



2023

Illinois

STATE RAIL PLAN



Final Report



Table of Contents

1.	The Role of Rail in Illinois Transportation	1-1
1.1.	Introduction.....	1-1
1.2.	Illinois Multimodal Transportation Goals	1-2
1.3.	Rail's Role in with the Illinois Transportation Network	1-3
1.4.	Institutional Governance Structure	1-11
1.4.1.	Illinois Department of Transportation	1-12
1.4.2.	Illinois Commerce Commission	1-12
1.4.3.	Illinois High-Speed Rail Commission	1-13
1.4.4.	Transit Agencies	1-13
1.4.5.	Regional Organizations – Metropolitan Planning Organizations.....	1-13
1.4.6.	Multi-State Organizations.....	1-18
1.5.	Rail Initiatives and Plans	1-19
1.5.1.	Chicago-St. Louis High-Speed Rail.....	1-19
1.5.2.	Passenger Rail Rolling Stock	1-20
1.5.3.	Grade-Crossing Safety	1-20
1.5.4.	Springfield – 10 th St. Corridor Consolidation – Passenger and Freight Rail.....	1-21
1.5.5.	CREATE Program.....	1-21
2.	Illinois Existing Rail System	2-1
2.1.	Description and Inventory.....	2-1
2.1.1.	Existing Rail Network.....	2-1
2.1.2.	Multimodal Facilities.....	2-22
2.1.3.	Passenger Rail System	2-29
2.1.4.	Public Financing for Projects and Service	2-43
2.1.5.	Safety and Security of Rail Transportation	2-49
2.1.6.	Rail's Economic and Environmental Impacts	2-57
2.2.	Trends and Forecasts.....	2-72
2.2.1.	Demographic and Economic Growth Factors	2-73
2.2.2.	Freight Demand	2-79
2.2.3.	Passenger Travel Demand and Growth	2-80
2.2.4.	Fuel Cost Trends	2-81
2.2.5.	Rail Congestion Trends	2-81
2.2.6.	Highway and Airport Congestion Trends.....	2-83
2.2.7.	Land Use Trends	2-85
3.	Passenger Rail Opportunities and Investments.....	3-1
3.1.	Introduction.....	3-1
3.2.	Intercity Passenger Rail Service	3-3
3.2.1.	Existing Service Expansion, Reinstatement, and Realignment	3-3
3.2.2.	New Service	3-14
3.2.3.	Chicago Improvements	3-17
3.2.4.	Equipment	3-21
3.2.5.	Station Improvements	3-21
3.3.	Commuter Rail Service	3-24

3.3.1.	Service Expansions and Enhancements	3-24
3.3.2.	Operational Improvements	3-27
3.3.3.	Capacity Projects	3-32
3.4.	FRA Corridor Identification and Development (ID) Program	3-37
4.	Freight-Rail Issues, Opportunities, Improvements, and Investments	4-1
4.1.	Introduction.....	4-1
4.2.	Leveraging Rail for Economic Development	4-1
4.2.1.	Brownfield Remediation and Development.....	4-1
4.2.2.	Improvement to Roadway Access to Rail-Served Industrial Sites	4-2
4.2.3.	New Multimodal Facilities or Repurpose Existing Multimodal Facilities.....	4-2
4.2.4.	Reconstruction or Construction of Sidings to Provide Rail Connections to Industrial Businesses	4-2
4.2.5.	Development of New Port Facilities to Enable Transfers between Rail and Barge	4-2
4.3.	Improving the Nation's Rail Hub	4-3
4.3.1.	Chicago Regional Environmental and Transportation Efficiency (CREATE) Program.....	4-3
4.4.	Addressing Rail Network Limitations.....	4-9
4.4.1.	Capacity Bottlenecks Outside Chicago.....	4-9
4.4.2.	State of Repair of the Illinois Rail System	4-9
4.4.3.	Rail Infrastructure Built to Modern Standards	4-10
4.5.	Improving Safety of the Rail Network.....	4-12
4.6.	Mitigating Additional Negative Impacts of Rail	4-14
4.7.	Reacting to Changes in Rail Technology, Rail Markets	4-16
4.7.1.	Energy Markets.....	4-16
4.7.2.	Rail Technology	4-18
5.	Illinois' Rail Service and Investment Program	5-1
5.1.	Vision, Goals, and Objectives.....	5-1
5.1.1.	Passenger Rail Vision	5-1
5.1.2.	Freight-Rail Vision.....	5-1
5.2.	Program Coordination.....	5-8
5.3.	Rail Agencies	5-8
5.4.	Program Effects.....	5-8
5.4.1.	Impact of Freight Transload/Shipper Access.....	5-8
5.4.2.	Impact of State of Good Repair Projects.....	5-8
5.4.3.	Impact of Capacity Projects.....	5-9
5.4.4.	Impact of Intercity Passenger Rail Improvements.....	5-9
5.4.5.	Impact of Safety/Grade Crossing Projects	5-9
5.5.	Passenger and Freight Elements – Funding Plan.....	5-9
5.6.	Studies and Reports.....	5-11
5.7.	Freight and Passenger Elements.....	5-15
5.7.1.	Freight/Transload Shipper Access Projects.....	5-17
5.7.2.	Rail Capacity Projects.....	5-19
5.7.3.	State of Good Repair Projects	5-21

5.7.4.	Passenger Rail Improvement Projects	5-23
5.7.5.	Safety/Grade Crossings.....	5-25
5.7.6.	Federal Infrastructure Priorities.....	5-27
6.	Coordination and Review	6-1
6.1.	Public and Agency Participation	6-1
6.1.1.	Railroad Involvement	6-1
6.1.2.	Agency and Shipper Involvement.....	6-1
6.1.3.	Public Involvement	6-1
6.2.	Coordination with Other States.....	6-3
6.3.	Issues Raised	6-3
6.4.	Coordination with Other Planning Efforts.....	6-8

List of Tables

Table 1-1:	Illinois Intercity Trips by Mode (2017)	1-10
Table 1-2:	Percentage of Illinoisans Living Near an Amtrak Station (2019).....	1-10
Table 1-3:	Chicago-Naperville-Elgin, IL-IN-WI Metro Area Commuters Modal Share.....	1-11
Table 1-4:	MPOs in Illinois	1-15
Table 1-5:	CREATE Program Status.....	1-22
Table 2-1:	Operating Route Mileage in Illinois	2-2
Table 2-2:	Class I Railroad Mileage Operated by Railroad in Illinois (2021)	2-3
Table 2-3:	Regional Railroads in Illinois.....	2-11
Table 2-4:	Short Line Railroads in Illinois	2-13
Table 2-5:	Illinois Amtrak Routes and Host Railroads.....	2-29
Table 2-6:	Amtrak Illinois Ridership	2-30
Table 2-7:	Illinois Amtrak Station Boardings & Alightings.....	2-32
Table 2-8:	Metra Lines and NICTD.....	2-38
Table 2-9:	Federal Discretionary Grant Programs	2-46
Table 2-10:	Highway-Rail Grade Crossings by Type.....	2-52
Table 2-11:	Average Annual Crashes at Rail Grade Crossings Crashes 2016 - 2020	2-53
Table 2-12:	Economic Impact Analysis of Illinois Rail Industry, 2019	2-58
Table 2-13:	Impacts of Truck to Rail Diversion (increase in rail modal share by 2 percentage points) in Illinois	2-59
Table 2-14:	Illinois Freight-Rail Related Industry Clusters	2-77
Table 3-1:	Intercity Passenger Rail Service	3-2
Table 3-2:	Commuter Rail Service	3-3
Table 3-3:	FRA Corridor ID Program Candidates for Illinois.....	3-39
Table 3-4:	FRA Corridor ID Program Candidates that Enter Illinois and Described in Chapter, but Sponsored by other Agencies	3-41
Table 4-1:	CREATE Program Status.....	4-5
Table 4-2:	Illinois Coal-Fired Power Plants Scheduled for Closure.....	4-16
Table 5-1:	Illinois State Rail Plan Goals, Objectives, Strategies, and Performance Measures	5-3

Table 5-2:	Illinois State Rail Plan Funding by Federal Program	5-13
Table 5-3:	Illinois Rail Needs Assessment Tier 1 Criteria	5-17
Table 5-4:	Illinois Rail Needs Assessment Tier 2 Criteria	5-17
Table 5-5:	Freight/Transload Shipper Access Projects by Timing	5-19
Table 5-6:	Rail Capacity Projects by Timing	5-21
Table 5-7:	State of Good Repair Projects by Timing	5-23
Table 5-8:	Passenger Rail Improvement Projects by Timing	5-25
Table 5-9:	Safety/Grade Crossing Projects by Timing	5-27
Table 5-10:	Updated Featured Projects	5-29
Table 6.1:	Freight Rail Issues and How Addressed	6-4
Table 6.2:	Passenger Rail Issues and How Addressed	6-6

List of Figures

Figure 1-1:	Examples of Freight Rail, Intercity Passenger Rail, and Commuter Rail	1-1
Figure 1-2:	Illinois Transportation Goals	1-2
Figure 1-3:	Comparison of Freight Modal share in Illinois and in the United States by Tonnage (2019)	1-4
Figure 1-4:	Illinois Freight-Rail Modal Share by Direction by Tonnage (2019)	1-4
Figure 1-5:	Illinois Freight-Rail Modal Share by Direction By Tonnage Movement Greater than 500 miles (2019)	1-5
Figure 1-6:	Illinois Modal Share Outbound Top Four Commodities (2019)	1-6
Figure 1-7:	Illinois Modal Share Inbound Top Four Commodities BY RAIL TONNAGE (2019)	1-7
Figure 1-8:	Illinois Department of Transportation Regions	1-8
Figure 1-9:	IDOT Region Rail Modal Share of Tonnage for Top Four Products Transported by Rail (2019)	1-9
Figure 1-10:	Illinois State Agencies that Support Rail	1-11
Figure 1-11:	Illinois Department of Transportation Offices and Bureau Responsibilities Relevant to Rail	1-12
Figure 1-12:	Illinois Metropolitan Planning Organizations	1-14
Figure 2-1:	Railroad Classification in Illinois	2-2
Figure 2-2:	Class I Railroads in Illinois	2-4
Figure 2-3:	Role of Illinois in Class I Rail Networks	2-5
Figure 2-4:	Western Railroad Network and Tonnage in Illinois (2019)	2-6
Figure 2-5:	Eastern Railroad Network and Tonnage in Illinois (2019)	2-8
Figure 2-6:	Canadian National and CPKC Tonnage in Illinois (2021)	2-10
Figure 2-7:	Regional Railroads in Illinois	2-12
Figure 2-8:	Short Line Railroads in Illinois	2-15
Figure 2-9:	Illinois Rail Network by Number of Tracks	2-17
Figure 2-10:	Illinois Railroad Network by Train Control System	2-18
Figure 2-11:	FRA Track Class in Illinois	2-19
Figure 2-12:	Illinois Weight Restrictions Map	2-21
Figure 2-13:	Illinois Intermodal Facilities	2-23

Figure 2-14:	Rail-Served Port Terminals	2-25
Figure 2-15:	Rail-Served Automotive Facilities in Illinois.....	2-26
Figure 2-16:	Illinois Rail-Served Grain Elevators.....	2-27
Figure 2-17:	Illinois Transload Facilities	2-28
Figure 2-18:	Station Alighting and Boardings at Illinois Stations (2019)	2-34
Figure 2-19:	Long-Distance Amtrak Routes On-Time Performance.....	2-35
Figure 2-20:	State-supported Amtrak Route On-Time Performance.....	2-36
Figure 2-21:	Metra Routes and Northern Indiana Commuter Transportation District South Shore Line	2-37
Figure 2-22:	Metra On-Time Performance (2016 to 2021).....	2-39
Figure 2-23:	Metra Ridership (2017 to 2021; Millions).....	2-40
Figure 2-24:	Metra Weekly Ridership since the COVID-19 Pandemic	2-41
Figure 2-25:	Metra Monthly Farebox Revenue Compared to the Previous year	2-41
Figure 2-26:	Metra Station Boardings (Excluding Downtown Chicago Termini)	2-43
Figure 2-27:	Fatalities and Injuries of Rail and Truck Transportation (per Billion Ton-Miles).....	2-50
Figure 2-28:	Railroad Accidents and Incidents in Illinois by Type.....	2-51
Figure 2-29:	Rail-Related Fatalities in Illinois by Type	2-51
Figure 2-30:	Rail-Related Injuries in Illinois by Type	2-52
Figure 2-31:	Public Grade Crossings in Illinois	2-53
Figure 2-32:	Percentage of Crashes at Highway-Rail Grade Crossings by Crossing Countermeasures	2-54
Figure 2-33:	Northeastern Illinois Priority Grade Crossings (2019)	2-56
Figure 2-34:	General Retail/Distribution Supply Chain	2-61
Figure 2-35:	Traffic Density of Intermodal Traffic on Illinois Rail Lines in 2021 Tons.....	2-62
Figure 2-36:	Grain/Soybean Supply Chain	2-64
Figure 2-37:	Traffic Density of Farm Products on Illinois Rail Lines in 2021 Tons	2-65
Figure 2-38:	Traffic Density of Food Product Traffic on Illinois Rail Lines in 2021 Tons	2-67
Figure 2-39:	Traffic Density of Nonmetallic Mineral Product Traffic on Illinois Rail Lines in 2021 Tons	2-69
Figure 2-40:	Traffic Density of Chemical Product Traffic on Illinois Rail Lines in 2021 Tons	2-72
Figure 2-41:	Illinois and U.S. Sectors by Share of GDP (2021) Colors used in these charts throughout are too dark.	2-73
Figure 2-42:	Illinois and U.S. Real GDP Growth by Sector (2000-2021).....	2-74
Figure 2-43:	Percentage Change in Population for Illinois Counties (2010–2020)	2-75
Figure 2-44:	Illinois, Per Capita Personal Income (2020).....	2-79
Figure 2-45:	Illinois Freight-Rail Traffic tonnage by Direction (2019).....	2-80
Figure 2-46:	Average Vehicle Miles Traveled (Billions)	2-81
Figure 2-47:	Seven-Day Average Freight Transit (Chicago Region)	2-82
Figure 2-48:	Seven-Day Average Yard Inventories (Chicago Region)	2-82
Figure 2-49:	Illinois Interstate System Estimated Change in Vehicle Miles Traveled (2012 to 2045)	2-84
Figure 2-50:	Percentage of On-Time Departures by Airport (2015 to 2020)	2-85
Figure 2-51:	CenterPoint Intermodal	2-86
Figure 3-1:	FRA Intercity Passenger Rail milestones	3-37
Figure 4-1:	Port of Savanna, IL, and Savanna Industrial Park	4-3
Figure 4-2:	CREATE Program Project Locations	4-6

Figure 4-3:	103rd Street over the Ns Calumet Yard	4-8
Figure 4-4:	Crescent Bridge over the Mississippi River between Rock Island and Davenport, IA.....	4-10
Figure 4-5:	Petal Road Crossing in Riverton	4-11
Figure 4-6:	Photo Enforced Crossing	4-13
Figure 4-7:	Central Avenue/Belt Railway Company of Chicago Crossing	4-14
Figure 4-8:	Closed Roadway Underpass while Rail Bridge Repairs Are Completed	4-15
Figure 4-9:	Illinois Coal Production by County (2021)	4-17
Figure 4-10:	Kellogg Dock Coal Transload	4-18
Figure 4-11:	Low-Emissions Hybrid Yard Switcher Locomotive	4-19
Figure 4-12:	Union Pacific Crane in Joliet.....	4-20
Figure 5-1:	Illinois Rail Needs Assessment Project Categories.....	5-10
Figure 5-2:	Illinois Rail Needs Assessment Scoring Methodology.....	5-16
Figure 5-3:	Featured Freight/Transload Shipper Access Projects	5-18
Figure 5-4:	Featured Rail Capacity Projects	5-20
Figure 5-5:	Featured State of Good Repair Projects.....	5-22
Figure 5-6:	Featured Passenger Rail Improvement Projects.....	5-24
Figure 5-7:	Featured Safety/Grade Crossing Projects.....	5-26
Figure 5-8:	Additional Projects to Consider for a Federal Grant	5-31
Figure 6-2:	Screen Shot of MetroQuest Survey.....	6-3

Acronyms

Acronym	Definition
AAR	Association of American Railroads
AASHTO	American Association of State Highway Transportation Officials
ADA	Americans with Disabilities Act
BNSF	Burlington Northern Santa Fe
CIP	Corridor Improvement Program
CMAQ	Congestion Mitigation and Air Quality
CN	Canadian National
CPKC	Canadian Pacific Kansas City
CREATE	Chicago Regional Environmental and Transportation Efficiency
CRISI	Consolidated Rail Infrastructure and Safety Improvements
CSX	CSX Transportation
CTA	Chicago Transit Authority
DOT	Department of Transportation
DREI	Decatur & Eastern Illinois
EDA	Economic Development Administration
EIS	Environmental Impact Statement
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration

Acronym	Definition
FONSI	Finding of No Significant Impact
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GCPF	Grade Crossing Protection Fund
GDP	Gross Domestic Product
HSR	High-Speed Rail
IAIS	Iowa Interstate Railroad
ICC	Illinois Commerce Commission
ID	Identification and Development
IDOT	Illinois Department of Transportation
IJA	Infrastructure Investment and Jobs Act
ILRNA	Illinois Rail Needs Assessment
INFRA	Infrastructure for Rebuilding America
LQ	Location quotient
L RTP	Long-Range Transportation Plan
MAFC	Mid-America Freight Coalition
MDOT	Michigan Department of Transportation
MEGA	National Infrastructure Project Assistance Program
MnDOT	Minnesota Department of Transportation
MPO	Metropolitan Planning Organization
NHFP	National Highway Freight Program
NICTD	Northern Indiana Commuter Transportation District
NS	Norfolk Southern
OIPI	Office of Intermodal Project Implementation
OTP	On-time performance
PCPI	Per capita personal income
PTC	Positive Train Control
RAISE	Rebuilding American Infrastructure with Sustainability and Equity
RCE	Railroad Crossing Elimination
ROD	Record of Decision
RRIF	Railroad Rehabilitation and Improvement Financing
RTA	Regional Transportation Authority
SIMMS	Southern Illinois Multi-Modal Station
SSL	South Shore Line
STB	Surface Transportation Board
TCMC	Twin Cities-Milwaukee-Chicago
TIFIA	Transportation Infrastructure Finance and Innovation Act
TIP	Transportation Improvement Program
TOD	Transit-oriented development
TRRA	Terminal Railroad Association of St. Louis
UP	Union Pacific
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds

Acronym	Definition
WisDOT	Wisconsin Department of Transportation

1. THE ROLE OF RAIL IN ILLINOIS TRANSPORTATION

1.1. Introduction

The 2023 Illinois State Rail Plan (Rail Plan) is an update of the prior Illinois State Rail Plan that was completed in 2017.¹ The Rail Plan describes the current condition of the Illinois rail network and performance of rail services in the state, trends that will impact rail in the future, the state's vision for the future Illinois rail network and services, and strategies and investments that will help the State of Illinois to realize that vision. Illinois rail improvements not only impact users within the state, but given the state's status as a rail hub, the rail improvements impact the regional and national rail network.

The Rail Plan draws on and complements recent Illinois planning efforts such as the Illinois Rail Needs Assessment and the Illinois 2023 State Freight Plan. The Rail Plan covers rail services provided on the U.S. national rail system governed by the Federal Railroad Administration (FRA). These rail services include freight rail, intercity passenger rail, and commuter rail. The Rail Plan does not cover other fixed-guideway transit services that rely on separate rights-of-way, such as heavy rail and light-rail transit.

FIGURE 1-1: EXAMPLES OF FREIGHT RAIL, INTERCITY PASSENGER RAIL, AND COMMUTER RAIL



By David Wilson from Oak Park, Illinois, USA – 19991120 16 BNSF Oregon, IL, CC BY 2.0, https://commons.wikimedia.org/w/index.php?curid=69246484_vxla, CC BY 2.0 <<https://creativecommons.org/licenses/by/2.0/>>, via Wikimedia Commons, By Douglas Rahden, Attribution, <https://commons.wikimedia.org/w/index.php?curid=15352667>

The Rail Plan conforms to federal requirements for rail plan content that the 2008 Passenger Rail Investment and Improvement Act established. The Rail Plan is consistent with the subsequent FRA State Rail Plan Guidance of 2013.² Per FRA Guidance, the Rail Plan consists of the following chapters:

- » Chapter 1 – The Role of Rail in Illinois Transportation discusses the current and future roles of rail in Illinois' multimodal transportation system. It also describes how Illinois is organized to provide political, legal, and financial support to rail development. In addition, Chapter 1 provides an overview of freight and passenger rail service initiatives and plans.

¹ Section 11315 of the Fixing America's Surface Transportation Act of 2015 (FAST Act) specified that a state-approved rail plan be submitted to the FRA every four years. However, because the preparation and maintenance of a state rail plan is at the discretion of each state, update cycles may vary.

² <https://railroads.dot.gov/rail-network-development/planning/state-rail-plan-guidance>.

- » Chapter 2 – Illinois Existing Rail System provides an overview and inventory of Illinois' existing rail system, rail services, and performance. It also describes trends that will affect the Illinois rail system in the future.
 - » Chapter 3 – Proposed Passenger Rail Issues, Opportunities, Improvements and Investments identifies issues and opportunities stakeholders have put forward regarding passenger rail services in Illinois, and investments and improvements that have been proposed.
 - » Chapter 4 – Proposed Freight-Rail Issues, Opportunities, Improvements, and Investments discusses issues and opportunities associated with Illinois' freight-rail system and identifies potential freight-rail investments and improvements to address those issues and opportunities.
 - » Chapter 5 – Illinois Rail Service and Investment Program describes the State of Illinois' long-term vision for rail service and goals, objectives, and strategies that can promote that vision. The chapter recommends projects that would support rail-related objectives. The chapter also compares project funding and financing requirements to estimated funding and financing that may be available.
- Chapter 6 – Coordination and Review summarizes stakeholder coordination in the development of this Rail Plan.

1.2. Illinois Multimodal Transportation Goals

The Illinois Long-Range Transportation Plan (LRTP) is an overarching document that provides strategic direction for the development of the Illinois transportation system. Each modal plan that the Illinois Department of Transportation (IDOT) develops falls under the LRTP and is part of its “suite of plans.” The LRTP vision for transportation in Illinois is to provide innovative, sustainable and multimodal transportation solutions that support local goals and grow Illinois' economy. Illinois transportation goals focus in the areas of economy, livability, mobility, resilience, and stewardship as shown in Figure 1-2.

LRTP VISION

For transportation in Illinois is to provide innovative, sustainable and multimodal transportation solutions that support local goals and grow Illinois' economy.

FIGURE 1-2: ILLINOIS TRANSPORTATION GOALS



The vision, goals, and objectives of the Rail Plan are consistent with the State of Illinois' overall vision and goals as presented above and will be discussed in more detail in Chapter 5.

1.3. Rail's Role in with the Illinois Transportation Network

Rail is a vital part of the Illinois multimodal transportation system. According to the Association of American Railroads (AAR),³ Illinois led the nation in carloads that originated and terminated in 2019. Illinois ranks second only to Texas in the number of rail miles and rail employees⁴. Illinois is a location where all six Class I railroads operate.

The Chicago and St. Louis metro areas serve as key gateways where rail traffic interchanges between railroads from different parts of the United States. The state is the location where eastern, western, and Canadian railroads meet. One in every four freight trains in the United States travels through the Chicago rail terminal. At the other end of the state, the St. Louis rail hub is the second largest freight-rail interchange location in the United States (to Chicago) and the third largest by tonnage (behind Chicago and Kansas City).

