	

Metra Line	Incremental Operations and Maintenance Costs (in millions)			
	ISS	OSS	Unchanged	Total
ME				\$0.0
RI	\$10.4	\$29.6	-\$39.5	\$0.6
sws	\$8.8	\$15.0	-\$15.1	\$8.8
НС				\$0.0
BNSF	\$9.3	\$25.0	-\$27.0	\$7.3
UPW	\$10.3	\$32.2	-\$34.4	\$8.1
MDW	\$9.4	\$33.3	-\$35.0	\$7.6
UPNW	\$11.0	\$39.7	-\$42.2	\$8.5
NCS		\$15.0	-\$15.0	\$0.0
MDN	\$11.5	\$41.3	-\$42.8	\$9.9
UPN	\$9.6	\$40.4	-\$41.1	\$8.8
Total	\$80.2	\$271.6	-\$292.2	\$59.7

2019 O&M (NTD)	\$782.2
Difference	0%

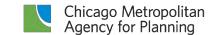
System Total	\$841.9
Difference	\$59.7 (+7.6%)





Trainsets required (VOMS)	Spare trainsets		Total rolling stock investment
36	8	\$10M	\$440M

<sup>\*</sup>these estimates serve as proof-of-concepts, actual costs and vehicle requirements may differ based on service planning decisions



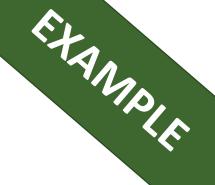
### Detail: Rolling stock needs estimates

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	Proposed			
Metra Line	ISS Round Trip Cycle Time	Trainsets Required (VOMS)	Spare Trainsets	Total Trainsets
ME	n/a			0
RI	1:40	5	1	6
sws	1:40	5	1	6
НС	n/a			0
BNSF	1:20	4	1	5
UPW	1:20	4	1	5
MDW	1:20	4	1	5
UPNW	1:40	5	1	6
NCS	n/a			0
MDN	1:40	5	1	6
UPN	1:20	4	1	5
Total		36	8	44

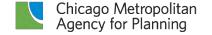
<sup>\*</sup> Fleet needs subject to refinement if ridership forecasts indicate excessive passenger loading.





Infrastructure needs	Rolling stock (see prior slide)	Contingency	Total
\$1.569b	\$440m	\$614m	\$2.614b

<sup>\*</sup>these estimates serve as proof-of-concepts, actual costs may differ based on service planning decisions



### Detail: System capital cost estimates

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Metra Line	Estimated Capital Costs			
	Infrastructure	Rolling Stock	Contingency	Total
ME				
RI	\$81,350,000	\$60,000,000	\$56,540,000	\$197,890,000
sws	\$75,550,000	\$60,000,000	\$54,220,000	\$189,770,000
НС				
BNSF	\$306,950,000	\$50,000,000	\$142,780,000	\$499,730,000
UPW	\$326,160,000	\$50,000,000	\$150,460,000	\$526,620,000
MDW	\$74,750,000	\$50,000,000	\$49,900,000	\$174,650,000
UPNW	\$84,750,000	\$60,000,000	\$57,900,000	\$202,650,000
NCS				
MDN	\$77,810,000	\$60,000,000	\$55,120,000	\$192,930,000
UPN	\$68,850,000	\$50,000,000	\$47,540,000	\$166,390,000
Systemwide Costs	\$463,000,000			\$463,000,000
Total	\$1,559,170,000	\$440,000,000	\$614,460,000	\$2,613,630,000

## Regional rail would require confronting these and other challenges

#### **Equity**

**Fares** 

**Potential Infill stations** 

Operating Subsidies/
Allocation of Limited Tax
Dollars

#### **Engineering**

New layover tracks, sidings, vehicle storage, signal upgrades

More frequent grade crossing closures

Coordination with freight railroads and Amtrak

#### **Financial**

**Available capital funding** 

**Fare integration** 

#### Policy

**Seamless transfers** 

Service coordination with CTA and Pace

Supportive land uses outside Metra's control

Competition with Amtrak at Union Station



### Potential solutions for Regional Rail

### Financial support for Metra's regional rail transformation as an undertaking of statewide significance...

- Sustained capital funding support to modernize and transform the system
- Matching funds to leverage significant federal grant funding opportunities
- Potential investment in relocation of freight yards or purchase of RR ROW
- ...and more

### ...with policy supports to ensure the transformation is successful and maximizes the opportunity

- Statewide incentives (or mandates) to encourage higher density development around rail stations
- Consider regional rail as a fundamental outcome of ongoing and future rail system projects, including freight system investments
- ...and more

### Strategies that cut across PART topics

- Fare policy (seamless fare system), including governance, administration, and revenue-sharing
- Complementary improvements (bus, bikeshare, sidewalk connections, etc.) to bring people to the system without the need to drive or park a car
- ...and more



### Thank you!

@cmapillinois | f o in