Illinois is also a passenger rail hub. Over 800 intercity passenger and commuter trains originate or terminate in Chicago daily. Chicago serves as junction point for Amtrak long-distance and Midwest regional rail routes. Chicago Union Station is Amtrak's fourth busiest station, and the busiest station outside of the Amtrak Northeast Corridor, and Metra is the nation's fourth largest commuter rail system by ridership.⁵

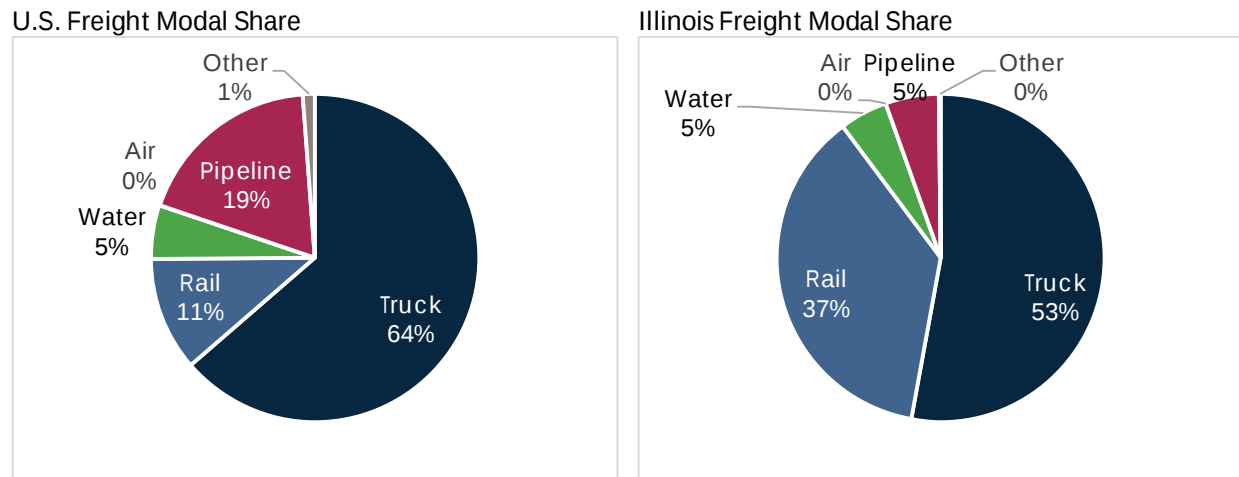
Overall, in 2019 rail carried 37 percent of freight tons that originated, terminated, passed through, or moved within Illinois compared to 11 percent of tonnage shipped nationwide (Figure 1-3).

³ [AAR-State-Rankings-2019.pdf](#)

⁴ Per estimates from this Rail Plan, 6,744 miles of rail lines. Per statistics by the AAR, Amtrak, and Metra, 15,986 are directly employed by freight railroads, Amtrak, or Metra. See Table 2-12.

⁵ U.S. Bureau of Transportation Statistics, Transportation Statistics Annual Report 2020, American Public Transportation Association, Public Transportation Ridership Report, Fourth Quarter 2019.

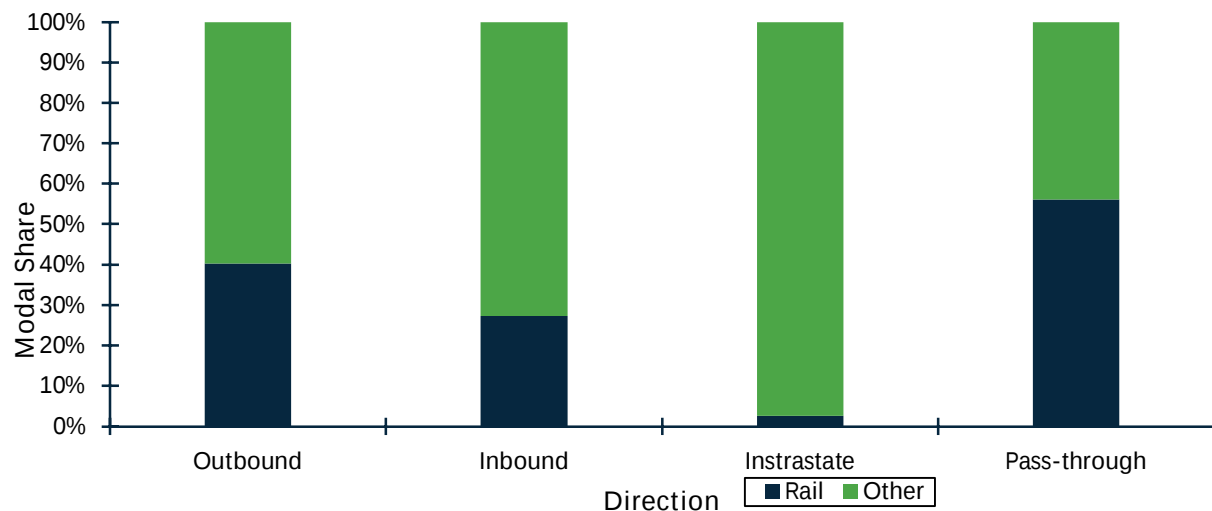
FIGURE 1-3: COMPARISON OF FREIGHT MODAL SHARE IN ILLINOIS AND IN THE UNITED STATES BY TONNAGE (2019)



Source: U.S. FHWA Freight Analysis Framework-5 for U.S. modal share, S&P Global Transearch, STB Waybill Sample for Illinois modal share

Because rail is typically used for shipping goods long distances, in 2019 rail had a higher modal share for inbound, outbound, and freight moving through Illinois between other states and a lower modal share for freight moving locally within Illinois (Figure 1-4).

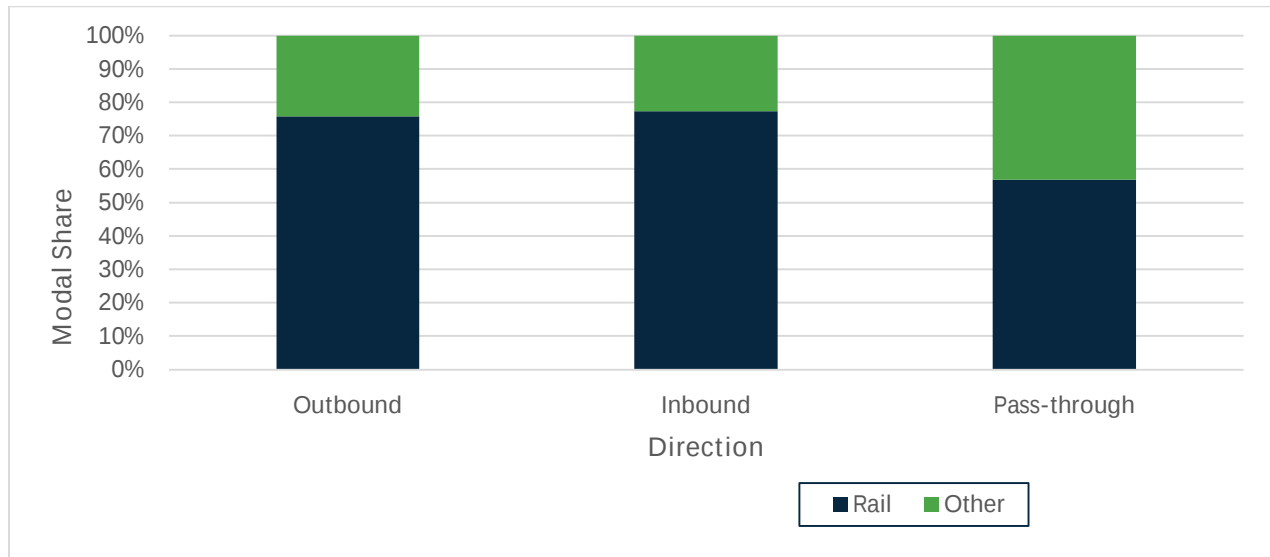
FIGURE 1-4: ILLINOIS FREIGHT-RAIL MODAL SHARE BY DIRECTION BY TONNAGE (2019)



Source: S&P Global Transearch, STB Waybill Sample

In 2019, rail had a higher modal share for goods shipped longer distances. Rail dominated freight movements to and from Illinois over 500 miles (Figure 1-5). Rail's modal share accounted for 76 percent outbound tonnage and 77 percent of inbound tonnage. Pass-through movement over 500 miles was nearly identical to overall rail movement (see Figure 1-4).

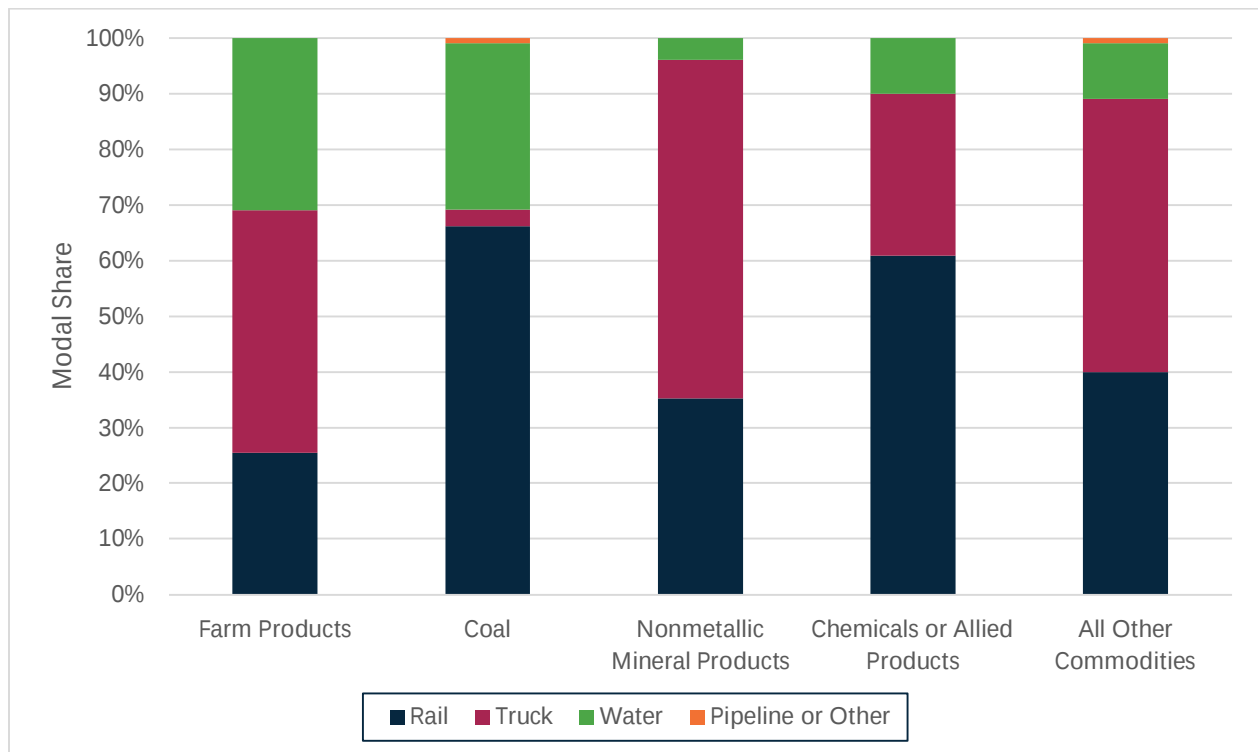
FIGURE 1-5: ILLINOIS FREIGHT-RAIL MODAL SHARE BY DIRECTION BY TONNAGE MOVEMENT GREATER THAN 500 MILES (2019)



Source: S&P Global Transearch, STB Waybill Sample

Figure 1-6 shows rail's modal share of outbound tonnage from Illinois for the top four commodities that moved by rail by tonnage in 2019. Among these four, rail's highest modal share was in coal transportation, accounting for 66 percent of outbound tonnage. Water transportation had the second highest modal share with 30 percent of the tonnage. Rail had a 61 percent modal share of chemicals or allied product shipments with 61 percent of outbound tonnage while trucking accounted for 29 percent and water 10 percent of the tonnage. The smallest rail modal share among the four top outbound commodities was farm products, with 25 percent of total outbound tonnage. Trucks had the highest modal share for farm products with 44 percent of outbound tonnage while water was 31 percent.

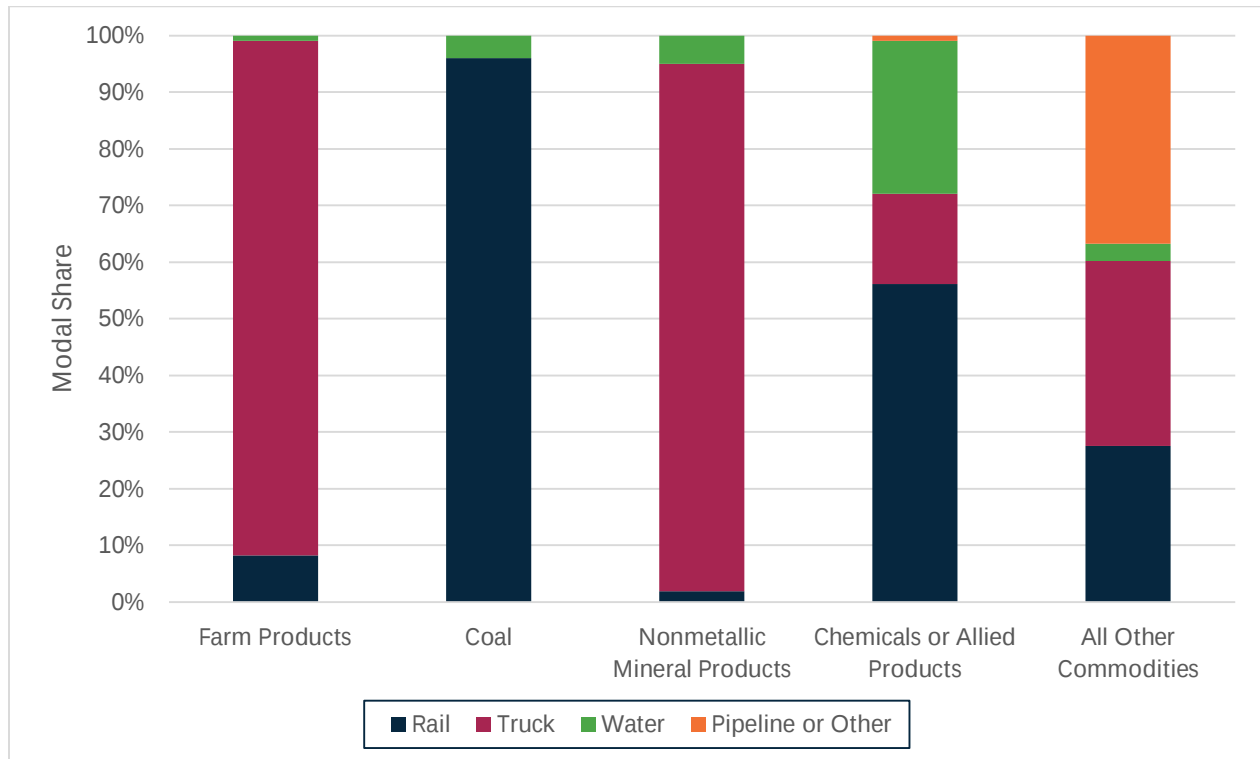
FIGURE 1-6: ILLINOIS MODAL SHARE OUTBOUND TOP FOUR COMMODITIES (2019)



Source: S&P Global Transearch, STB Waybill Sample

Figure 1-7 displays rail's modal share for the top commodities by tonnage inbound to Illinois from other states. In 2019, rail had the highest percentage of inbound coal tonnage at 96 percent. Of the four leading inbound rail commodities, nonmetallic mineral products and farm products had the lowest rail modal share with 2 percent and 8 percent, respectively.

FIGURE 1-7: ILLINOIS MODAL SHARE INBOUND TOP FOUR COMMODITIES BY RAIL TONNAGE (2019)



Source: S&P Global Transearch, STB Waybill Sample

It is also useful to examine rail's modal share of freight tonnage by IDOT region. Differences in modal shares reflect variances in regional economies. As shown in Figure 1-8, IDOT divides the state into five regions that are numbered from northeast to southwest. Each region, with the exception of Region 1, comprises two IDOT districts, with nine districts in all.

FIGURE 1-8: ILLINOIS DEPARTMENT OF TRANSPORTATION REGIONS

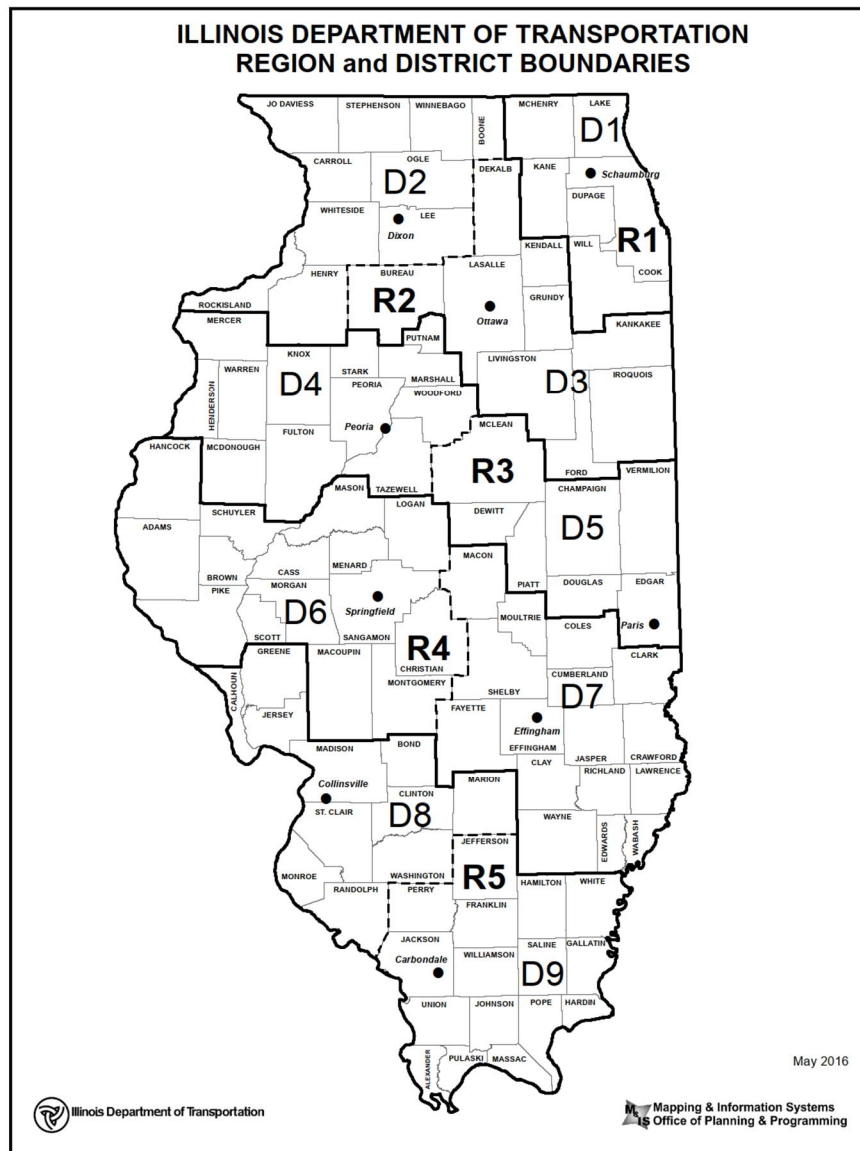
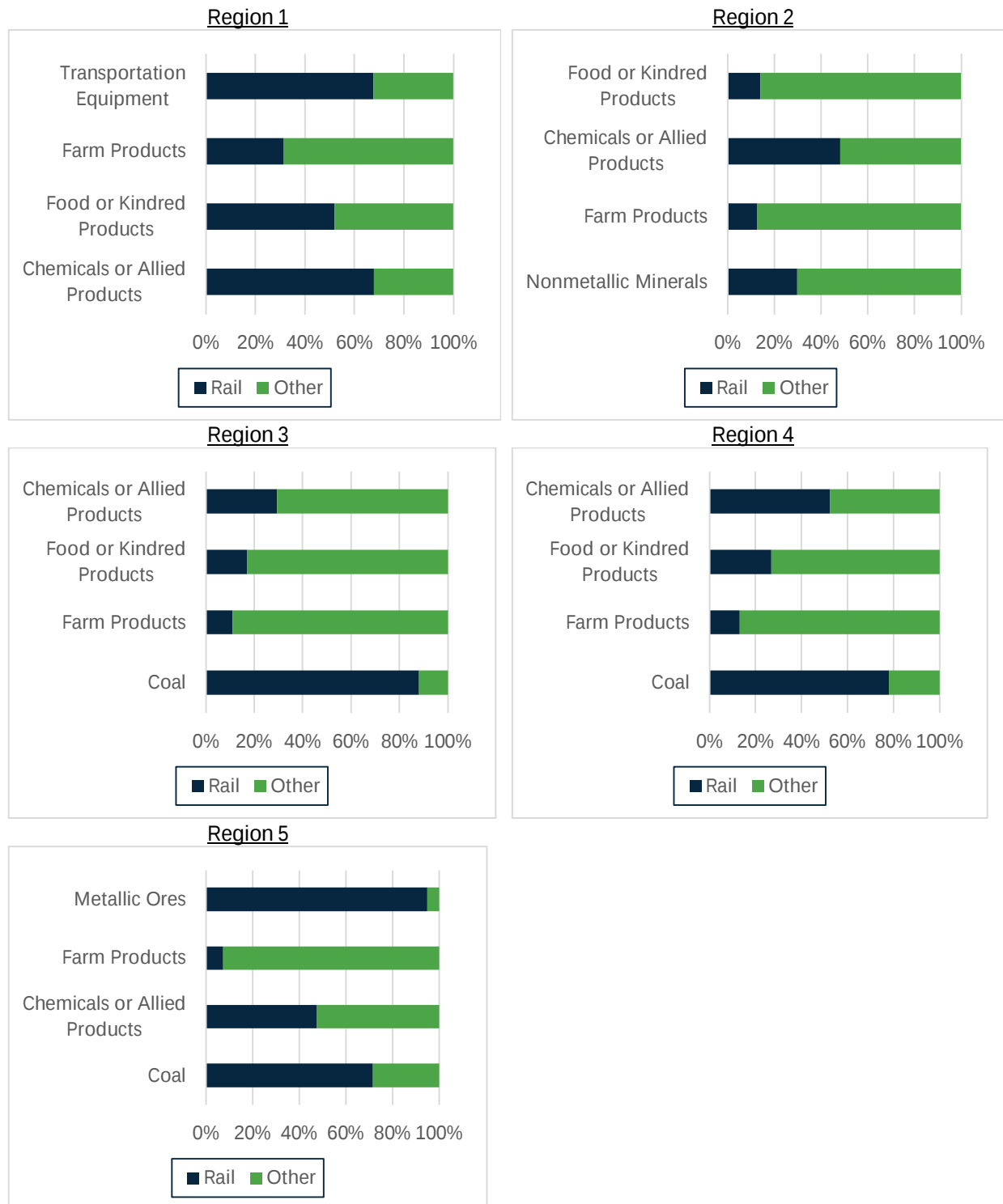


Figure 1-9 displays rail's modal share of tonnage for the top four commodities shipped by rail in each IDOT region. Each regional chart includes all tonnage other than pass-through. While some of the region modal shares are similar to the statewide shares shown in Figure 1-6 and Figure 1-7, some variations are apparent. Rail modal share in Region 1 was significantly higher than the other regions, likely reflecting Chicago's role as a national rail hub. Although regions in the northern part of the state did not ship significant quantities of coal, these were high-volume commodities for regions in the southern portion of the state. High volumes of metallic ore and automotive shipments were unique to Region 5 and Region 1, respectively.

FIGURE 1-9: IDOT REGION RAIL MODAL SHARE OF TONNAGE FOR TOP FOUR PRODUCTS TRANSPORTED BY RAIL (2019)



Source: S&P Global Transearch, STB Waybill Sample

The number of intercity automotive trips was estimated using the Illinois travel demand model, which has a base year of 2017. Intercity passenger trips were assumed to be those over 50 miles with daily estimates from the travel demand model annualized. The total number of annual Amtrak trips was estimated from on/off counts at Illinois stations in 2017.⁶ Table 1-1 shows that passenger rail was used for 2 percent of intercity passenger trips in 2017. By comparison, Amtrak's share of intercity travel nationwide is less than 0.5 percent.⁷

TABLE 1-1: ILLINOIS INTERCITY TRIPS BY MODE (2017)

Trip Type	Number of Trips	Percentage
Auto Trips >50 Miles	246,369,400	98%
Amtrak	4,738,700	2%
Total	251,108,100	100%

Source: Illinois Travel Demand Model, National Association of Railroad Passengers

A significant number of Illinois residents have reasonable access to Amtrak service. In 2019, 84 percent of the population lived within 25 miles of an Amtrak station, and 97 percent lived within 50 miles as shown in Table 1-2. Thirty Amtrak stations are located throughout Illinois, with 90 percent visited by at least two trains per day and 47 percent visited by at least four trains per day.

TABLE 1-2: PERCENTAGE OF ILLINOISANS LIVING NEAR AN AMTRAK STATION (2019)

Distance	Percentage
Within 25 Miles	84%
Within 50 Miles	97%

Source: Rail Passengers Association

Table 1-3 displays commuter rail's modal share for commuter trips for the Chicago-Naperville-Elgin, IL-IN-WI Metro Area. Three percent of people use commuter rail to travel to work, which comprises 26 percent of all public transportation commuters in the region.

⁶ <https://www.railpassengers.org/site/assets/files/1186/il.pdf>

⁷ From Oak Ridge National Laboratory Transportation Energy Data Book, Edition 40, and U.S. Department of Energy, Vehicle Technologies Office Fact of the Week #1230 (percentage of trips over 50 miles)

TABLE 1-3: CHICAGO-NAPERVILLE-ELGIN, IL-IN-WI METRO AREA COMMUTERS
MODAL SHARE

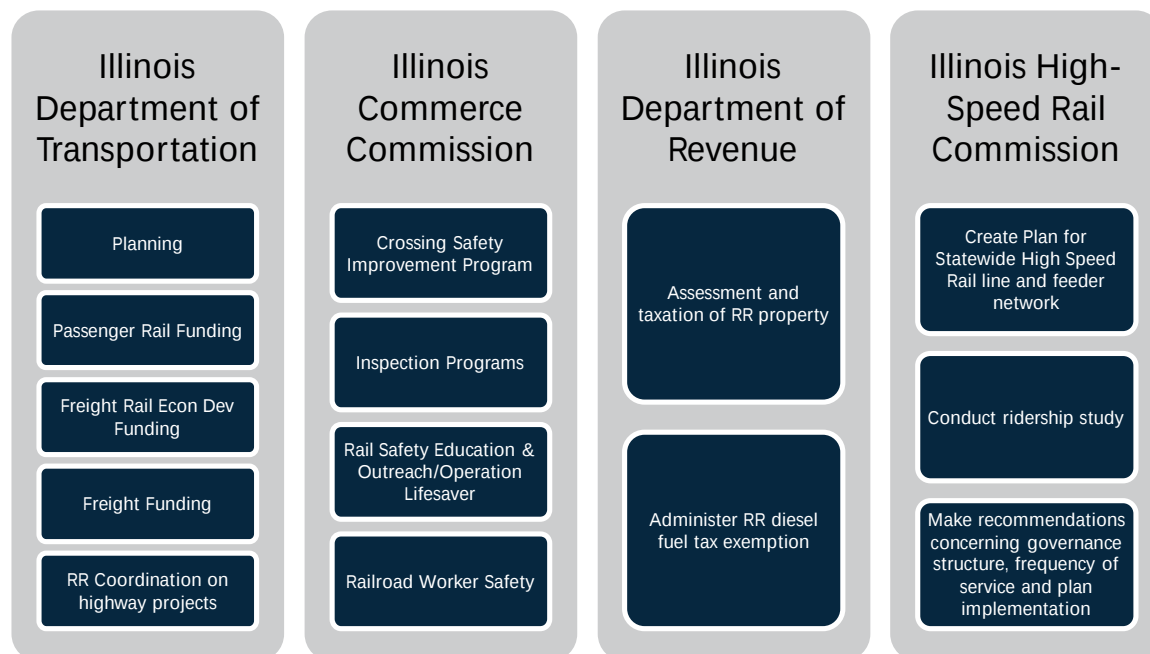
Mode	Within Mode	Total
Car, truck, or van		76%
-Drove alone	90%	68%
-Carpooled	10%	8%
Public transportation (excluding taxicab)		11%
-Bus	36%	4%
-Subway or elevated rail	36%	4%
-Long-distance train or commuter rail	26%	3%
-Light rail, streetcar or trolley	1%	0%
-Ferryboat	0%	0%
Taxicab		0%
Motorcycle		0%
Bicycle		1%
Walked		3%
Other means		1%
Worked from home		8%

Source: WSP Analysis of U.S. Census Bureau Data

1.4. Institutional Governance Structure

Numerous Illinois laws govern railroads and railroad operations. The primary responsibility for state governance of railroads involves IDOT, the Illinois Commerce Commission, the Illinois Department of Revenue, and the Illinois High-Speed Rail Commission (Figure 1-10).

FIGURE 1-10: ILLINOIS STATE AGENCIES THAT SUPPORT RAIL

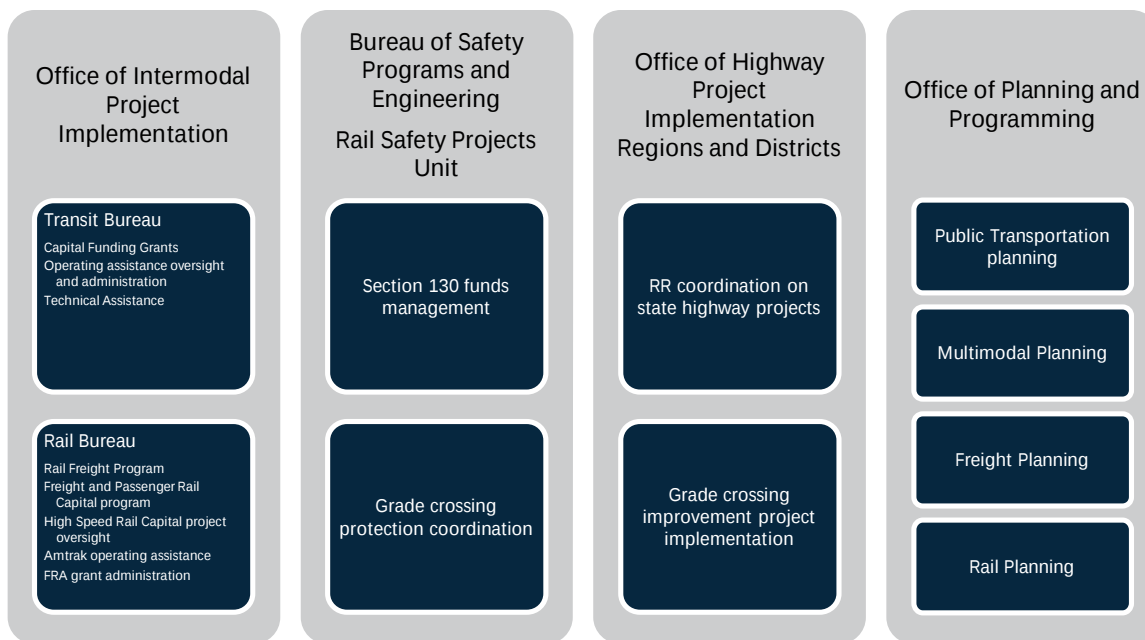


1.4.1. Illinois Department of Transportation

The Illinois 77th General Assembly created IDOT in 1972. IDOT has statutory responsibility for planning, constructing, operating, and maintaining Illinois' extensive transportation network, which encompasses airports, bridges, highways, passenger rail, public transportation, and freight-rail systems. As the agency responsible for rail planning, IDOT is in compliance with the requirements of Section 22102 of U.S. Code.

IDOT's central headquarters is in Springfield with an office in Chicago and five transportation regions across the state. Figure 1-11 presents IDOT's rail responsibilities.

FIGURE 1-11: ILLINOIS DEPARTMENT OF TRANSPORTATION OFFICES AND BUREAU RESPONSIBILITIES RELEVANT TO RAIL



1.4.2. Illinois Commerce Commission

Through the Commercial Transportation Law, the Illinois Commerce Commission (ICC) has jurisdiction to administer and enforce safety requirements for track, facilities, and equipment belonging to rail carriers within Illinois. The ICC has statutory responsibility to improve safety at public highway-rail crossings. ICC orders safety improvements for highway-rail grade crossings with costs paid through a variety of sources, including railroads and federal, state, and local agencies. For state and local funding, cost responsibilities are based on roadway jurisdiction. Per state statute the ICC is required to prepare a 5-year Crossing Safety Improvement Program to identify projects for assistance from the Grade Crossing Protection Fund. Also by statute, the ICC is required to provide an Annual Report on Rail Incidents Involving Hazardous Materials. These are discussed in more detail in subsequent sections.

For state routes, IDOT pays a majority of project costs through the State Road Fund. The Grade Crossing Protection Fund (GCPF) is administered through the ICC and is funded through the Motor Fuel Tax. State statutes mandate \$42 million annually is to be transferred to the GCPF from the Motor Fuel

Tax Fund. For local roads, the GCPF may be used in combination with federal, IDOT, and/or local resources.

1.4.3. Illinois High-Speed Rail Commission

Created in 2021, the commission is mandated to develop a plan for a high-speed rail line connecting Chicago and St. Louis that would include a feeder network serving Rockford, Moline, Peoria, and Decatur. As part of the plan development, the commission is to conduct a ridership study and prepare recommendations regarding governance structure, frequency of service, and plan implementation. The commission has until 2026 to complete its work and must submit annual reports of its progress to the Governor and General Assembly by the end of each year. IDOT is tasked with providing administrative and other support to the commission. The High-Speed Rail Plan produced by the Commission and accepted by IDOT may be incorporated as an amendment into this Rail Plan, or will be incorporated into a future update of the Illinois State Rail Plan.

1.4.4. Transit Agencies

Metra

The Regional Transportation Authority (RTA) is the financial and oversight body for the three transit agencies in northeastern Illinois: Chicago Transit Authority (CTA), Metra, and Pace Suburban Bus. The RTA Act refers to these transit agencies as Service Boards. RTA serves Cook, DuPage, Kane, Lake, McHenry, and Will Counties.

This Rail Plan covers commuter rail but not other types of transit. Introduced by the RTA Commuter Rail Board in 1984, Metra is a commuter rail system in the Chicago metropolitan area. Metra is responsible for capital improvements and planning for 11 commuter rail lines that it operates or contracts others to operate. Until 2023, three of these lines were operated under contract with UP railroad, but operation of these rail lines is transferred from UP to Metra starting 2023 and into 2024. One of these lines operates under contract with the BNSF Railway. In keeping with Metra's purpose to provide a single identity for commuter rail in the region, BNSF provides service under the Metra name.

1.4.5. Regional Organizations – Metropolitan Planning Organizations

A metropolitan planning organization (MPO) is a transportation policy-making body made up of representatives from local government and transportation agencies with authority and responsibility in metropolitan planning areas. Federal legislation passed in the early 1970s requires that any urbanized area with a population greater than 50,000 form an MPO. MPOs were created to ensure that existing and future expenditures for transportation projects and programs are based on a continuing, cooperative, and comprehensive planning process. Federal funding for transportation projects and programs is channeled through the MPO. Note that some MPOs are found within agencies such as regional planning organizations, councils of governments, and others. Illinois has 16 MPOs (Figure 1-12). As illustrated, some MPOs cross state borders, some are multi-county, and some cover only one county. The names of MPOs are included in Table 1-4.

FIGURE 1-12: ILLINOIS METROPOLITAN PLANNING ORGANIZATIONS

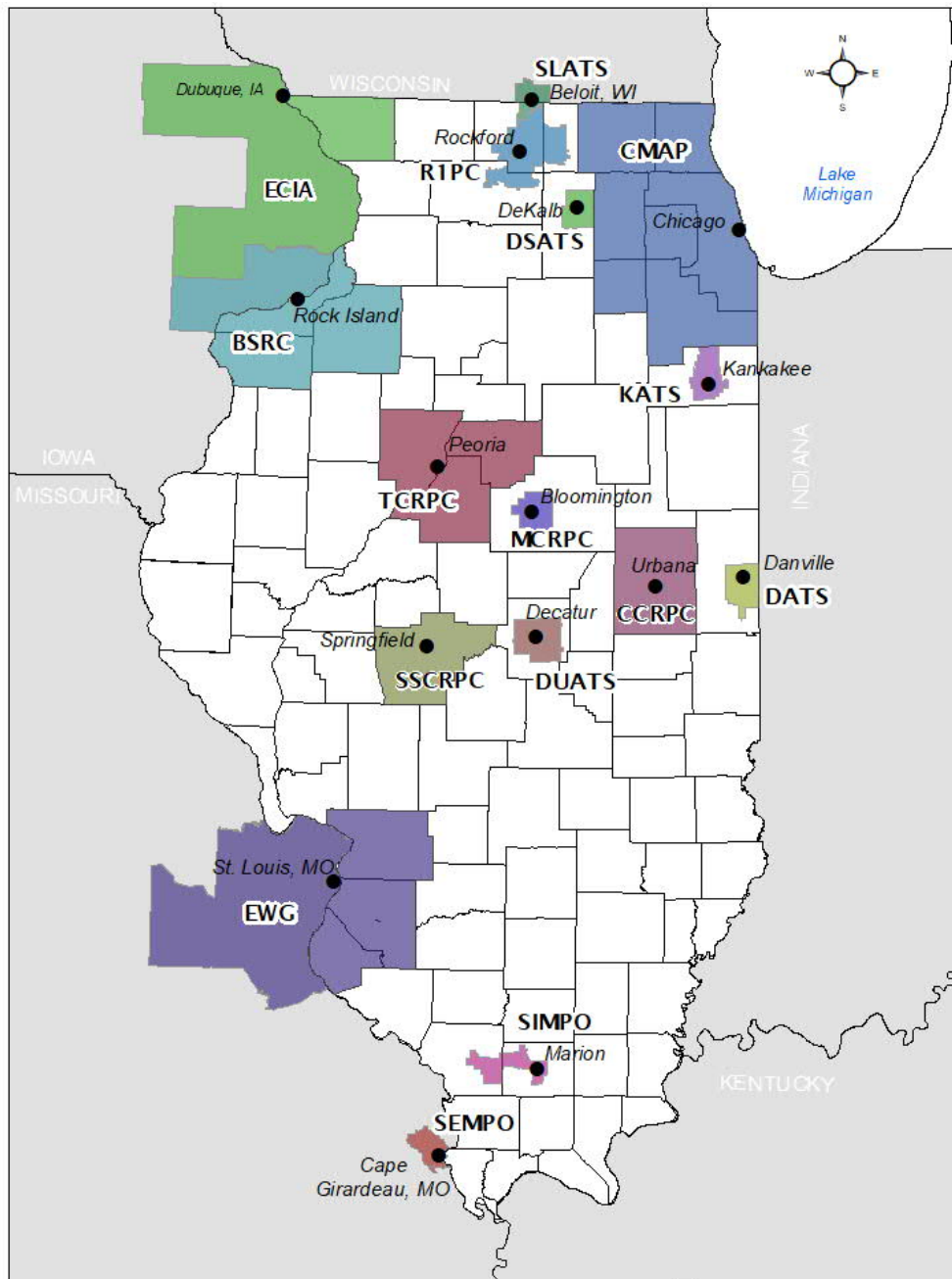


Table 1-4 provides a summary of the MPOs' rail-related studies and the communities under the jurisdiction of each. As the administrator of Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) planning funds, IDOT is responsible for working collaboratively with MPOs to establish an effective and efficient multimodal transportation system within the state. As part of this responsibility, IDOT is required by 23 Code of Federal Regulations (CFR) § 450.314 to enter into a cooperative agreement with each MPO that clearly identifies the responsibilities of each for carrying out the metropolitan planning process and accomplishing the transportation planning requirements of state and federal law.

MPOs are required to maintain and continually update an LRTP as well as a Transportation Improvement Program (TIP), which is a multi-year program of transportation projects to be funded with federal and other transportation funding sources. IDOT incorporates each MPO's TIP into its Statewide Transportation Improvement Program by reference. To assist in meeting its responsibilities, IDOT is represented on the technical and policy committees of each MPO. IDOT allocates federal planning funds to the MPOs and has oversight responsibilities to ensure work is performed as required and funds are spent appropriately. IDOT supports the MPO Council and employs metropolitan managers to coordinate state and MPO planning efforts.

As MPO planning activities have evolved to address the movement of freight as well as passengers, these activities have also included consideration of multimodal solutions, improved intermodal connections, and more specific rail and rail-related project solutions. MPOs must work cooperatively with area transportation stakeholders to understand and anticipate the area's travel needs and to develop these documents. All of the 16 MPOs in Illinois have prepared studies or plans involving freight, passenger, and/or commuter rail (Table 1-4).

TABLE 1-4: MPOS IN ILLINOIS

Metropolitan Planning Organization	Acronym	Jurisdiction	Rail Plan or Other Rail Related	Freight Plan with Rail Section	LRTP with Rail Section
Stateline Area Transportation Study	SLATS	Illinois » City of South Beloit » Village of Rockton » Village of Roscoe Wisconsin » Town of Beloit » City of Beloit » Town of Turtle	2021 Passenger Rail Plan		2021 Passenger Rail Section
McLean County Regional Planning Commission	MCRPC	Illinois » Bloomington-Normal » Village of Towanda » Village of Downs		2018 Freight Plan	
Southeast Metropolitan Planning Organization	SEMPO	Illinois » Village of East Cape Girardeau Missouri » City of Cape Girardeau » City of Jackson			2021 Freight Section Includes RR

Metropolitan Planning Organization	Acronym	Jurisdiction	Rail Plan or Other Rail Related	Freight Plan with Rail Section	L RTP with Rail Section
Southern Illinois Metropolitan Planning Organization	SIMPO	Illinois » City of Harrison » City of Murphysboro » City of Carbondale » Village of Cambria » City of Carterville » Village of Crainville » Village of Colp » City of Herrin » Village of Energy » City of Marion » Village of Spillertown			2020 Passenger, Freight and Class III Project
Champaign County Regional Planning Commission	CCRPC	Illinois » Champaign County		2019 Freight Plan	2019 Passenger and Freight Included
Chicago Metropolitan Agency for Planning	CMAA	Illinois » Cook County » DuPage County » Kane County » Kendall County » Lake County » McHenry County » Will County		2018 Freight Study	2018 On To 2050
Danville Area Transportation Study	DATS	Illinois » City of Danville » Village of Tilton » Village of Belgium » Village of Westville » Village of Catlin	2014 Quiet Zone Study 2014 At-Grade RR Crossing Study	2019 Freight Study	2020 Railroad Section Existing Conditions
Decatur Urban Area Transportation Study	DUATS	Illinois » City of Decatur » Village of Forsyth » Village of Mt. Zion	Decatur Area Transportation Efficiency Study (2013)		2020 Freight and Passenger Rail
DeKalb/Sycamore Area Transportation Study	DSATS	Illinois » City of DeKalb » City of Sycamore » Town of Cortland	2011 Freight-Rail Study		2020 Rail Sections
East Central Intergovernmental Association	ECIA	Illinois » City of East Dubuque » Jo Davies County Iowa			2021 Rail Existing Conditions Passenger Rail Section

Metropolitan Planning Organization	Acronym	Jurisdiction	Rail Plan or Other Rail Related	Freight Plan with Rail Section	L RTP with Rail Section
		» Cedar County » Clinton County » Delaware County » Dubuque County » Jackson County			
Kankakee Area Transportation Study	KATS	Illinois » Kankakee County			2020 Freight and Passenger Rail
Tri-County Regional Planning Commission	TCRPC	Illinois » Peoria County » Tazewell County » Woodford County	2011 Feasibility of Amtrak Service, Chicago to Peoria 2013 Commuter Rail for Central Illinois Feasibility Study		2020 Freight and Passenger Rail
Bi-State Regional Commission	BSRC	Illinois » Rock Island County » Henry County » Mercer County Iowa » Muscaline County » Scott County	2019 Mississippi River Rail Crossing Study	2015 Freight Plan	2021 Freight and Passenger Rail
Region 1 Planning Council	R1PC	Illinois » City of Rockford » Village of Machesney Park » City of Freeport » City of Rochelle » City of South Beloit » Village of Cherry Valley		2009 Freight Study	2020 Freight and Passenger Rail
Springfield-Sangamon County Regional Planning Commission	SSCRPC	Illinois » Sangamon County		2010 Freight Study	2020 Freight and Passenger Rail
East-West Gateway Council of Governments	EWG	Illinois » Madison County » Monroe County » St. Clair County Missouri » Franklin County » Jefferson County » St. Charles County » St. Louis County		2013 St. Louis Regional Freight Study	2019 Freight and Passenger Rail

1.4.6. Multi-State Organizations

Under Illinois law (45 ILCS 78), the State of Illinois is allowed to participate in multi-state compacts and other partnerships to study and establish passenger rail services. These compacts and partnerships, as well as other national rail coalitions and associations, include:

- » The Interstate High Speed Intercity Rail Passenger Network Compact – Illinois ratified this compact and enacted into law the joining with other states for the purpose of cooperating and jointly administering study of the feasibility of operating a rail passenger system connecting major cities in Illinois, Indiana, Kentucky, Michigan, Ohio, Pennsylvania, and West Virginia.
- » The Midwest Interstate Passenger Rail Commission – The commission was formed by compact agreement in 2000 to promote, develop, and implement improvements to intercity rail passenger service in the Midwest. The current member states are Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, North Dakota, and Wisconsin. Iowa, Nebraska, Ohio, and South Dakota are also eligible to join.

In 2021, the commission and FRA released the Midwest Regional Rail Plan as a high-level vision for intercity passenger rail in 40 years. The Midwest Regional Rail Plan envisions a robust network of multiple trains linking major cities and smaller towns that capitalizes on the benefits of a multistate system with the Midwest Interstate Passenger Rail Commission leading a governance structure with clear authority and responsibility for overseeing and implementing the implementation of the plan.

- » Midwest Regional Rail Initiative – In 1996, nine Midwestern states, including Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Nebraska, Ohio, Wisconsin, and Amtrak formed the Midwest Regional Rail Initiative to develop a network of high-speed rail services focused on a central hub in Chicago. This hub-and-spoke system, known as the Midwest Regional Rail System, included the following high-speed rail corridors:

Chicago to Detroit/Pontiac	St. Louis to Kansas City
Chicago to Cleveland	Chicago to Quincy
Chicago to Cincinnati	Chicago to Omaha
Chicago to Carbondale	Chicago to Milwaukee to Twin Cities/Green Bay
Chicago to St. Louis	

- » Mid-America Freight Coalition – This coalition—consisting of 10 mid-America states (Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Ohio, and Wisconsin)—works to support freight transportation development activities in the region. The coalition has developed a regional freight study to provide a preliminary look at what a national freight network would look like in the region with an analysis of the importance of these corridors to each respective state.
- » States for Passenger Rail Coalition – This coalition is an alliance of state DOTs that support intercity passenger rail initiatives and advocate for federal funding. Its mission is to promote the development, implementation, and expansion of intercity passenger rail services with involvement and support from state governments. Currently, 32 states, including Illinois, are members of the coalition.
- » The American Association of State Highway Transportation Officials (AASHTO) – Standing Committee on Rail Transportation – IDOT staff participates in this national committee within AASHTO. It is composed of rail officials from state DOTs. The committee conducts conferences,

prepares technical studies and reports, and advocates and promotes various federal issues and projects for both freight and intercity passenger rail improvements.

- » State-Amtrak Intercity Passenger Rail Committee – IDOT is a participating agency in this committee, which is a multi-agency body whose members include 20 agencies in 17 states, Amtrak, and FRA. Congress directs the committee to facilitate collaboration among its members and to oversee implementation of a standard cost-sharing methodology for the state-supported intercity passenger rail across the country.

1.5. Rail Initiatives and Plans

Since the completion of the last rail plan in 2017, Illinois has commenced or continued to implement a series of initiatives to forward the State of Illinois' rail vision, goals, and objectives. The most prominent are described below.

1.5.1. Chicago-St. Louis High-Speed Rail

The recently completed Chicago-St. Louis High-Speed Rail (HSR) program consists of upgrading an existing railroad corridor between the two major Midwest cities to accommodate passenger train speeds up to 110 mph. The American Recovery Investment Act (ARRA) of 2010 grant initially funded the project (\$1.2 billion).

The Illinois signature HSR route has received an additional \$700 million of federal and state funds for corridor improvements between Joliet and St. Louis. The Chicago-St. Louis corridor features significantly improved service, reliability, and safety with four-quadrant gates at grade crossings and Positive Train Control (PTC). Passenger trains operating at interim speeds of up to 90 mph and

were increased to 110 mph at completion of the program. Funding for new trainsets (locomotives and passenger cars) was also included in the ARRA funding. Now, a focus is to double track additional segments south of Joliet.



1.5.2. Passenger Rail Rolling Stock

As part of the federal funding secured in 2010 for the upgrade of the Chicago-St. Louis line and improvements to the rest of the Midwest network, 33 new Siemens Charger locomotives and 88 new Siemens Venture passenger cars are under construction and implementation on the Midwest network.

Locomotives conform to U.S. Environmental Protection Agency required Tier 4 emissions standards and are capable of 125 mph operations, entered revenue service in 2017, and have been operating successfully in eight corridors.

New passenger cars have been entering revenue service since April 2022. Cars are operating on the Chicago-St. Louis, Chicago-St. Louis-Kansas City and Chicago-Pontiac routes, with other routes planned to receive the new cars as they go through delivery and acceptance. Rider comments on the new cars have been favorable. The entire 88-car order is expected to be completed during 2024.



1.5.3. Grade-Crossing Safety

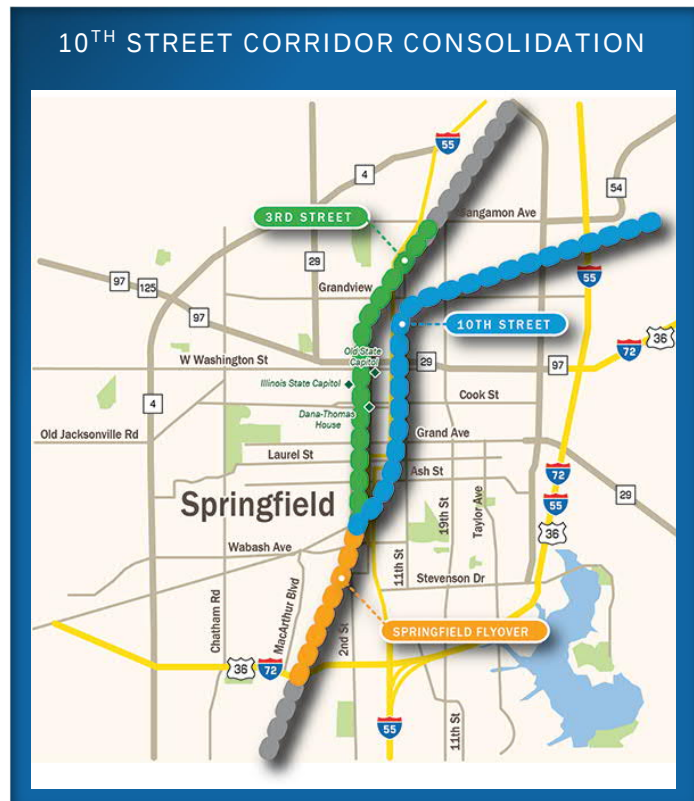
Initiatives led by both IDOT and ICC have benefited many of the highway-rail grade crossings in Illinois. Through Section 130 and GCPF programs, as well as corridor development programs, the State of Illinois has made significant safety improvements. Between 2012 and 2021, nearly 2,000 crossing projects were completed with scopes ranging from minor improvements to grade separations.

For the 256 highway-rail grade crossings within the Chicago-St. Louis HSR corridor, four-quadrant gates were installed at all public crossings and alarms to passenger locomotives; and enhanced warning devices were implemented for all private crossings. IDOT and ICC coordinated with local communities to successfully close a total of 36 grade crossings for additional safety on the high-speed rail corridor.



1.5.4. Springfield – 10th St. Corridor Consolidation – Passenger and Freight Rail

The project will consolidate rail lines at 3rd Street and 10th Street in Springfield to a combined corridor on 10th Street, which would carry all freight and passenger rail traffic through Springfield. Additional capacity will be added to the 10th Street corridor to accommodate the combined traffic. The project also includes grade separations to improve safety on the 10th Street corridor, as well as to improve car and pedestrian traffic flows. As part of the project, a new passenger rail station will be built to serve the Amtrak Chicago-St. Louis HSR service. A quiet zone will be implemented between Stanford Avenue and Sangamon Avenue, so that trains will no longer need to sound their horns as they approach crossings in this area. Carpenter Street, Ash Street and Laurel Street underpasses have been completed. The remaining components of the project are scheduled for completion by 2025.



1.5.5. CREATE Program

The CREATE Program was formally announced on June 16, 2003. It began as a task force that the federal Surface Transportation Board convened in the early 2000s to recognize the growing urgency of the Chicago region's rail capacity needs. That task force included representatives from the railroad industry, the State of Illinois, and the City of Chicago.

Today, the CREATE Program is a unique collaboration between railroads and municipal leaders working together to increase the efficiency of Chicago's unique rail network. All six of the Class I railroads in North America participate in the CREATE Program, along with Amtrak, Metra, the State of Illinois, Cook County, and the City of Chicago.

The CREATE Program includes four corridors of projects, tower projects, and grade-separation projects. Table 1-5 provides information on each project category, number of projects and status of projects). More detailed information can be found in Appendix I.

TABLE 1-5: CREATE PROGRAM STATUS

Corridor	Total # of Proj.	Projects Completed as of June 2022	Projects in Construction as of June 2022	Projects Funded for Construction	Phase 1	Phase 2	Not Yet Started*
Belt (B)	16	16	0	0	0	0	0
East-West (E-W)	4	1	0	1 (EW3)	0	3	0
Western Ave. (WA)	11	4	1 (WA2)	1 (WA11)	1	2	0
Passenger (P)	7	1	1 (P3)		2	0	2
Tower (T)	12	7	0	0	0	0	5
Grade Separations (GS)	25	7	0	3 (GS9, GS11, GS19)	4	3	11
Common Operational Picture	1	1	0	0	0	0	0
Viaducts**	Various	0	Various		0	0	0
Grade Crossing Safety***	Various	0	0	0	0	0	1

* Pending funding

** City of Chicago

*** Suburban

2. ILLINOIS EXISTING RAIL SYSTEM

2.1. Description and Inventory

2.1.1. Existing Rail Network

Based on estimates from a combination of sources, a total of 6,747 miles of rail line are operated in Illinois. Per the Association of American Railroads (AAR), Illinois has the second largest rail network in the nation. Private freight railroads own and operate all but 197 of these miles. Chicago-area commuter rail agencies, Metra and the Northern Indiana Commuter Transportation District (NICTD), own and operate the remaining mileage of which 32 miles are passenger rail only, and 165 miles are passenger and freight. In total, 1,484 miles carry both passenger trains (Amtrak or commuter) and freight trains, while 5,231 miles are freight only.

Freight railroads in Illinois are assigned one of three classifications:

- » Class I railroads focus on long-distance, line-haul freight service, providing connections across the United States, Canada, and Mexico. The U.S. Surface Transportation Board (STB) defines Class I carriers as those railroads with annual revenues exceeding \$505 million.⁸
- » Regional (Class II) railroads connect regions of Illinois to adjacent states, and other parts of Illinois. Regional railroads are those that have revenue that exceeds \$40 million but less than the Class I threshold.⁹
- » Short line (Class III) railroads focus on the “last-mile” service, providing a connection for Illinois businesses to the rail transportation network, often on rail lines with inadequate freight volume to support service by a Class I railroad. Class III railroads can also provide switching (movements of railcars) for other carriers.

A total of 55 freight railroads operate in Illinois. Table 2-1 summarizes operating route mileage of the Illinois rail network. Class I railroads account for 79 percent of the rail miles followed by short lines with 16 percent and regional railroads with 5 percent. Forty-five short line railroads operate in the state, the largest of which by mileage is the Illinois & Midland Railroad, which operates 154 miles and the smallest railroads (of which there are six) each operate 1 mile of track. Figure 2-1 shows Illinois’ railroad network by railroad classification.

⁸ Threshold figures are adjusted annually for inflation using a base year of 1991. This figure is based on 2019 numbers, the most recent for which the factors have been calculated. The original 1991 threshold was \$250 million.

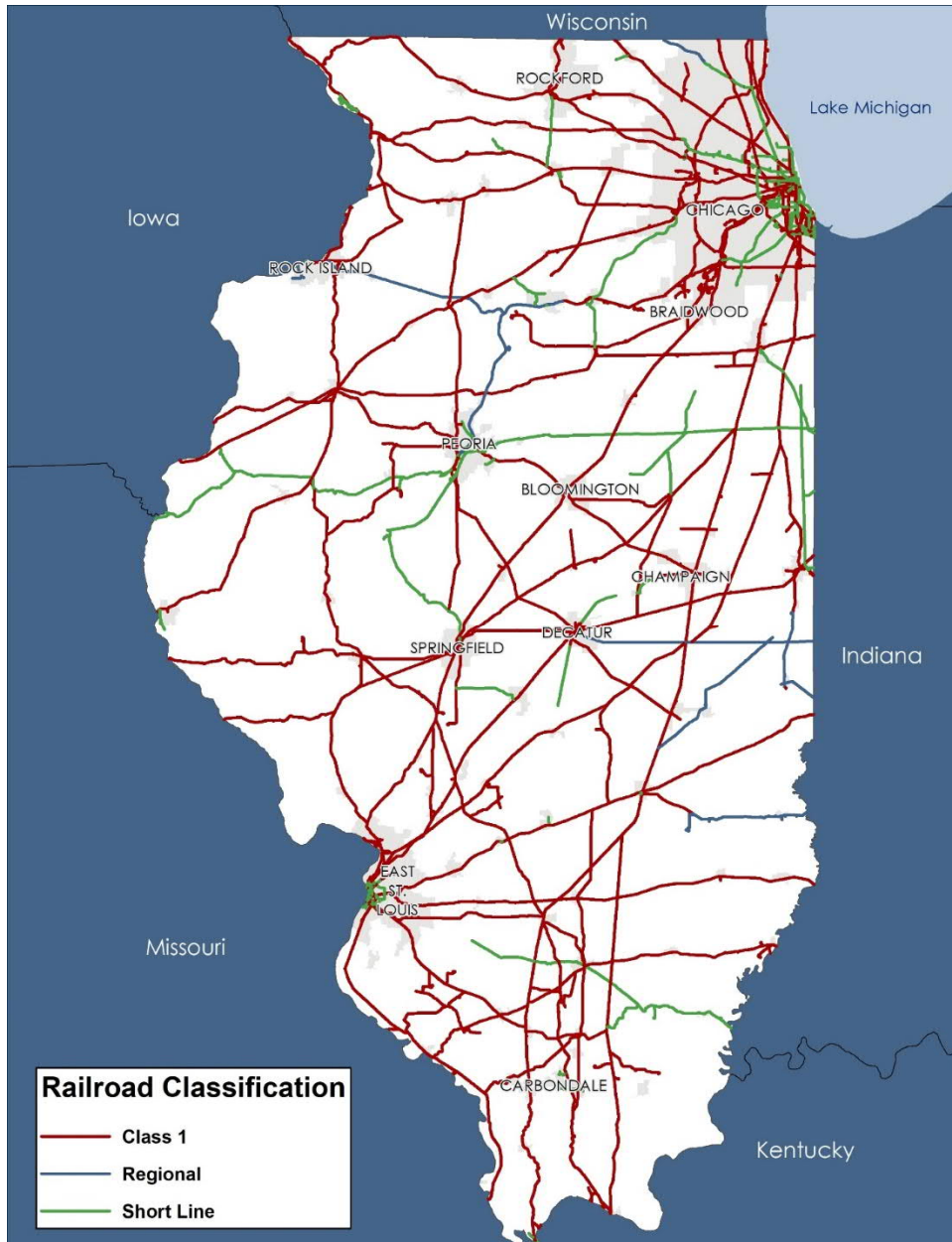
⁹ Similar to the definition of Class I railroads, the Class II lower threshold is adjusted annually for inflation and the threshold here reflects the 2019 inflation adjustment. The original 1991 threshold was \$20 million.

TABLE 2-1: FREIGHT OPERATING ROUTE MILEAGE IN ILLINOIS

Railroad Type	Miles Operated	Percentage
Class I	5,301	79%
Regional	322	5%
Short Line	1,092	16%
TOTAL	6,715	100%

Sources: STB Schedule 702 Reports (2021), AAR Illinois State Fact Sheet (2019)

FIGURE 2-1: RAILROAD CLASSIFICATION IN ILLINOIS



Source: IDOT GIS

Class I Infrastructure

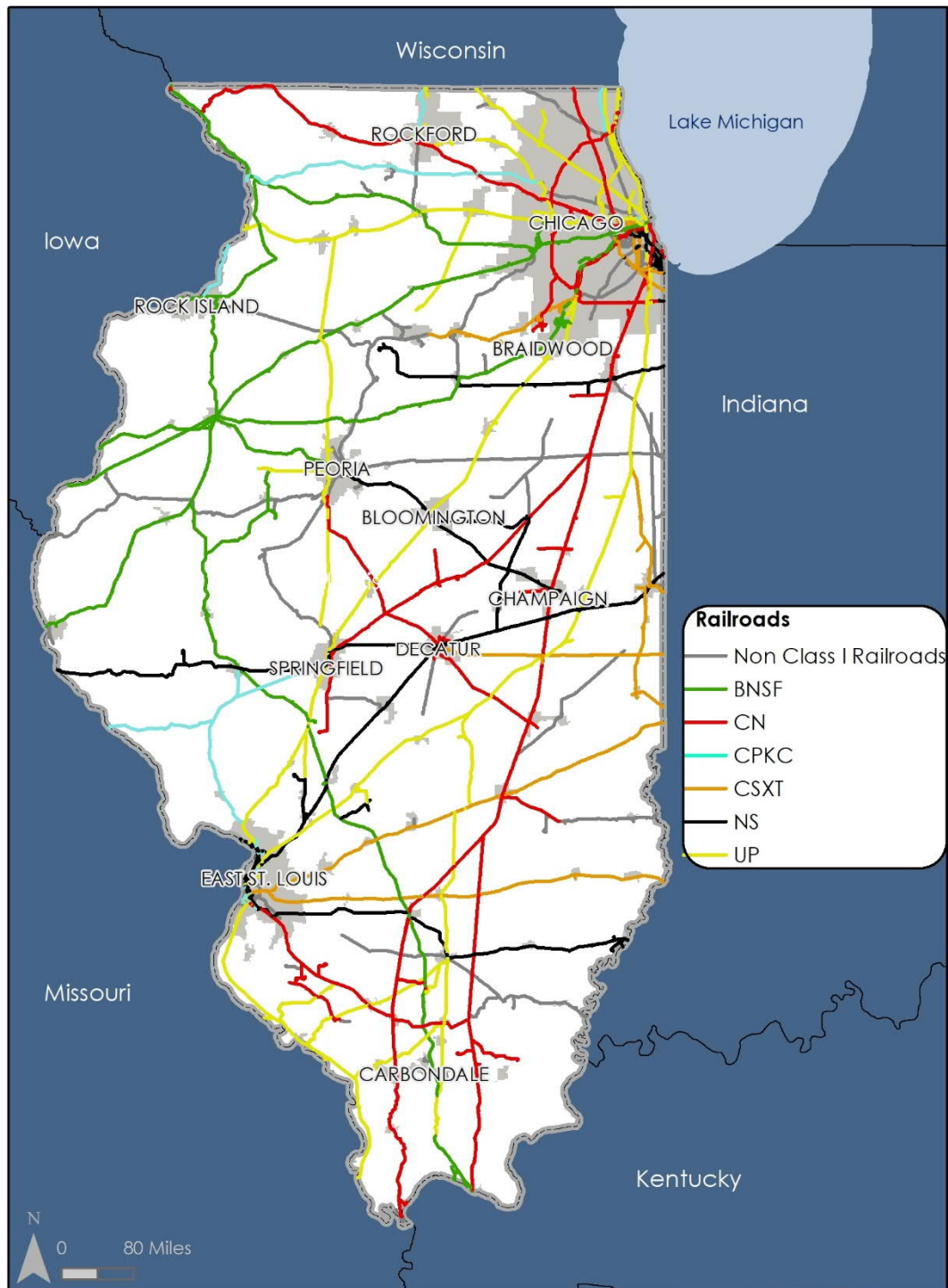
Canadian National, Union Pacific and BNSF each operate over 1,000 miles in the state. Illinois railroads also operate over each other's tracks. Class I railroads enter into agreements referred to as "trackage rights" whereby a railroad gains access and operates over tracks owned by another railroad while the owning retains responsibility for operating and maintaining the tracks. Class 1 railroads operate over 2,139 miles of trackage rights in Illinois. Table 2-2 shows the breakdown of ownership. Figure 2-2 shows a map of the Class I railroads. In addition to the 5,442 route miles that they operate, Class I railroads own and lease another 201 miles to other railroads.

TABLE 2-2: CLASS I RAILROAD MILEAGE OPERATED BY RAILROAD IN ILLINOIS (2021)

Railroad	Line Owned	Line Operated under Lease	Line Operated under Contract	Total Operated Excluding Track Rights	Line Operated under Trackage Rights	Line Owned, not operated by Railroad
BNSF Railway Company (BNSF)	1,151	0	2	1,153	382	0
CN Railway (CN)	1,231	0	0	1,231	47	0
Canadian Pacific Kansas City (CPKC)	320	0	0	320	251	0
CSX Transportation (CSX)	357	56	0	285	291	128
Norfolk Southern Corporation (NS)	847	0	0	784	414	63
Union Pacific Railroad Company (UP)	1,534	4	0	1,528	754	10
TOTAL	5,440	60	2	5,301	2,139	201

Source: STB R-1 Annual Reports, Schedule 702 (2021)

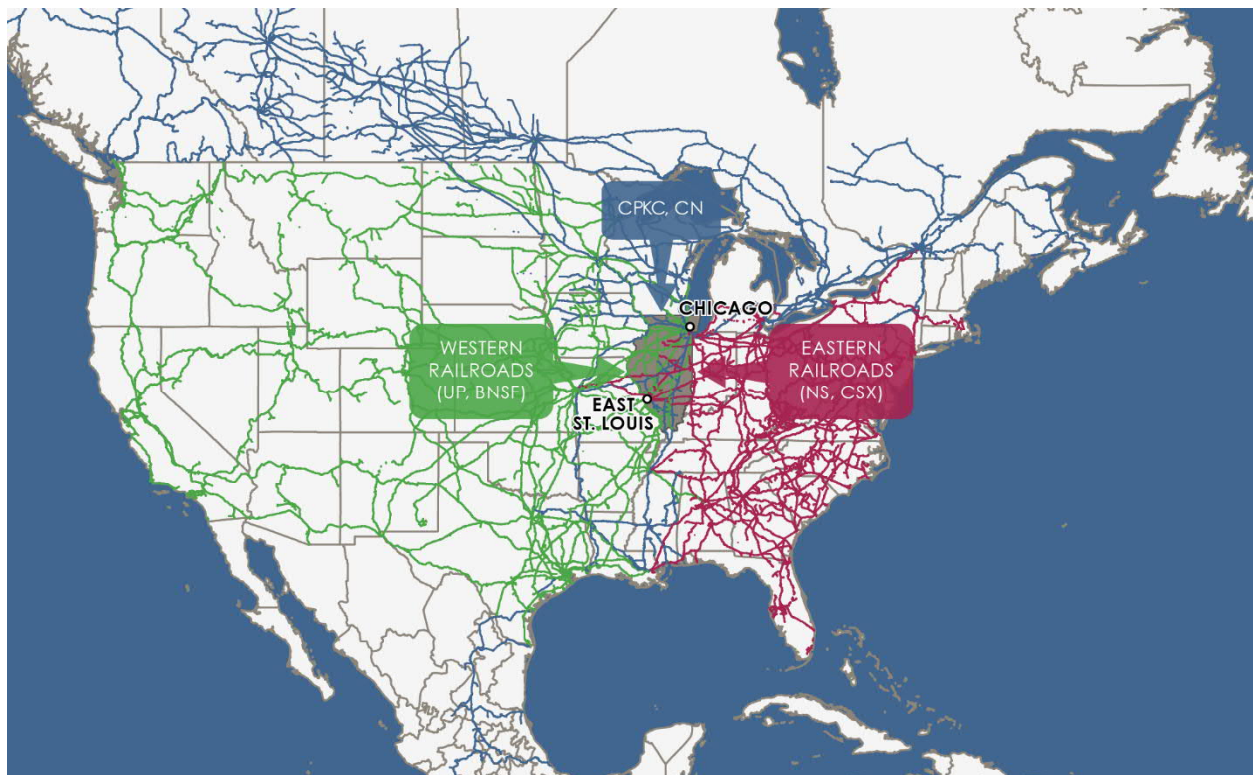
FIGURE 2-2: CLASS I RAILROADS IN ILLINOIS



Source: IDOT GIS

Chicago and East St. Louis serve as the two largest gateways for rail traffic to interchange between railroads from different parts of North America. This role is graphically illustrated by Figure 2-3, where western railroads in green meet eastern railroads in red, while blue railroads of CN and CPKC, all meet in Illinois.

FIGURE 2-3: ROLE OF ILLINOIS IN CLASS I RAIL NETWORKS

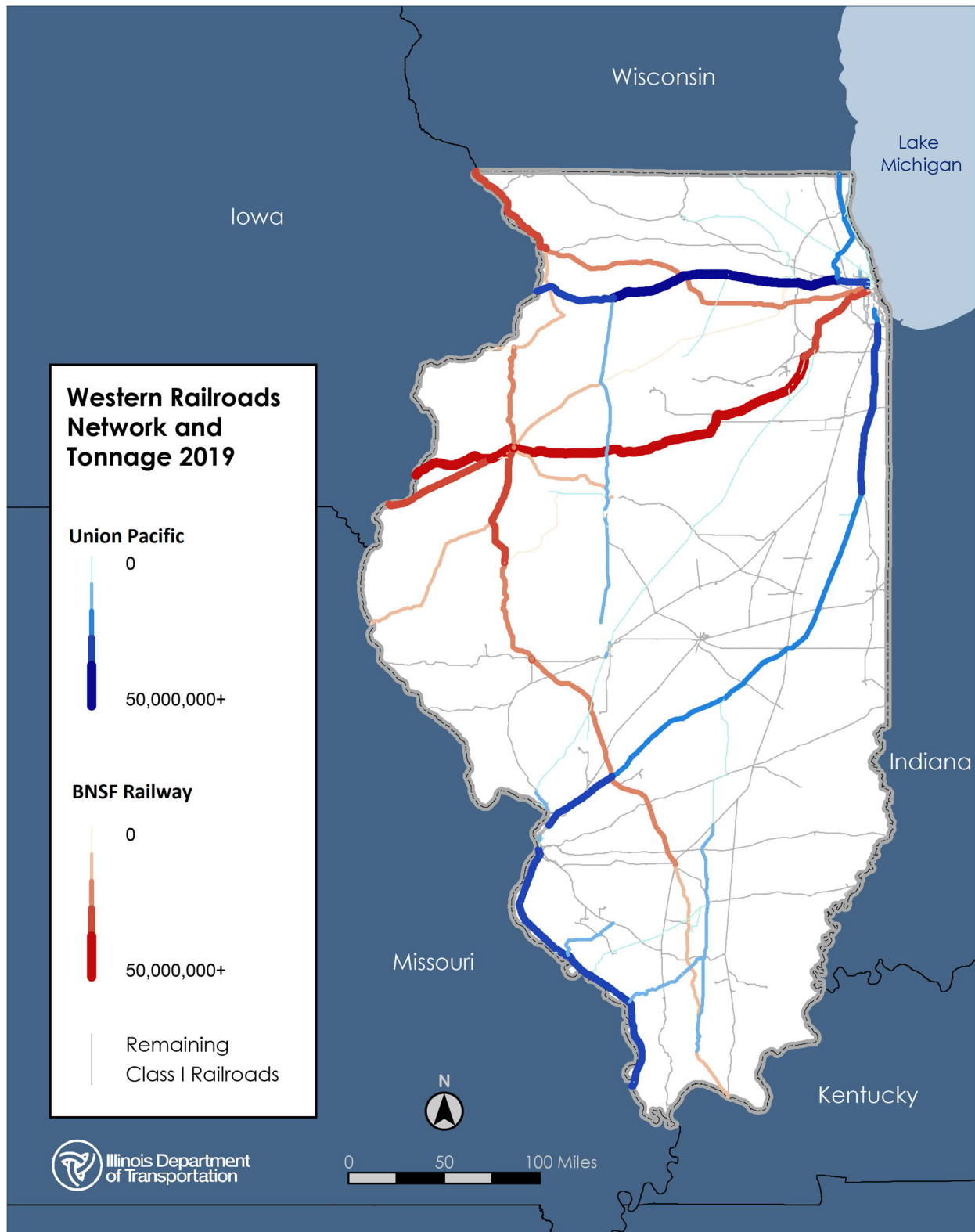


Source: North American Transportation Atlas Database

Western Railroads

Figure 2-4 shows the western railroads within Illinois and the respective tonnage by line for 2019. The two railroads, UP and BNSF, connect Illinois with rail markets in the western half of the United States. UP is denoted in blue and operates 22 percent of the state's rail miles. The segment with the highest tonnage in 2019 was the Geneva Subdivision, which is part of the Overland Route, connecting Illinois to points west. BNSF is denoted in red and operates 17 percent of Illinois rail miles. The segment with the highest tonnage in 2019 was the BNSF Chillicothe Subdivision, which is part of the BNSF Transcon route between Chicago and Los Angeles, CA. As shown in Figure 2-4, BNSF and UP rely on independent switching railroads in the Chicago and East St. Louis rail hubs, so that rail lines operated and dispatched by each railroad do not directly serve these locations, even though UP and BNSF maintain a major presence in railroad hubs through the switching railroads.

FIGURE 2-4: WESTERN RAILROAD NETWORK AND TONNAGE IN ILLINOIS (2019)



Source: WSP Analysis of IDOT and S&P Network Data

Union Pacific Railroad Company. Part of the first transcontinental railroad, UP was founded in 1862. The railroad was constructed westward from Council Bluffs, Iowa, to meet the Central Pacific Railroad, which was building eastward from California. UP was connected to Illinois through the Chicago & Northwestern Transportation Company. UP is one of the two dominant western carriers through a series of acquisitions starting with the Missouri Pacific Railroad (1982), followed by the Western Pacific Railroad (1982), the Missouri-Kansas-Texas Railroad (1988), Chicago & Northwestern Transportation Company (1995), and finally, the Southern Pacific Railroad (1996). In the St. Louis terminal area, UP operates the wholly owned Alton & Southern Railway. UP's 32,452-mile network not only links Illinois with the western United States, but it also offers connections to the Canadian and Mexican networks at various locations.

BNSF Railway Company. Headquartered in Fort Worth, TX, BNSF was created in 1995 through the merger of Burlington Northern, Inc. and Santa Fe Pacific Corp, which themselves were a product of over 400 different rail lines that merged or were acquired over the last 170 years. BNSF serves the western two-thirds of the United States as well as parts of Canada with approximately 32,500 route miles in 28 states and three Canadian provinces. As of 2010, BNSF is now a subsidiary of Berkshire Hathaway, Inc.

Illinois represents the eastern terminus of several BNSF rail lines. Among these are some of the busiest rail lines in the state and the nation. For example, the Chillicothe Subdivision is the eastern end of the BNSF Transcon line, which stretches between Chicago and Los Angeles. The BNSF Aurora and Chicago Subdivisions are the eastern ends of the Great Northern Corridor, which connects Illinois to the northern Great Plains and Pacific Northwest. Mendota is another key BNSF subdivision that carries a range of commodities between Illinois and the western U.S. Appendix A shows a subdivision map.

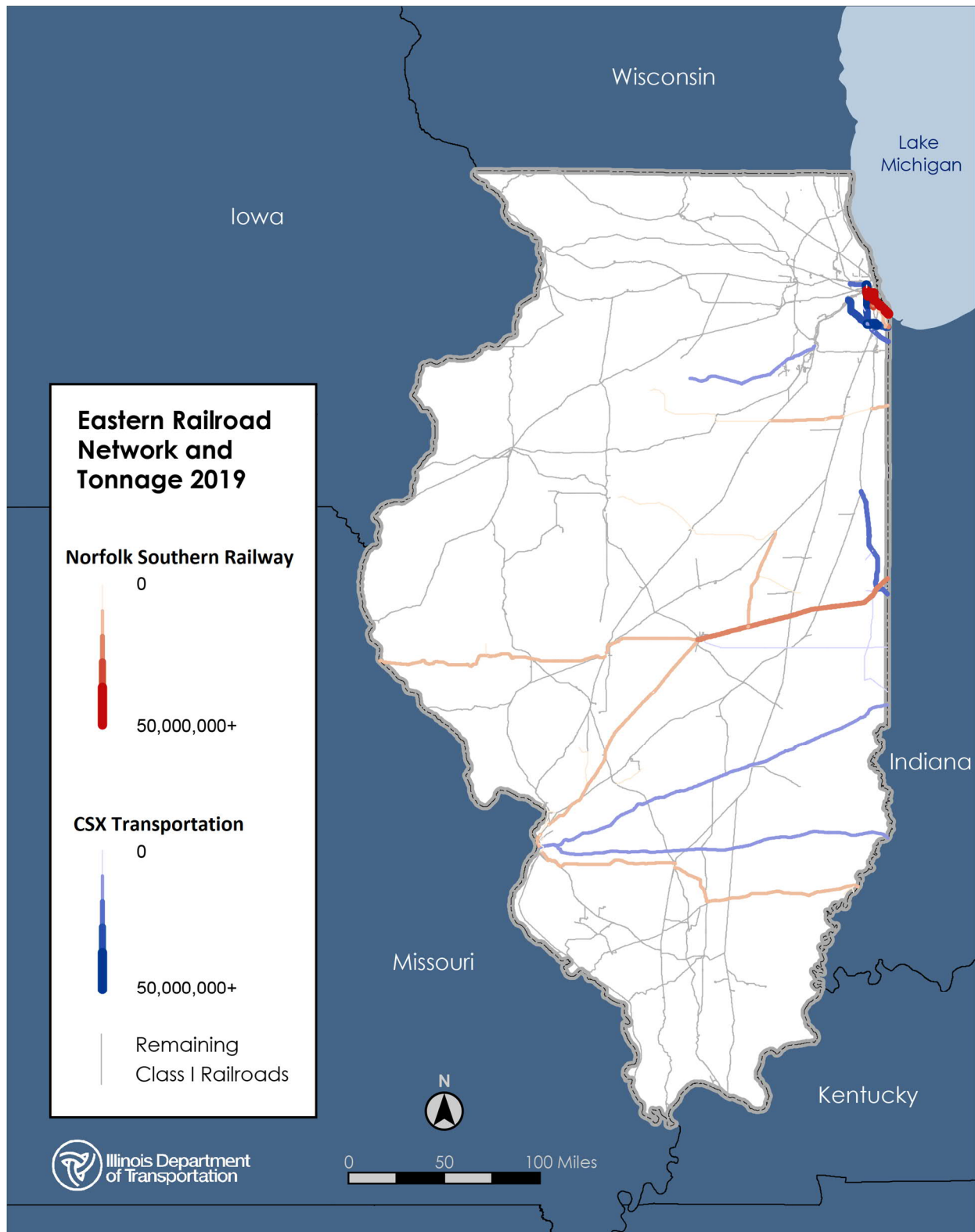
Eastern Railroads

Figure 2-5 shows the eastern railroads, Norfolk Southern Railway (NS) and CSX Transportation (CSX), with their respective tonnage by Illinois rail line for 2019. These two railroads connect Illinois with freight markets in the eastern half of the United States. NS is denoted in black and operates 11 percent of rail mileage in the state. CSX is denoted in blue and operates 4 percent of rail miles in the state. For both railroads, the highest tonnage rail lines are located between Chicago and the Illinois/Indiana border.

Norfolk Southern Railway. Through various acquisitions, NS has become one of the two dominant rail carriers in the eastern U.S. through the acquisition of part of Conrail in 1999, and with it, a significantly expanded footprint in Illinois. Within the state, NS operates almost 1,300 rail miles, six intermodal terminals, a rail-truck transloading facility, and services three ports. NS connects Illinois to markets throughout the eastern United States.

CSX Transportation. Headquartered in Jacksonville, FL, CSX Transportation is the result of several mergers and acquisitions of railroads operating in the eastern half of the United States. At its 1980 creation, one of the constituent carriers was the Baltimore & Ohio Railroad, which had a terminal in Chicago. Within Illinois, CSX operates just over 700 route miles. Out of the 10 largest CSX yards and terminals based on annual volume, two are located within Illinois. CSX provides Illinois with access to markets throughout the eastern United States and the Province of Quebec.

FIGURE 2-5: EASTERN RAILROAD NETWORK AND TONNAGE IN ILLINOIS (2019)



Source: WSP Analysis of IDOT and S&P Network Data

CN and CPKCS

The CN and CPKC also connect in Illinois, providing access to freight markets in other areas of the United States, Canada, and Mexico. Figure 2-6 shows the CN and CPKC and the respective tonnage by line for 2019. CN is denoted in red and operates 18 percent of Illinois rail miles. The CN segment with the highest tonnage in 2019 was between Chicago and the Illinois/Wisconsin border. This is part of the CN network that connects Illinois with the Pacific Northwest. CPKC is denoted in purple and operates 4 percent of Illinois rail mileage. CPKC operates between the Missouri border and Springfield and accesses Chicago by trackage rights. The segment with the highest tonnage in 2019 was between Chicago and the Wisconsin border and was a component of the network that connects Illinois with the Pacific Northwest.

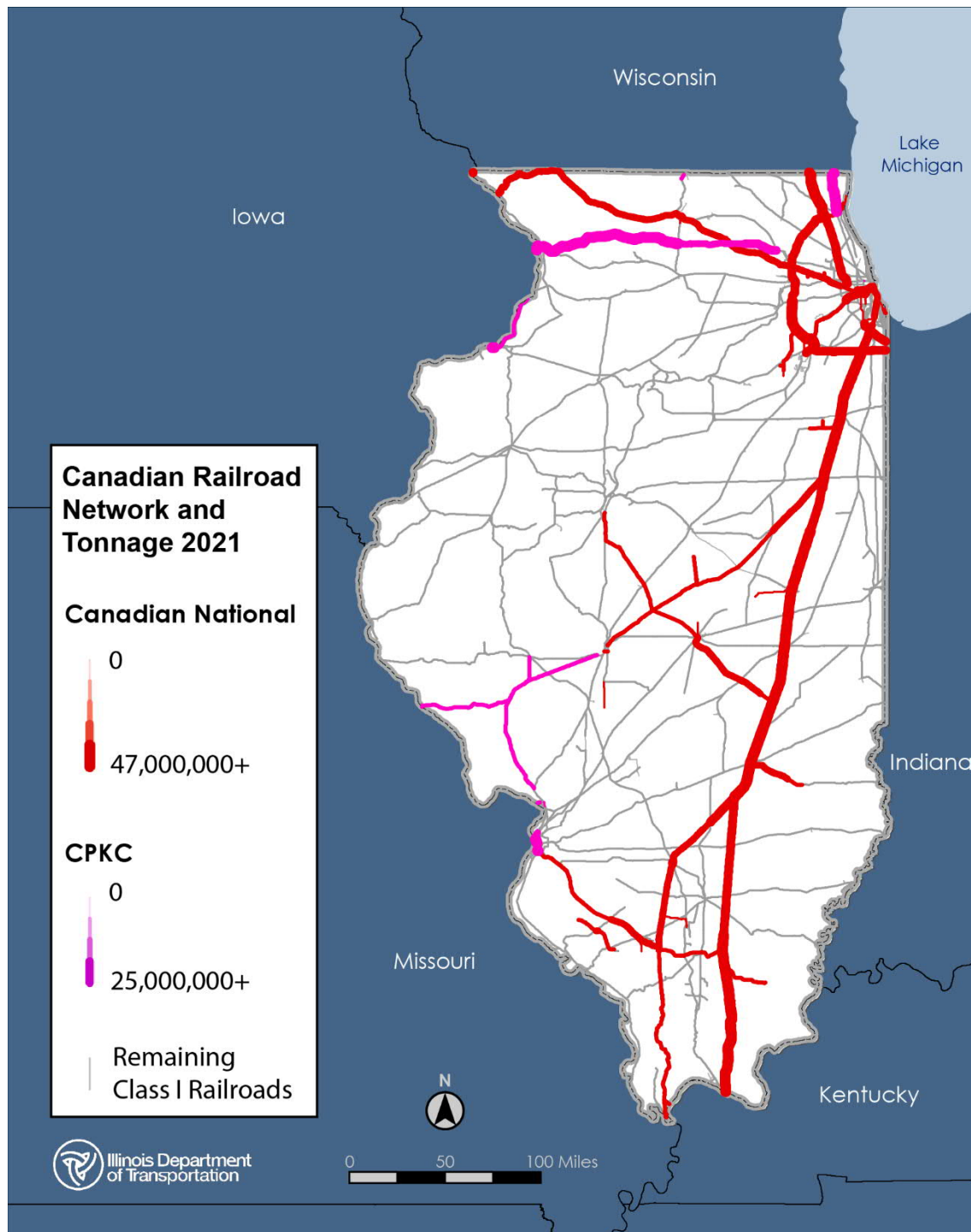
Canadian National. CN is headquartered in Montreal, Quebec. The CN rail network resembles a “T.” The top of the “T” spans North America east/west between the Atlantic and Pacific Coasts with portions in Canada and the United States. The base of the “T” is the former Illinois Central line between Chicago and the Gulf of Mexico. Chicago serves as the hub at the center of the CN “T.” Incorporated in 1919, CN is the product of multiple bankrupt railroads that the Canadian government consolidated into a single government-owned entity that endured until 1995, when it was sold through a public stock offering. CN has had a lengthy presence in the United States, which started with its acquisition of the Grand Trunk Western Railroad in 1923. In 1999, the recently privatized CN expanded its U.S. holdings through the acquisition of the Illinois Central Railroad, followed by the Wisconsin Central, Ltd. in 2001, and the Elgin, Joliet, & Eastern Railway in 2009.

CPKC. Headquartered in Calgary, Alberta, CPKC is the result of the 2023 merger of Canadian Pacific Railway (CP) and the Kansas City Southern Railway Company (KCS). Similar to CN, the CPKC system roughly resembles a “T” with the former lines of KCS, KCSM forming the base of the “T” to Mexico, and the top of the “T” consisting of rail lines in Canada and the northern U.S.

CP was incorporated in 1881 to connect British Columbia with eastern Canada, making it Canada’s first transcontinental railway. CP expanded into the United States in 1949 when it established majority control of the newly formed Soo Line Railroad, a combination of multiple railroads operating in the U.S. Midwest. Subsequently, CP acquired the bankrupt Chicago, Milwaukee, St. Paul, and Pacific Railroad in 1985, which was folded into its Soo Line subsidiary. In 1990, the Soo Line became wholly owned by CP. In 2009, CP acquired the Dakota, Minnesota, & Eastern Railroad, and the Iowa, Chicago, and Eastern Railroad. Notably, the latter included most of the former Milwaukee Road trackage in Illinois and Iowa that CP had sold off some years previously.

KCS began as the Kansas City Suburban Belt Railway in 1887, serving Kansas City, KS, Independence, MO, and the riverside commercial and industrial districts in Kansas City. In 1996, KCS acquired Gateway Western Railway Company, which operated between Kansas City and East St. Louis. The former KCS system terminates in Illinois at Springfield and East St. Louis. KCS also holds trackage/haulage rights to Chicago over UP’s Alton-Springfield-Joliet line. Within Illinois, KCS operates just under 200 miles of rail. Within Illinois, CPKC operates two transloads facilities, one intermodal facility, and nearly 600 rail miles. The railroad provides Illinois with a connection to the Upper Midwest, the Pacific Northwest, northeastern United States, and markets in Canada and Mexico.

FIGURE 2-6: CANADIAN NATIONAL AND CPKC TONNAGE IN ILLINOIS (2021)



Source: WSP Analysis of IDOT and S&P Network Data

Regional Railroad Infrastructure

Four regional railroads operate in Illinois. Table 2-3 summarizes their mileage. Figure 2-7 shows a map of the regional railroads within Illinois. Regional railroads provide service to many locations within Illinois, in most cases relying on trackage rights to access markets in the state. These railroads connect

Illinois with adjacent states. Illinois regional railroads are also valuable because many have numerous interchanges with multiple Class I railroads and provide online shippers with competitive options.

TABLE 2-3: REGIONAL RAILROADS IN ILLINOIS

Regional Railroads	Total Miles Operated	IL Miles Operated incl. Trackage Rights	IL Miles Operated Excluding Trackage Rights
Decatur & Eastern Illinois	182	164	164
Indiana Rail Road	250	119	45
Iowa Interstate Railroad	580	218	98
Wisconsin & Southern Railroad	598	108	15
Total	1,610	609	322

Source: AAR State Fact Sheet (2019)

Decatur & Eastern Illinois

The Decatur & Eastern Illinois (DREI) is a subsidiary of Watco, a short line holding company and operates over two former CSX subdivisions: the Decatur and Danville Secondary, and former Eastern Illinois Railroad. The DREI operates from Montezuma, IN to Decatur, IL; Terra Haute, IN and Olivet, IL; and Metcalf, IL to Neoga, IL. The railroad interchanges with NS, CSX, CN, and UP. The line is single track with maximum authorized speeds of 30 mph.

Indiana Rail Road

The Indiana Rail Road (INRD) operates over former Illinois Central Lines between Lis, IL and Indianapolis, IN and between Crane, IN and Terre Haute, IN. It has trackage and/or hauling rights to Oakland City, IN and along the eastern edge of Illinois from Terre Haute, IN to Chicago. The INRD interchanges with all six Class I railroads. The line is single track with a maximum speed of 40 mph.

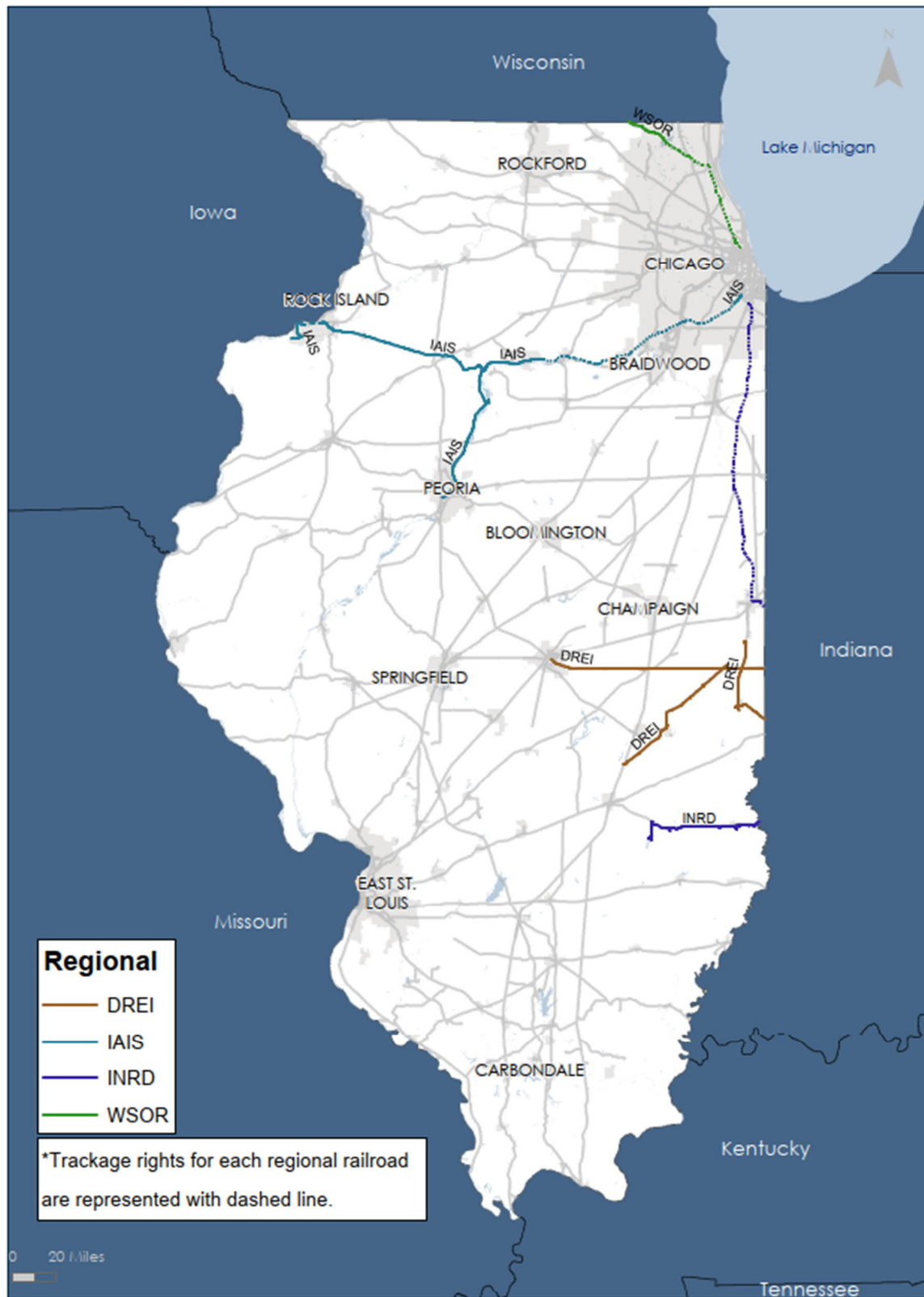
Iowa Interstate Railroad

Iowa Interstate Railroad (IAIS) operates over its own trackage between Council Bluffs, IA and Bureau, IL. Between Bureau and Chicago, the IAIS has trackage rights over a line that CSX owns and operates. The IAIS also accesses Peoria with trackage rights between Bureau and Henry and then its own line between Henry and Peoria. In Illinois, the IAIS provides connections to other railroads in Chicago to CSX, NS, CN, CPKC, UP, BNSF, CFE, and Chicago, South Shore, & South Bend Railroad; in Peoria to CN, NS, TPW, KJRY, UP, BNSF, and Illinois & Midland Railroad; and Rock Island to BNSF. It operates as a single track with a maximum speed of 40 mph.

Wisconsin & Southern Railroad

Wisconsin & Southern Railroad (WSOR) is a subsidiary of Watco, operating in southern Wisconsin and northern Illinois on former Chicago, Milwaukee, St. Paul & Pacific Railroad and Chicago & North Western Railway trackage. Within Illinois, it operates from the Wisconsin border to Fox Lake, IL, where it uses trackage rights over Metra- and CPKC-owned track to reach the Belt Railway of Chicago's Clearing Yard. This single-track rail line has a maximum operating speed of 25 mph. WSOR interchanges with all six Class I railroads in addition to numerous short line and regional railroads.

FIGURE 2-7: REGIONAL RAILROADS IN ILLINOIS



Source: IDOT GIS, WSP Analysis

Short Line Infrastructure

Table 2-4 provides a list and Figure 2-8 is a map of short line railroads operating within Illinois. Short line railroads connect shippers located along low-density rail lines to the Class I rail network or provide switching within yard or terminal areas. While most short lines handle relatively low traffic volumes, some such as the Belt Railway Company of Chicago, Indiana Harbor Belt Railroad, and Terminal Railroad Association of St. Louis handle substantial amounts of freight traffic, albeit within a relatively localized area.

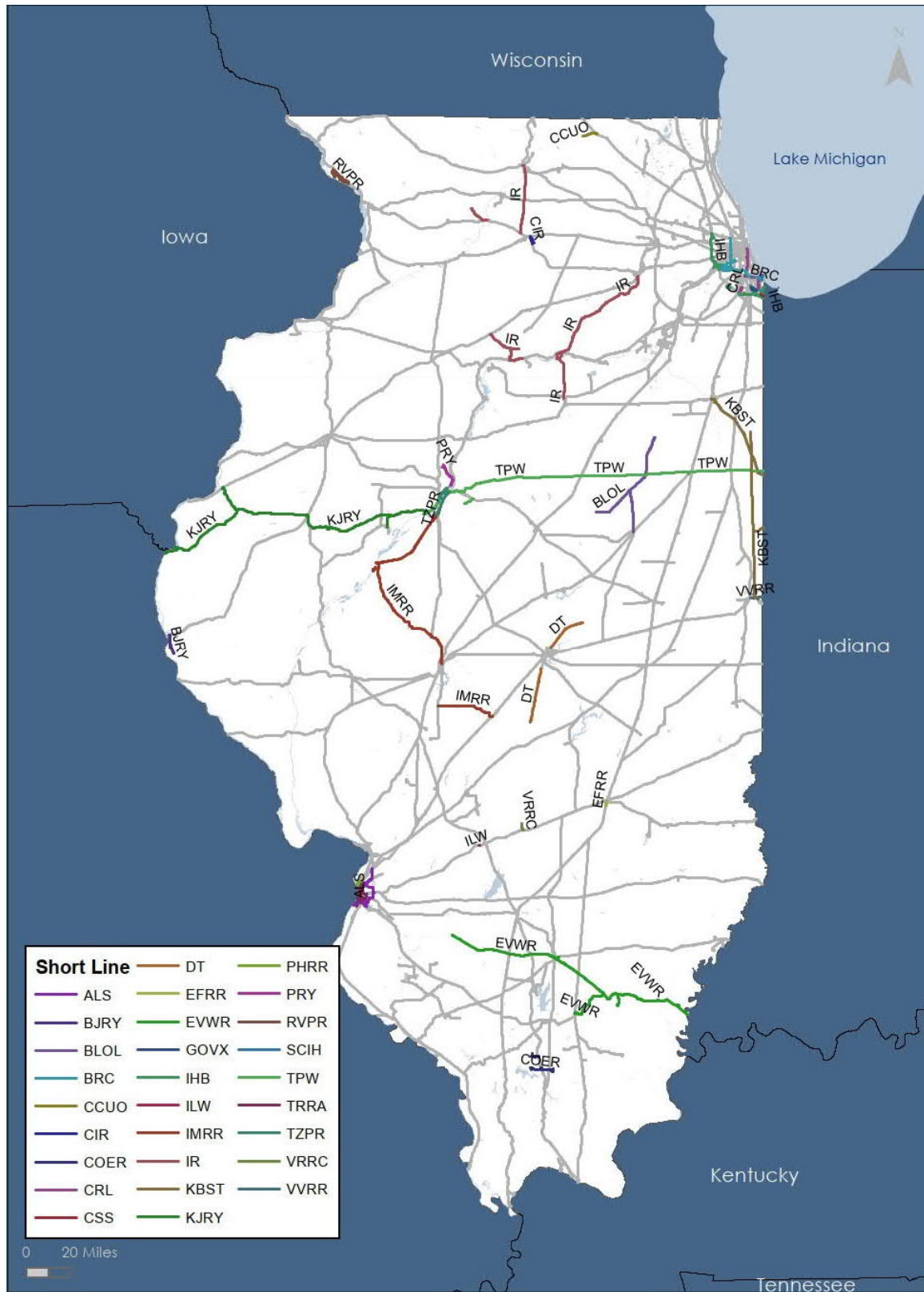
TABLE 2-4: SHORT LINE RAILROADS IN ILLINOIS

Short Line Railroad	Abbreviation	Location of Operations within Illinois	Illinois Mileage Operated
A&R Terminal Railroad	ARTR	A&R Logistics; Morris	6
AG Valley Railroad	AVRR	Chicago Transload Facility	3
Alton & Southern Railway	ALS	Gateway Yard; East St. Louis	6
Belt Railway Company of Chicago	BRC	Clearing Yard; Chicago	28
Bloomer Line	BLOL	Colfax-Kempton; Strawn-Gibson City	50
Burlington Junction Railway	BJRY	Montgomery, Quincy, & Rochelle	9
Chicago-Chemung Railroad	CCUO	Harvard-Chemung	4
Chicago Junction Railway	CJR	Industrial Park in Elk Grove Village, IL	2
Chicago Port Railroad		Ozinga Yard; Chicago	1
Chicago Rail & Port Railroad	CRP	Calumet River; Chicago	1
Chicago Rail Link	CRL	Mokena-Western Ave; Kensington; Irondale; Port of Chicago	72
Chicago, Ft. Wayne & Eastern Railroad	CFE	Chicago Terminal Area via trackage rights	6
Chicago, South Shore, & South Bend Railroad	CSS	Kensington-Burnham	6
Chicago, St. Paul & Pacific Railroad	CSP	Industrial Park in Bensenville, IL	3
Cicero Central Railroad	CERR	Koppers Stickney Plant; Stickney, IL	1
City of Rochelle Railroad	CIR	City of Rochelle	4
Crab Orchard & Egyptian Railway	COER	Ordill-Marion and Herrin	14
Decatur Central Railroad	DCC	Cisco- Decatur, IL; connections to Midwest Inland Port	16
Decatur Junction Railway	DT	Assumption-Elwin	21
Effingham Railroad	EFRR	Interchange Facility in Effingham, IL	2
Elwood Joliet & Southern Railroad	EJSR	Interchange Facility in Crest Hill, IL	2
Evansville Western Railway	EVWR	Epworth-Okawville	94
Great Lakes Terminal Railroad	GLTRR	Chicago	2
Herrin Railroad	HIRW	Herrin	4
Illinois & Midland Railroad	IMRR	Divernon-Taylorsville	154
Illinois Railway	IR	Mt. Morris-Oregon; Rockford-Flagg Center; Zearing-LaSalle; Montgomery-Streator	113
Illinois Terminal Belt Railroad	ITB	Wapella-Heyworth	11
Illinois Western Railroad	ILW	Howard M Wolf Business Park, Greenville, IL	3

Short Line Railroad	Abbreviation	Location of Operations within Illinois	Illinois Mileage Operated
Indiana Harbor Belt Railroad	IHB	Riverdale, Chicago, Argo, Calumet City, LaGrange, Franklin Park	34
Kankakee, Beaverville & Southern Railroad	KBSR	Kankakee-Danville; Iroquois Junction-Hooper & Sheldon	90
Kaskaskia Regional Port District	KRPD	Kaskaskia Port District	1
Keokuk Junction Railway	KJRY	Warsaw-Peoria; LaHarpe-Lomax	125
Manufacturers Junction Railway	MJ	Cicero	6
Peru Industrial Railroad	PIR	Peru	3
Pioneer Industrial Railway Company	PRY	Peoria County Area	8
Port Harbor Railroad	PHRR	Granite City	3
R Bult Rail Lines	RBRL	Chicago Transload Facility	1
Riverport Railroad	RVPR	Savanna Industrial Park	4
South Chicago & Indiana Harbor Railway	SCIH	South Chicago; South Deering	8
Tazewell & Peoria Railroad	TZPR	Peoria Heights-Pekin; East Peoria-Pekin	28
Terminal Railroad Association of St. Louis	TRRA	East St. Louis Area	25
Toledo, Peoria & Western Railway	TPW	Mapleton-Sheldon	109
TransDistribution Brookfield Railroad		Brookfield	1
Vandalia Railroad	VRRC	Vandalia	6
Vermilion Valley Railroad	VVRR	Danville-Indiana Border	2
TOTAL			1,092

Source: AAR, 2019; 2017 IDOT Freight Plan; Illinois Rail Needs Assessment, 2021

FIGURE 2-8: SHORT LINE RAILROADS IN ILLINOIS



Source: IDOT GIS

Note: See Table 2-4 for spelled out names of the abbreviations

Capacity of Illinois Rail Lines

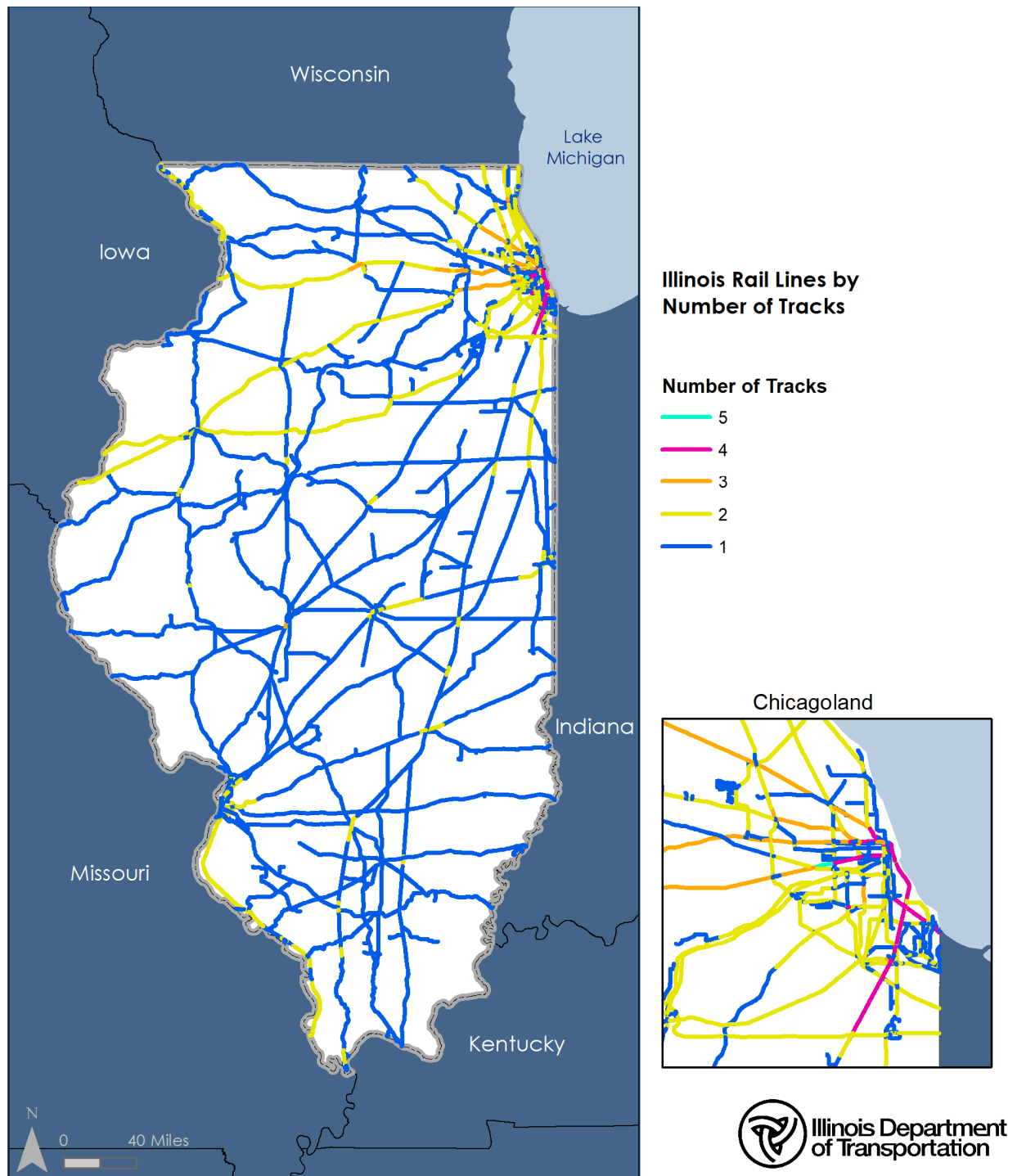
Private freight railroads invest in capacity as appropriate for the level of traffic that rail lines carry. The public sector also invests on capacity for passenger operations, whether on publicly owned rail lines or on rail lines owned by private freight railroads. The higher the volume of freight, the more capacity is needed to carry that freight, and the higher the passenger train volume, the more capacity is needed to accommodate passenger or combined/passenger and freight volumes. Several characteristics influence rail line capacity. The first is the number of tracks. With two or more parallel tracks, rail lines can carry more freight than single tracks, where freight trains use passing sidings to pass each other. Only rail lines that carry relatively high freight/passenger volumes and serve as railroad mainlines are equipped with two or more tracks. Figure 2-9 displays the Illinois rail network, categorized by the number of parallel tracks. Most rail lines in Illinois are single track, accounting for 79 percent of the statewide network. The Chicagoland area is the location where the most two-, three-, four-, and five-track segments are located. Of the six Class I railroads, BNSF has the most double-track segments, accounting for 36 percent of total route miles of double track within the state.

Another characteristic that influences rail line capacity is the dispatch system that controls train access and movement on each rail line. Medium-density rail lines are dispatched using automatic block (ABS) signal systems, where a set of circuits within the tracks controls signals that govern train movements. The signals ensure that train movements do not conflict with one another. The highest capacity rail lines are dispatched by centralized traffic control (CTC) systems, which include the same automatic control of signals control as ABS, but also add remote control of signals and track switches by a centrally located dispatcher. Low-density rail lines typically lack automatic signals and are so-called “dark territory.” Trains gain authority to occupy an area of track typically by communicating with a dispatcher via signal, radio, and/or phone, etc. The dispatcher designates the segments of track over which the train may move.

Figure 2-10 shows the signal types for Class I railroads in the state. Much of the Illinois rail network is controlled using high capacity-dispatch systems. ABS makes up 17 percent of the mileage in the system with CTC being 45 percent and unsignalized track 38 percent.

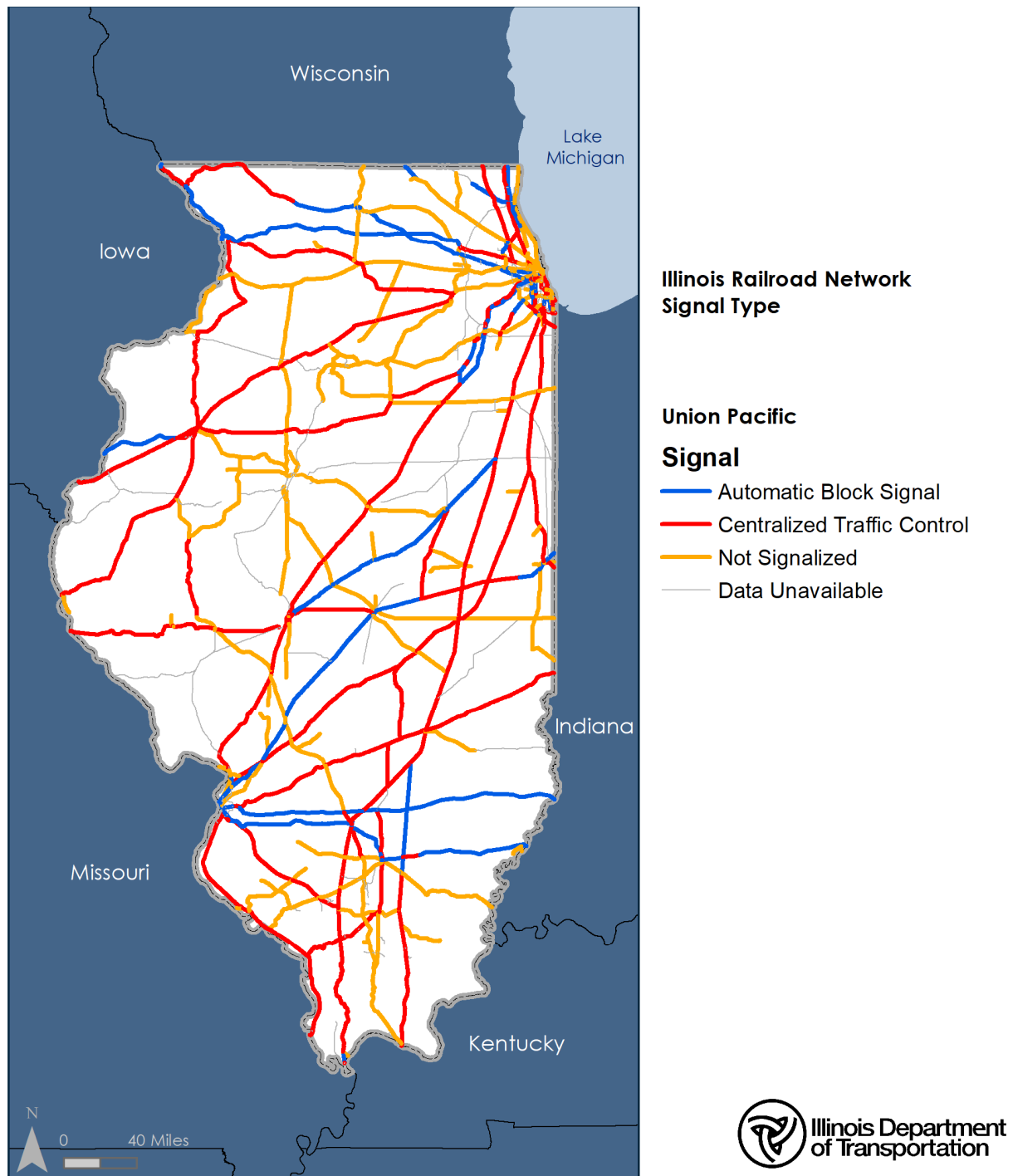
A final characteristic that influences the capacity of rail lines is FRA track classification, which dictates the speeds at which trains may operate. All other factors being equal, tracks with higher allowable train speeds can accommodate more train traffic. Rail lines with FRA Track Classes 1 through 6 are within Illinois. Trains on rail lines rated Track Class 1 are limited to speeds of no more than 10 miles per hour. Trains on rail lines rated Track Class 6 are permitted to operate at speeds up to 110 miles per hour. Speed limitations on Track Classes 2 through 5 are between these two extremes. Rail lines can also be exempted from FRA standards—or be designated as “excepted track”—in which case trains can operate at no more than 10 miles per hour, no passenger trains may operate, and transport of hazardous materials are limited. Excepted track is often in a poor state of repair. As shown in Figure 2-11, the most common track classification for rail lines in Illinois is Track Class 4, where freight trains are limited to 60 miles per hour and passenger trains can travel up to 80 miles per hour. The sole Track Class 6 segment is between Chicago and St. Louis, which was upgraded to Track Class 6 as part of the Illinois HSR initiative. Several Class I mainlines are Track Class 5. Excepted and Class I tracks are typically branch lines not used for through traffic.

FIGURE 2-9: ILLINOIS RAIL NETWORK BY NUMBER OF TRACKS



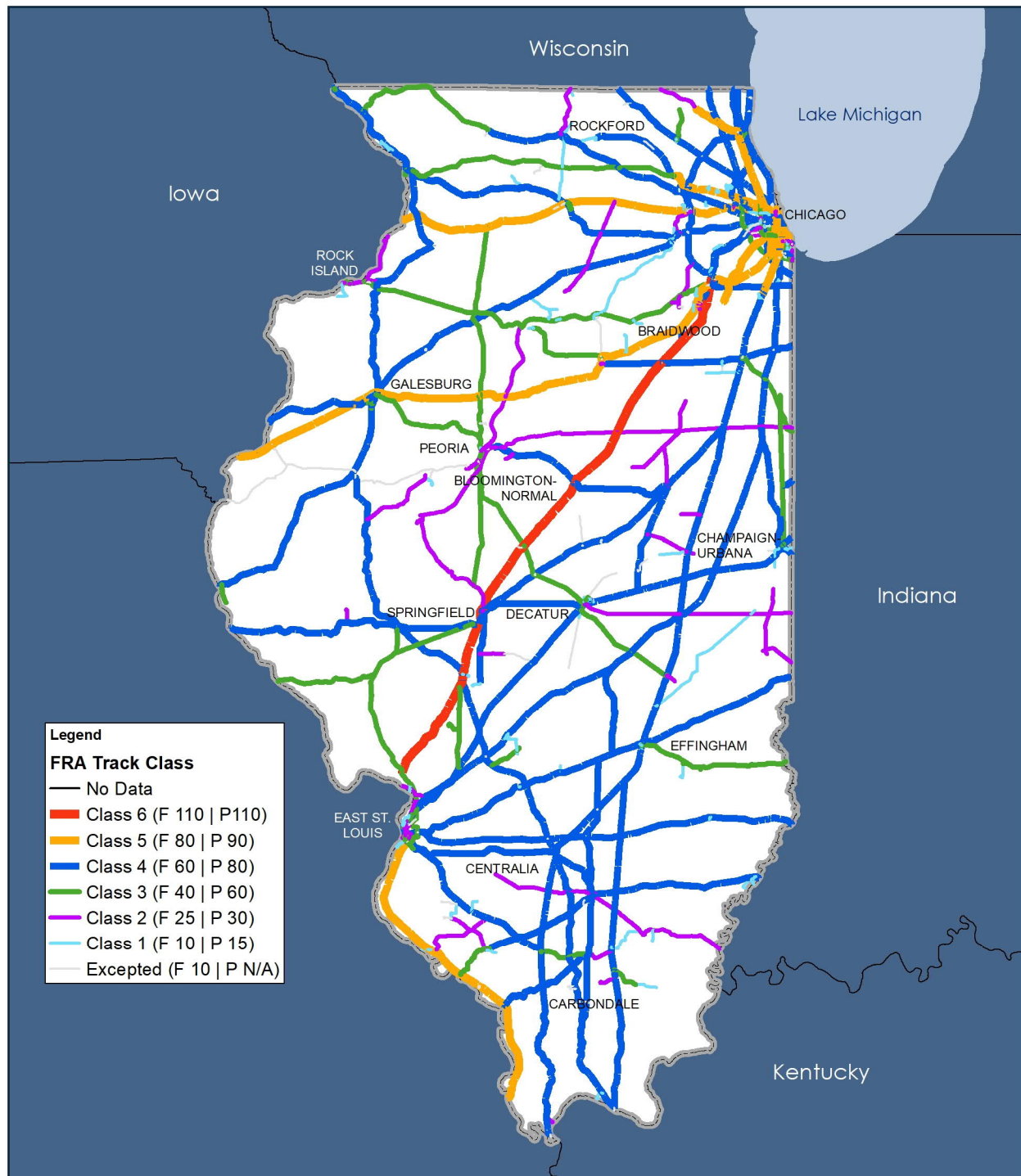
Source: U.S. Bureau of Transportation Statistics, National Transportation Atlas Database

FIGURE 2-10: ILLINOIS RAILROAD NETWORK BY TRAIN CONTROL SYSTEM



Source: U.S. Bureau of Transportation Statistics, National Transportation Atlas Database

FIGURE 2-11: FRA TRACK CLASS IN ILLINOIS



Source: Illinois Rail Needs Assessment

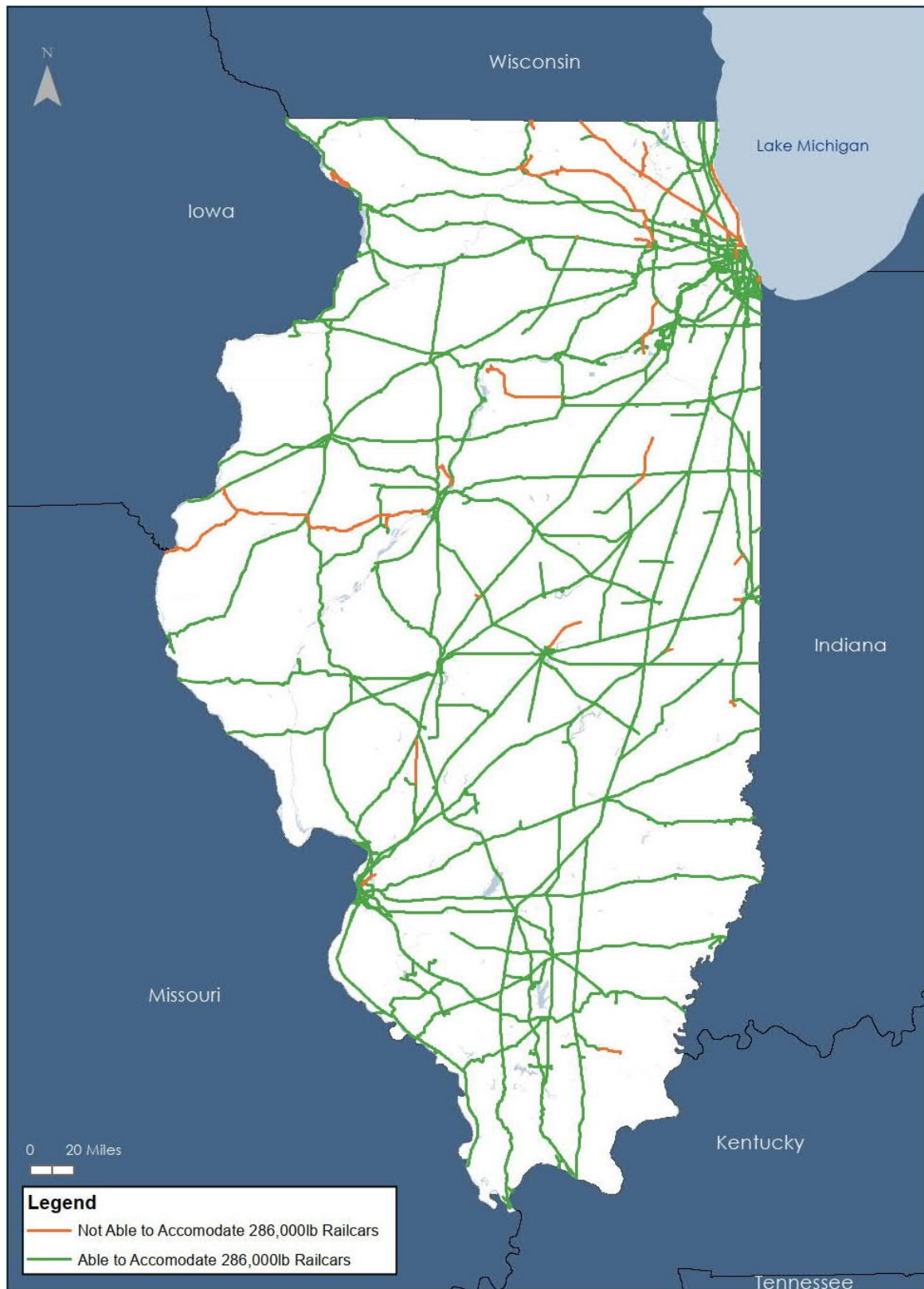
Limitations of Illinois Rail Lines

When considering the Illinois rail network, one important issue relates to the maximum permissible weight of railcars. In 1995, the railroad industry adopted an industry standard railcar weight of 286,000-pound gross weight on rail. While most rail lines and bridges in Illinois can accommodate these railcars, some cannot (Figure 2-12). A total of 738 miles in Illinois cannot accommodate 286,000-pound railcars.

WHY DO WE CARE WHETHER RAIL LINES CAN ACCOMMODATE 286,000-POUND RAILCARS?

The inability to accommodate 286,000-pound railcars places shippers and railroads on these rail lines at a competitive disadvantage. Shippers must often pay the same amount per railcar shipped regardless of weight, so that the shipper of a 286,000-pound railcar pays the same as the shipper of a 263,000-pound railcar even though the 286,000 railcar carries 10 to 15 percent more freight per railcar. Because it is usually prohibitively expensive to transfer freight between railcars in route, weight limitations impact an entire rail move, even if 90 percent of the miles are on unrestricted rail lines.

FIGURE 2-12: ILLINOIS WEIGHT RESTRICTIONS MAP



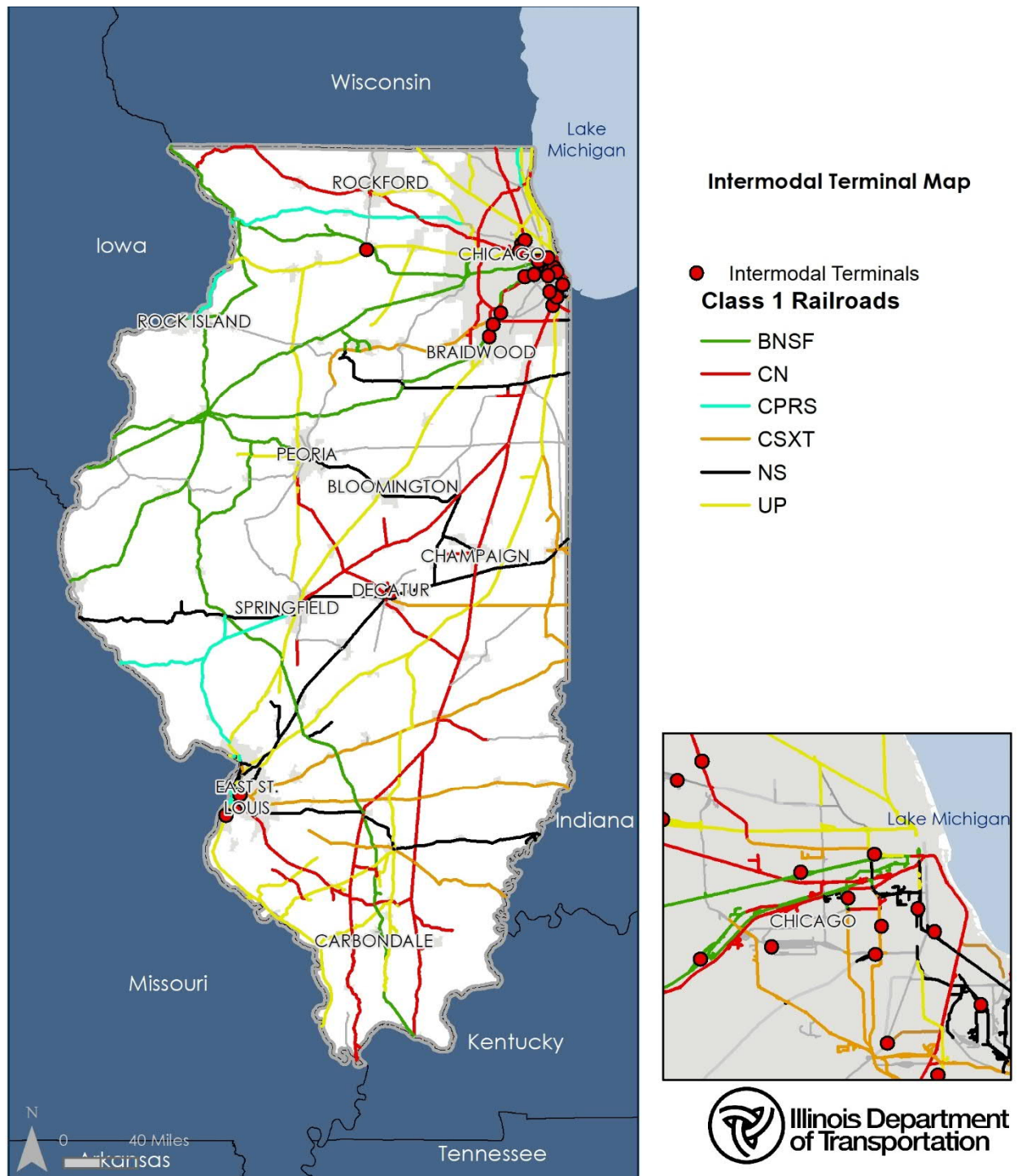
Source: IDOT GIS, WSP Analysis, Illinois Rail Needs Assessment

2.1.2. Multimodal Facilities

Intermodal

Within the railroad industry, the term “intermodal” generally refers to freight shipped as container-on-flatcar or trailer-on-flatcar. Illinois has the highest number of intermodal terminals of any state. Intermodal terminals are locations where containers or trailers are transferred between trucks and rail. The Chicago Metropolitan Agency for Planning (CMAP) tracks the annual number of lifts, movements of intermodal equipment onto or off trains by Chicago-area terminal. As of 2022, 23 intermodal facilities were operating in Illinois, shown in Figure 2-13 and listed in Appendix B.

FIGURE 2-13: ILLINOIS INTERMODAL FACILITIES



Rail-Served Port Terminals

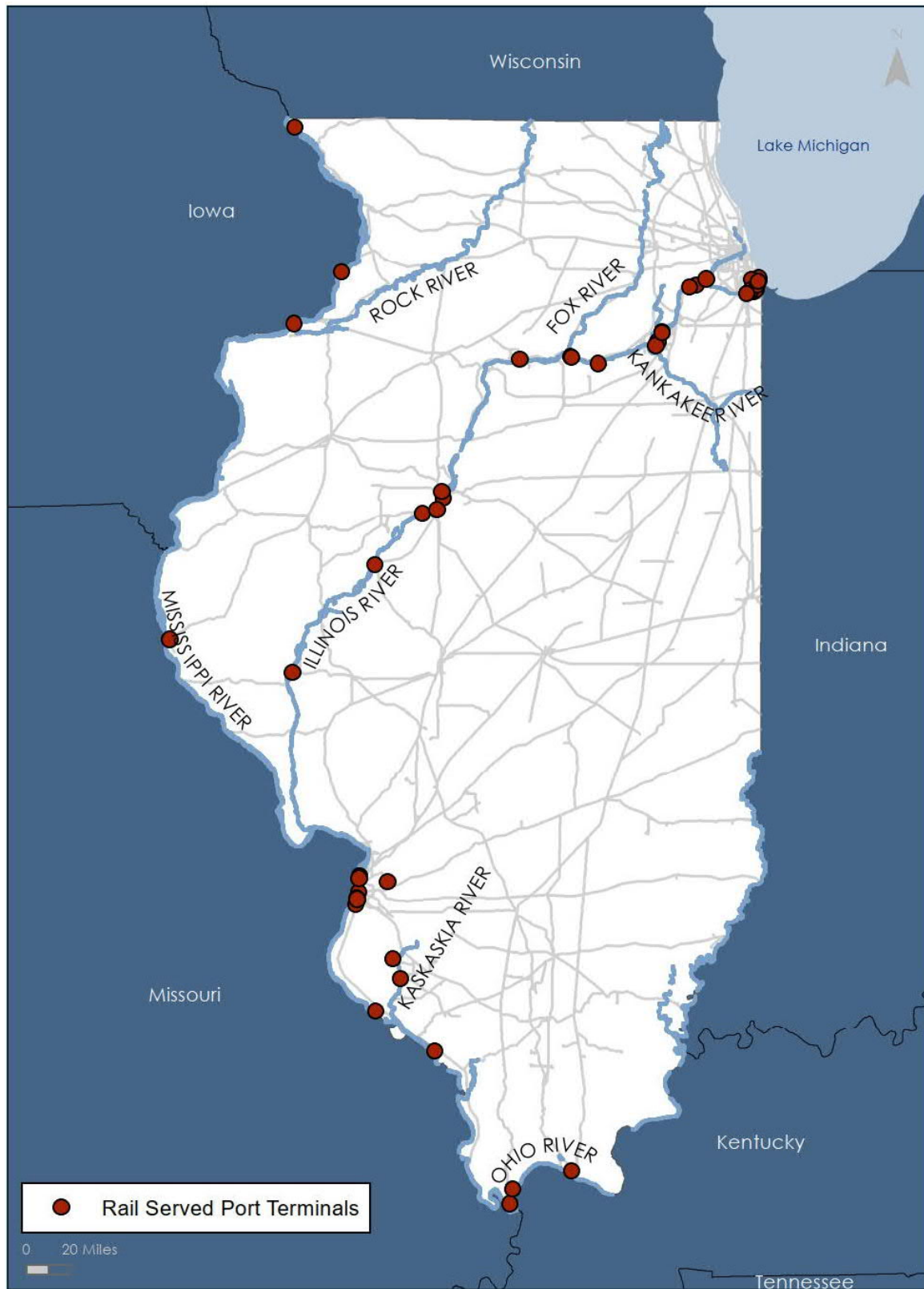
Within Illinois are 1,118 miles¹⁰ of commercially navigable waterways per the U.S. Army Corps of Engineers, including:

- » Mississippi River – 580 river miles
- » Illinois River – 273 river miles
- » Chicago-Area Waterways – 95 river miles
- » Lake Michigan – 63 miles of coastline
- » Kaskaskia River – 36 river miles
- » Ohio River – 128 river miles

Rail-served port terminals are located on navigable waterways, mostly concentrated on the Calumet River near Lake Michigan, around Joliet and Peoria on the Illinois River, and in East St. Louis on the Mississippi River. Figure 2-14 shows a map of the 49 rail-served port terminals with open shipper access. Appendix B lists them as well.

¹⁰ The sum of the individual rivers' individual miles does not equal 1,118 miles as noted by the U.S. Army Corps of Engineers because the 1,118 miles include channels that are not part of the river miles. Lake Michigan coastline miles are not included.

FIGURE 2-14: RAIL-SERVED PORT TERMINALS

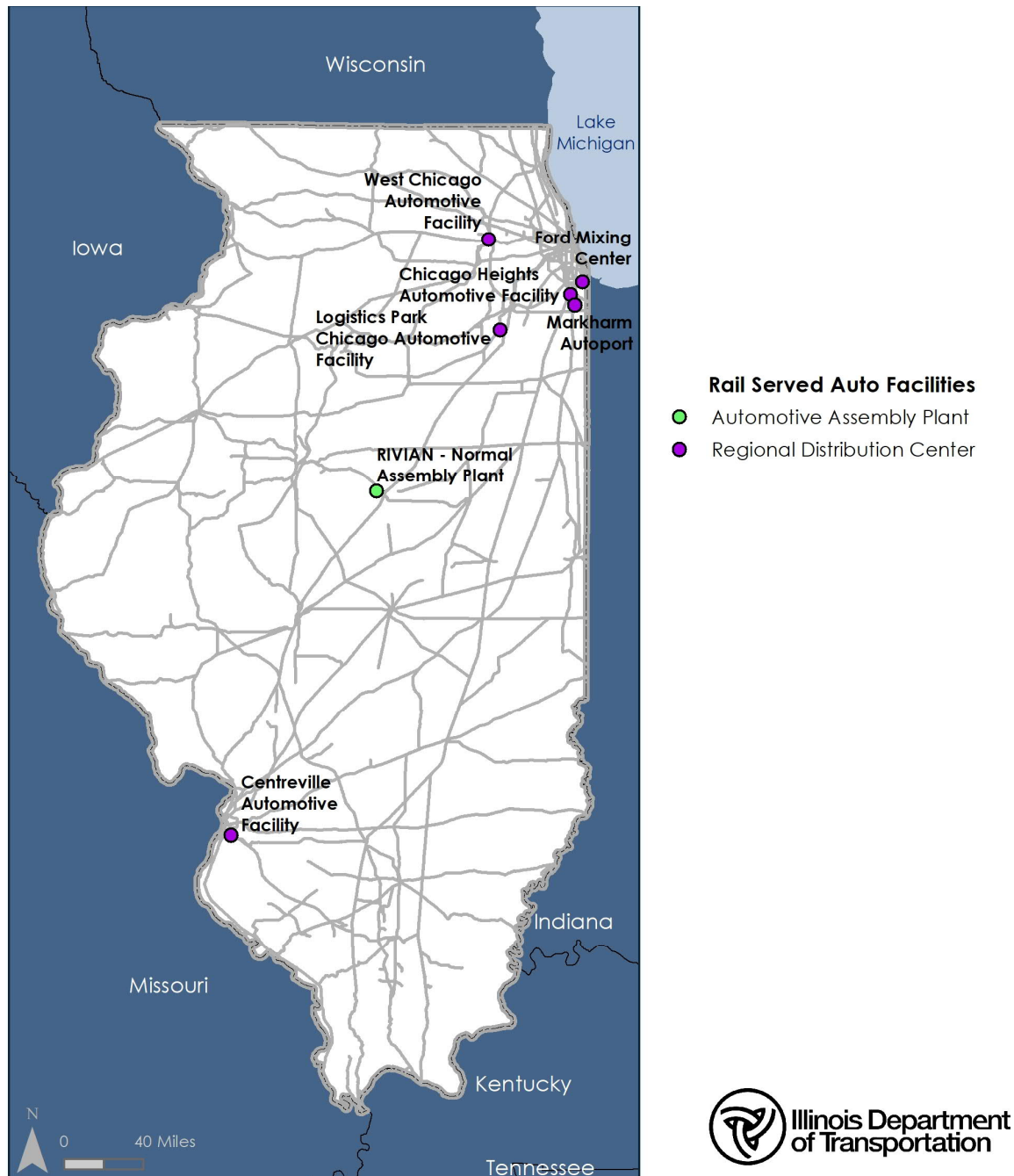


Source: IDOT GIS, WSP Analysis, Illinois Rail Needs Assessment

Automotive Facilities

Rail is frequently used for shipping trainloads or large blocks of finished vehicles, either between assembly points and regional distribution facilities or between import/export gateways and regional distribution centers. Several rail-served automotive and truck assembly plants and regional distribution centers are located within Illinois. Figure 2-15 shows a map of these facilities, which are also listed in Appendix B.

FIGURE 2-15: RAIL-SERVED AUTOMOTIVE FACILITIES IN ILLINOIS



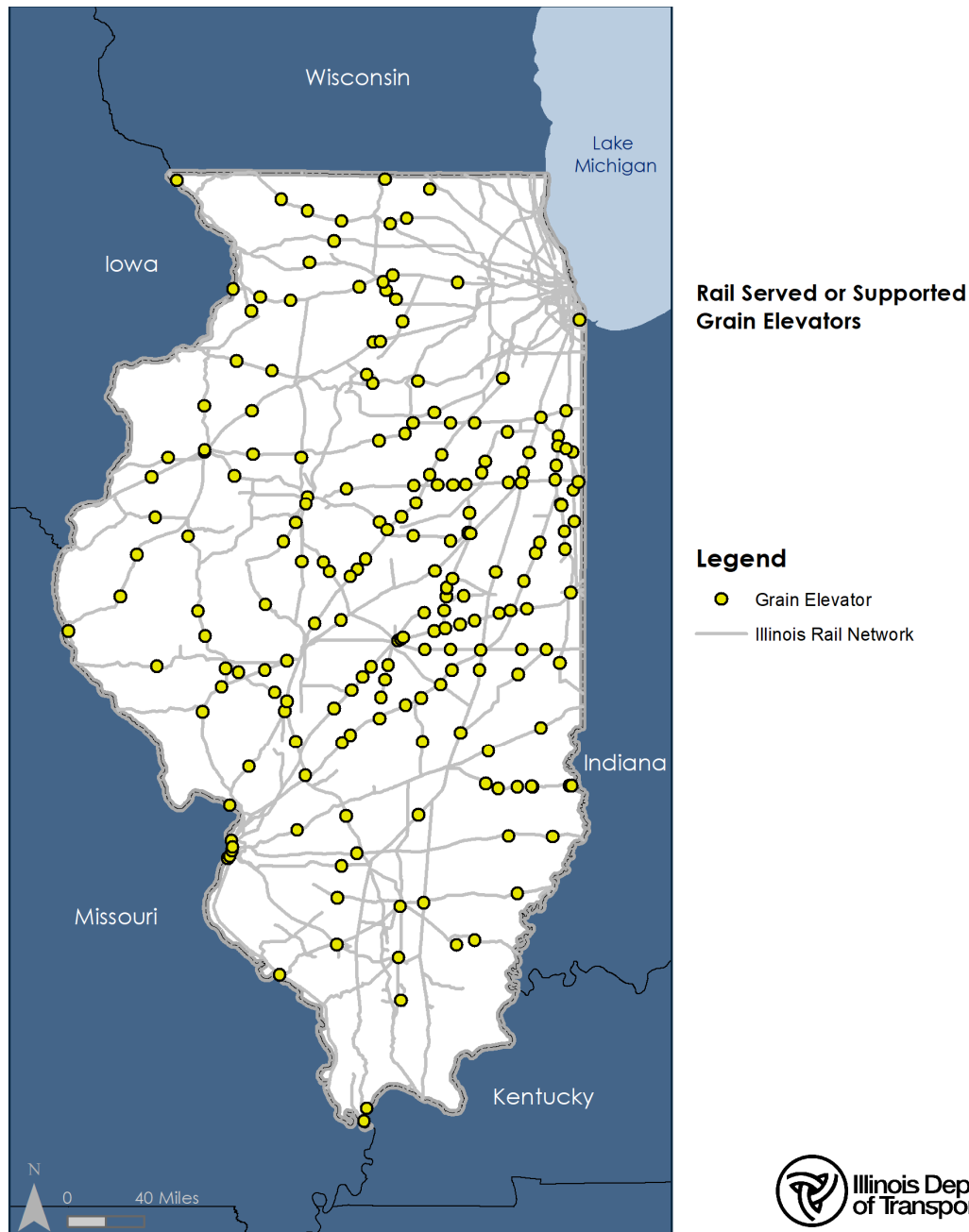
Source: IDOT GIS, WSP Analysis, Illinois Rail Needs Assessment



Grain Elevators

Rail plays an important role in the transportation of grain in Illinois with many of the elevators in the state being rail-served. An analysis was performed to identify rail-served grain elevators using the Illinois Department of Agriculture licensed grain dealers and grain warehouse directory and the IDOT GIS file of rail lines within the state. Rail access was further confirmed using Google Street View. The analysis found that of the over 700 licensed grain dealers and warehouses in the state, 202 are rail served.

FIGURE 2-16: ILLINOIS RAIL-SERVED GRAIN ELEVATORS



Source: Illinois Department of Agriculture licensed grain dealers and warehouse data, IDOT GIS, WSP Analysis,

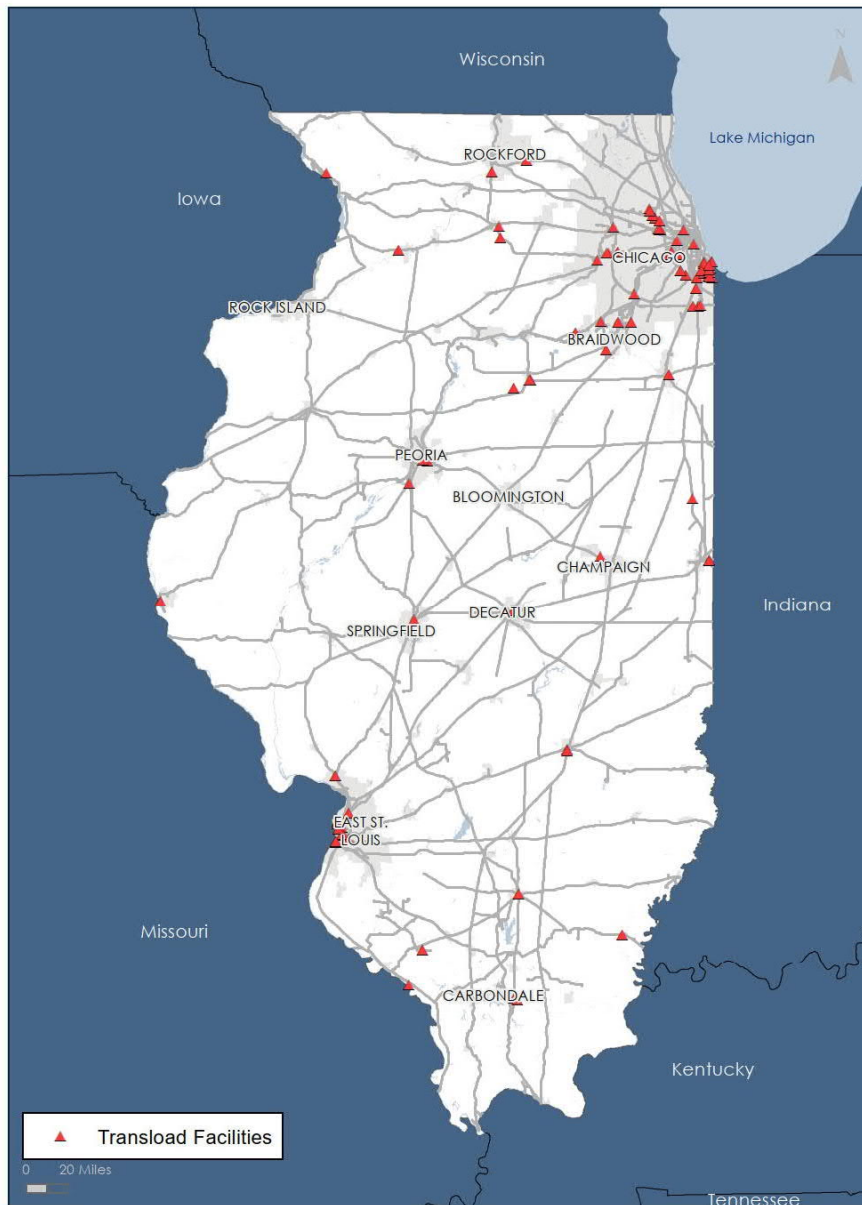
Transload Facilities

This Rail Plan identifies 91 transload facilities found on rail carrier websites, and from other studies and several other sources. Transloads provide shippers access to the rail network that do not have a rail track connection to their facilities. Figure 2-17 shows a map of transload facilities in Illinois, which are also listed in Appendix B.

WHAT IS A TRANSLOAD FACILITY?

“Transload” is a term that applies to a broad range of facilities where freight is shifted between truck and rail. For the purposes of this Rail Plan, these facilities are defined by what they are not, namely not intermodal, not maritime facilities, not automotive ramps, not grain elevators, not dedicated shipper sidings/spurs.

FIGURE 2-17: ILLINOIS TRANSLOAD FACILITIES



Source: IDOT GIS, WSP Analysis, Illinois Rail Needs Assessment

2.1.3. Passenger Rail System

Amtrak System

The National Passenger Railroad Corporation (aka Amtrak) was created in 1971 by the Rail Passenger Service Act of 1970. The act consolidated and restructured intercity passenger rail service in the United States, transferring responsibility for providing intercity rail service from privately owned railroads to a single corporation that could access private railroad lines and receive public financial support. Amtrak operates passenger rail routes that serve more than 500 stations in 46 states, the District of Columbia, and three Canadian provinces. Amtrak operates on more than 21,400 miles, with 72 percent of those miles on tracks that other railroads own.¹¹

In Illinois, are 15 Amtrak routes, of which seven are state supported by both Illinois and Michigan, and eight that are Amtrak long-distance routes. Figure 2-5 shows the Amtrak routes that serve Illinois and the host railroad(s) for the routes. Table 2-6 shows the ridership of Amtrak routes that serve Illinois.

TABLE 2-5: ILLINOIS AMTRAK ROUTES AND HOST RAILROADS

Route	Host Railroad (s)*
Illinois-Supported Routes	Hiawatha
	Lincoln Service
	Illini/Saluki
	Carl Sandburg/ Illinois Zephyr
Michigan-Supported Routes	Wolverine
	Blue Water
	Pere Marquette
Long-Distance Routes	Empire Builder
	California Zephyr
	Lake Shore Limited
	Southwest Chief
	Texas Eagle
	City of New Orleans
	Capitol Limited
	Cardinal

Source: Amtrak

*Host railroads may also show railroads which are not located within Illinois but through the entire route

¹¹ <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/nationalfactsheets/Amtrak-Company-Profile-FY2021-030922.pdf>

TABLE 2-6: AMTRAK ILLINOIS RIDERSHIP

	Prior to COVID-19 Pandemic							COVID-19 Pandemic	
	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021
Illinois-Supported Routes									
Hiawatha	820,789	799,638	799,271	807,720	829,109	844,396	873,537	403,112	241,639
Lincoln Service	655,465	633,531	576,705	548,955	590,497	586,166	607,212	334,540	261,160
Illini/Saluki	340,741	315,963	292,187	262,325	251,384	245,876	257,890	159,981	150,148
Carl Sandburg/ Illinois Zephyr	228,722	214,951	208,961	202,407	204,148	191,612	187,231	100,286	78,179
Michigan-Supported Routes									
Wolverine	509,100	477,157	465,627	411,625	459,106	483,670	486,190	244,500	153,923
Blue Water	191,106	191,231	180,617	183,069	186,282	186,020	175,930	98,173	98,668
Pere Marquette	104,491	100,961	95,807	89,508	93,449	95,540	94,797	47,236	52,367
Long-Distance Routes									
Empire Builder	536,391	450,932	438,376	454,625	454,465	428,854	420,855	253,486	220,681
California Zephyr	376,932	366,564	375,342	417,322	415,348	418,203	397,793	247,535	184,667
Lake Shore Limited	395,455	373,331	356,898	387,853	388,722	337,882	346,993	220,227	195,850
Southwest Chief	355,815	352,162	367,267	364,748	363,272	331,239	327,276	186,470	135,901
Texas Eagle	340,081	313,338	317,282	306,321	345,679	335,771	311,367	196,078	151,393
City of New Orleans	256,816	251,106	255,458	248,960	255,435	237,781	228,831	132,656	100,816
Capitol Limited	229,668	235,926	226,240	228,444	231,214	219,033	203,829	126,997	96,885
Cardinal	113,103	109,154	103,633	104,831	112,439	96,710	105,364	63,223	69,098
Total	5,454,675	5,185,945	5,059,671	5,018,713	5,180,549	5,038,753	5,025,095	2,814,500	2,191,375

Source: Amtrak

Amtrak routes within Illinois are designated as “long-distance” routes or “regional” routes. Long-distance routes are over 750 miles and are supported by federal subsidies for costs not covered by ticket revenues. Regional routes are less than 750 miles and are supported by state subsidies for capital and operating costs not covered by the passenger ticket revenues. Illinois covers 100 percent of the subsidies of the Lincoln, Illini/Saluki, Carl Sandburg/Illinois Zephyr routes and 25 percent of the subsidy for the Hiawatha route. Wisconsin supports the other 75 percent of the Hiawatha route subsidy, and Michigan supports the Wolverine, Blue Water, and Pere Marquette routes.

Overall ridership on all Amtrak routes that serve Illinois declined 9 percent from FY2013 to FY2019,¹² only two routes experienced growth during that same time period— the Hiawatha route at 6 percent and the California Zephyr route at 5 percent. The COVID-19 pandemic also impacted ridership from FY2019 through FY2021. Routes that serve Illinois declined 56 percent. Due to the drop in ridership, the frequency of trains was reduced on some routes. Since FY2021, many COVID-19 restrictions have been lifted, and Amtrak ridership levels have made substantial progress toward recovery.

A total of 31 Amtrak-served stations are located in Illinois. Table 2-7 shows the number of boardings and alightings by station. Between FY2015 and FY2019, overall long-distance boardings and alightings in Illinois decreased by 2 percent. The Gilman and Carbondale Stations had the largest decrease in activity during that period at 32 and 28 percent, respectively. Summit and Carlinville Stations had an increase in boardings and alightings of 19 and 16 percent, respectively. Appendix D provides additional details on station information such as Amtrak routes served, frequency of service, and connecting transit.

¹² Federal fiscal year is from October 1 to September 30, so that, for example, federal fiscal year 2021 was from October 1, 2020, to September 30, 2021.

TABLE 2-7: ILLINOIS AMTRAK STATION BOARDINGS & ALIGHTINGS

Station	Routes Served	FY2015	FY2016	FY2017	FY2018	FY2019	% Chg FY2015 to FY2019
Chicago, IL	All	3,295,630	3,247,117	3,388,051	3,388,307	3,331,513	1.10%
Galesburg, IL	Carl Sandburg, IL Zephyr, Southwest Chief, CA Zephyr	100,503	98,613	100,287	94,267	90,796	-9.70%
Naperville, IL	Carl Sandburg, IL Zephyr, Southwest Chief, CA Zephyr	46,806	46,856	45,882	42,104	40,902	-12.60%
Princeton, IL	Carl Sandburg, IL Zephyr, Southwest Chief, CA Zephyr	35,788	37,024	36,942	38,244	37,118	3.70%
Mendota, IL	Carl Sandburg, IL Zephyr, Southwest Chief	24,073	23,736	23,141	22,276	22,688	-5.80%
Macomb, IL	Carl Sandburg, IL Zephyr	71,231	67,981	67,011	61,002	56,878	-20.10%
Quincy, IL	Carl Sandburg, IL Zephyr	46,006	41,769	41,469	37,282	37,527	-18.40%
Kewanee, IL	Carl Sandburg, IL Zephyr	15,849	17,144	18,012	17,354	17,880	12.80%
La Grange, IL	Carl Sandburg, IL Zephyr	13,398	12,181	12,754	11,003	10,773	-19.60%
Plano, IL	Carl Sandburg, IL Zephyr	6,771	6,412	6,187	6,442	6,269	-7.40%
Glenview, IL	Hiawatha, Empire Builder	58,143	55,340	55,216	55,496	62,347	7.20%
Champaign-Urbana, IL	Illini, Saluki, City of New Orleans	172,877	162,050	158,951	155,614	180,427	4.40%
Carbondale, IL	Illini, Saluki, City of New Orleans	117,922	101,845	100,858	91,264	84,495	-28.30%
Homewood, IL	Illini, Saluki, City of New Orleans	41,499	37,102	36,850	36,151	36,588	-11.80%
Mattoon, IL	Illini, Saluki, City of New Orleans	41,956	37,536	35,822	34,279	34,023	-18.90%
Effingham, IL	Illini, Saluki, City of New Orleans	27,195	26,276	25,907	24,384	23,619	-13.10%
Centralia, IL	Illini, Saluki, City of New Orleans	24,804	21,297	20,710	20,783	20,606	-16.90%
Kankakee, IL	Illini, Saluki, City of New Orleans	21,736	20,138	19,745	19,201	18,845	-13.30%
Du Quoin, IL	Illini, Saluki	10,197	8,972	8,717	8,309	7,949	-22.00%
Rantoul, IL	Illini, Saluki	6,371	5,660	4,773	4,999	4,943	-22.40%
Gilman, IL	Illini, Saluki	3,138	2,540	2,371	2,317	2,128	-32.20%
Bloomington-Normal, IL	Lincoln, Texas Eagle	254,317	226,212	241,844	238,626	229,894	-9.60%
Springfield, IL	Lincoln, Texas Eagle	184,420	165,484	177,241	168,969	161,319	-12.50%
Joliet, IL	Lincoln, Texas Eagle	64,349	58,211	61,367	61,182	64,752	0.60%
Alton, IL	Lincoln, Texas Eagle	61,249	59,809	64,420	67,225	63,310	3.40%

Station	Routes Served	FY2015	FY2016	FY2017	FY2018	FY2019	% Chg FY2015 to FY2019
Lincoln, IL	Lincoln, Texas Eagle	23,333	21,245	21,896	23,581	22,869	-2.00%
Pontiac, IL	Lincoln, Texas Eagle	15,312	15,300	16,717	17,731	16,634	8.60%
Carlinville, IL	Lincoln, Texas Eagle	9,626	10,138	10,062	12,089	11,172	16.10%
Summit, IL	Lincoln	12,196	11,056	12,614	15,816	14,516	19.00%
Dwight, IL	Lincoln	10,191	9,361	10,058	9,913	10,073	-1.20%
Total		4,816,886	4,654,405	4,825,875	4,786,210	4,722,853	-2.00%

Source: Amtrak

FIGURE 2-18: STATION ALIGHTING AND BOARDINGS AT ILLINOIS STATIONS (2019)

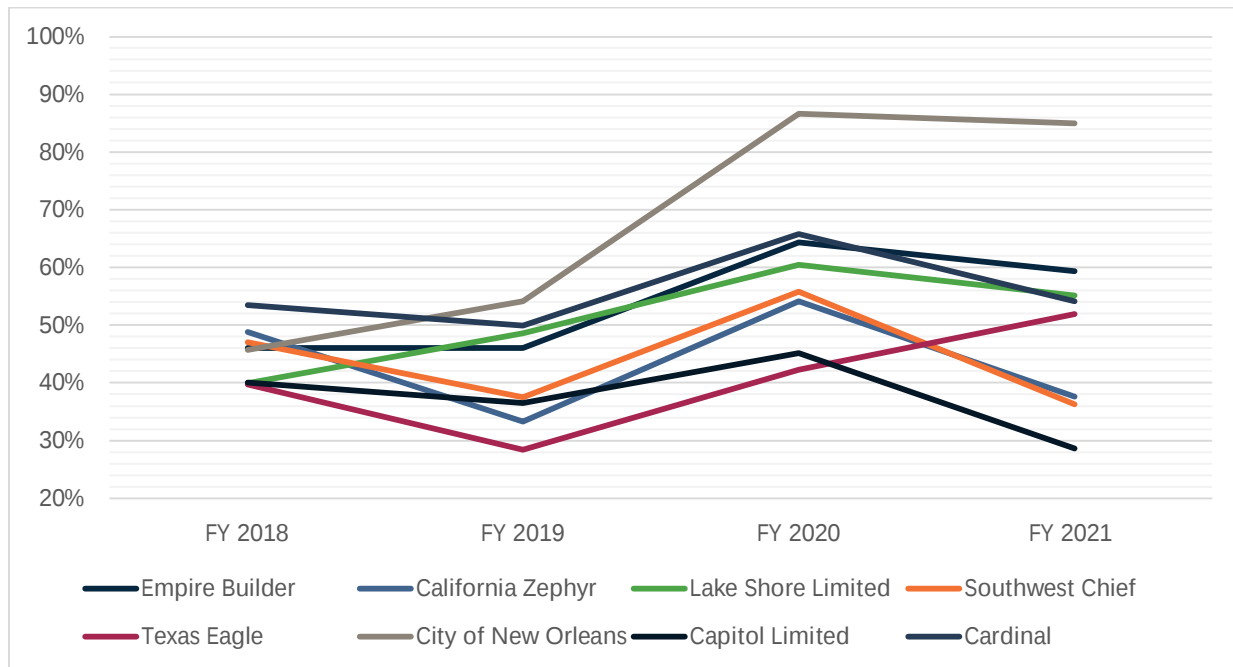


Source: GIS, Amtrak

Amtrak Long-Distance Service Performance

Amtrak measures intercity train customer on-time performance (OTP) as the percentage of all customers on a train who arrive at their destination no later than 15 minutes after their scheduled arrival time. The standard for OTP is an average of 80 percent. As shown in Figure 2-19, the OTP standard has generally not been met for Amtrak long-distance routes. The city of New Orleans saw the largest improvement to OTP, increasing from 46 percent in FY2018 to 85 percent in FY2021, making it the sole route to meet the standard in FY2020 and FY2021.

FIGURE 2-19: LONG-DISTANCE AMTRAK ROUTES ON-TIME PERFORMANCE



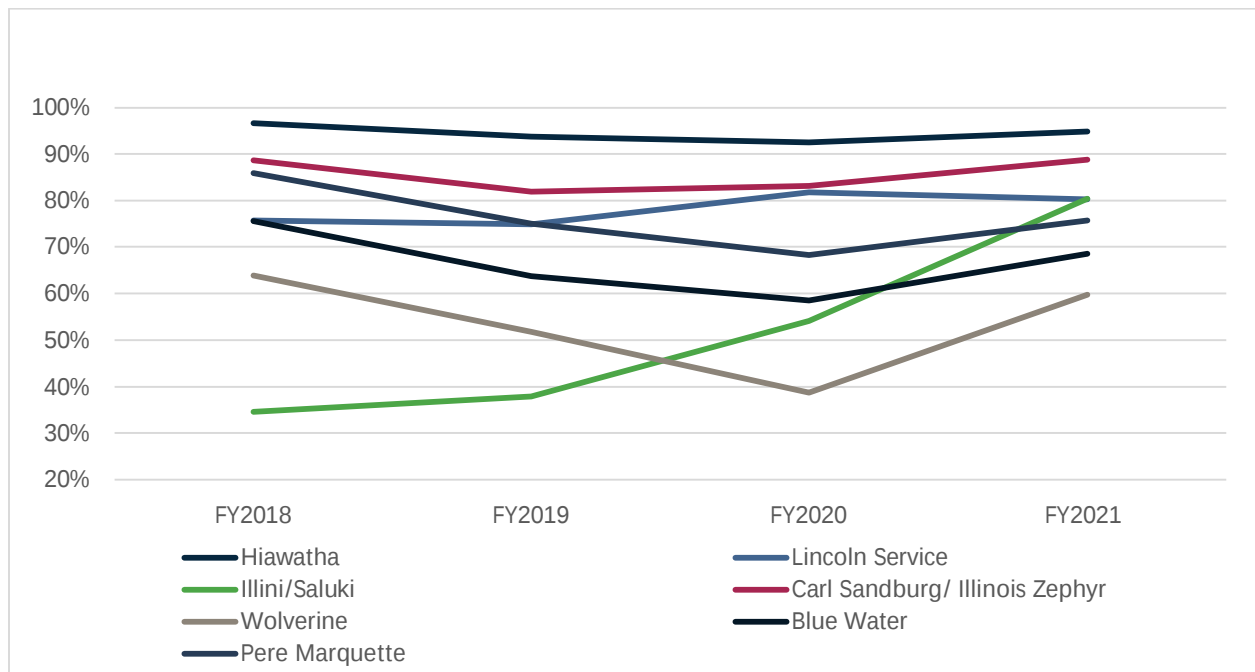
Source: Amtrak

Amtrak State-Support System Performance

In FY2019 the Hiawatha route had an OTP of 94 percent, which was the best of all the state-supported Amtrak routes. The Illini/Saluki route had the worst OTP in FY2019 at 38 percent. OTP on most routes improved between FY2020 and 2021, although this may have resulted from a revision to how OTP was calculated between those two years.¹³

¹³ Prior to 2021, OTP was defined as the percentage of stations at which trains on a route arrive within 15 minutes of the scheduled arrival time. Since 2021, OTP is estimated as the percentage of all customers on an intercity passenger train who arrive at their detraining point no later than 15 minutes after their published scheduled arrival time, reported by train and route.

FIGURE 2-20: STATE-SUPPORTED AMTRAK ROUTE ON-TIME PERFORMANCE



Source: Amtrak

Commuter Rail System

Metra and the NICTD provide commuter rail service within Illinois. Metra manages commuter rail operations to stations in Illinois with the exception of Hegewisch Station, which NICTD manages. The Metra system consists of 11 commuter lines radiating from Chicago, including 488 route miles and 242 stations. Appendix C provides information for each station.

Metra is the operating name of the Northeast Illinois Regional Commuter Railroad Corporation. The Metra brand was originally established to serve as short-hand for “Metropolitan Rail.” The Metra brand name was created in 1985 to cover commuter rail operations by the Regional Transportation Authority (RTA), which has overall responsibility for coordinating transit in the Chicago metropolitan area.

The RTA was formed in 1974 in response to large financial losses by private freight railroads that were operating commuter trains in the 1960s and 1970s, as well as losses by suburban bus operators. RTA was charged to serve as a conduit for federal and state subsidies needed to keep the public transportation system operating.

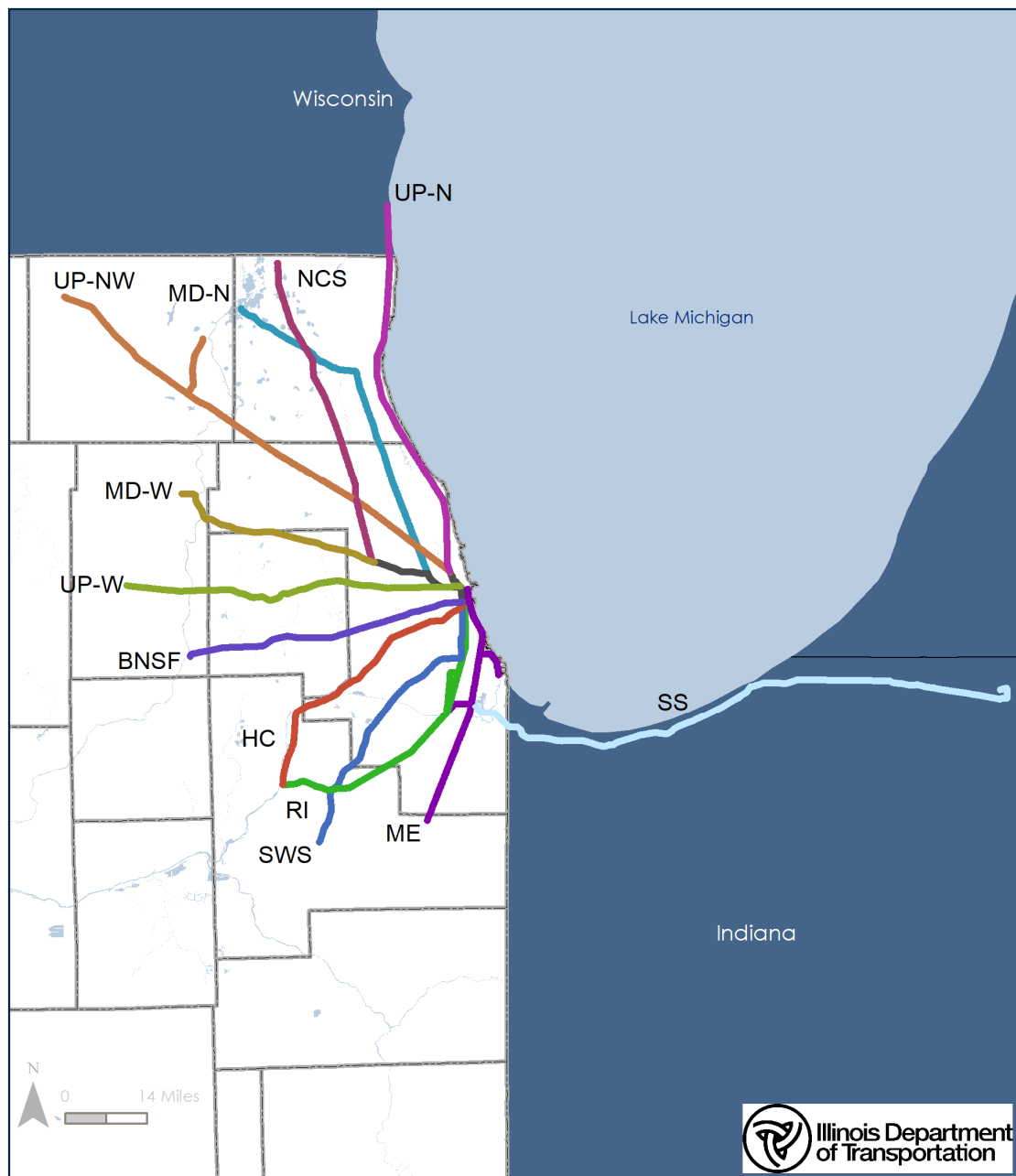
At first, RTA restricted its role in commuter rail to paying railroad operators to continue commuter rail service and to investing in railcars and locomotives (rolling stock). But when Rock Island and Milwaukee Road Railroads went bankrupt, RTA took over operations of the companies' commuter lines in 1982. Metra bought the Illinois Central Gulf's electrified line in 1987 and has since operated the line as the Metra Electric Line. Metra also acquired the Milwaukee Road Line the same year. Metra later took over commuter operations on rail lines owned by NS and CN.

Today, Metra directly operates all but one of its commuter lines, but still maintains a purchase-of-service agreement with BNSF. Under the purchase-of-service contract, BNSF uses its employees and own or control the right-of-way and most of the other facilities required for operations. Metra owns the

rolling stock, and in conjunction with local municipalities is responsible for most stations. Metra retains overall authority over fares, service, and staffing levels. On railroad-owned lines operated by Metra, the host railroad maintains control over the right-of-way. Figure 2-21 shows Metra routes and the NICTD South Shore Line.

All of Metra's lines terminate at one of five stations located within Chicago's central business district: Ogilvie Transportation Center, Chicago Union Station, LaSalle Street Station, Van Buren Street Station, and Millennium Station.

FIGURE 2-21: METRA ROUTES AND NORTHERN INDIANA COMMUTER TRANSPORTATION DISTRICT SOUTH SHORE LINE



Source: GIS, Metra

Ridership and the number of daily trains are shown for both 2019 and 2021 to reflect the pre-COVID levels compared to recovering levels in 2021.

TABLE 2-8: METRA LINES AND NICTD¹⁴

Line	Terminals	Route Length (mi)	No. of Stations	Weekday Trains (2019/2021)	Annual Passenger Trips, in millions (2019/2021)	Operating, Ownership, Dispatching Arrangements
Union Pacific – North Line (UP-N)	Chicago – Kenosha, WI	51.6	26	70/74	8.55/2.0	Owned, dispatched by UP, operated by Metra
Milwaukee District – North (MD-N)	Chicago – Fox Lake	49.5	22	63/38	6.55/1.1	Metra owned/leased, operated – dispatched by CPKC
North Central Service (NCS)	Chicago – Antioch	52.8	18	20/12	1.58/0.1	Metra owned/leased, operated – dispatched by CN
Union Pacific – Northwest Line (UP-NW)	Chicago – Harvard	Main: 63.1; McHenry: 7.4	23	65/45	10.38/2.0	Owned, dispatched by UP, operated by Metra
Milwaukee District – West (MD-W)	Chicago – Elgin	39.8	22	58/40	5.90/1.1	Metra owned/leased, operated – dispatched by CPKC
Union Pacific – West (UP-W)	Chicago – Elburn	43.6	18	59/40	7.88/1.5	Owned, dispatched by UP, operated by Metra
BNSF	Chicago – Aurora	37.5	26	97/86	15.50/2.5	Operated by BNSF (purchase-of-service agreement)
Heritage Corridor (HC)	Chicago – Joliet	37.2	7	7/6	0.73/0.1	Metra owned/leased, operated – dispatched by CN
Southwest Service (SWS)	Chicago – Manhattan	40.8	12	30/12	2.36/0.3	Metra owned/leased, operated – dispatched by NS
Rock Island (RI)	Chicago – Joliet	Main: 40.0; Beverly: 6.6	26	68/80	7.34/1.7	Metra owned/leased, operated, and dispatched
Metra Electric (ME)	Chicago – University Park	ML: 31.5; SC: 4.7; BI: 4.4; Total: 40.6	47	153/125	7.20/1.8	Metra owned/leased, operated, and dispatched
South Shore (SS) ¹⁵	Chicago – South Bend, IN	89.9	19	43/43	3.28/0.1	NICTD operated over Metra and NICTD owned tracks

Source: Metra

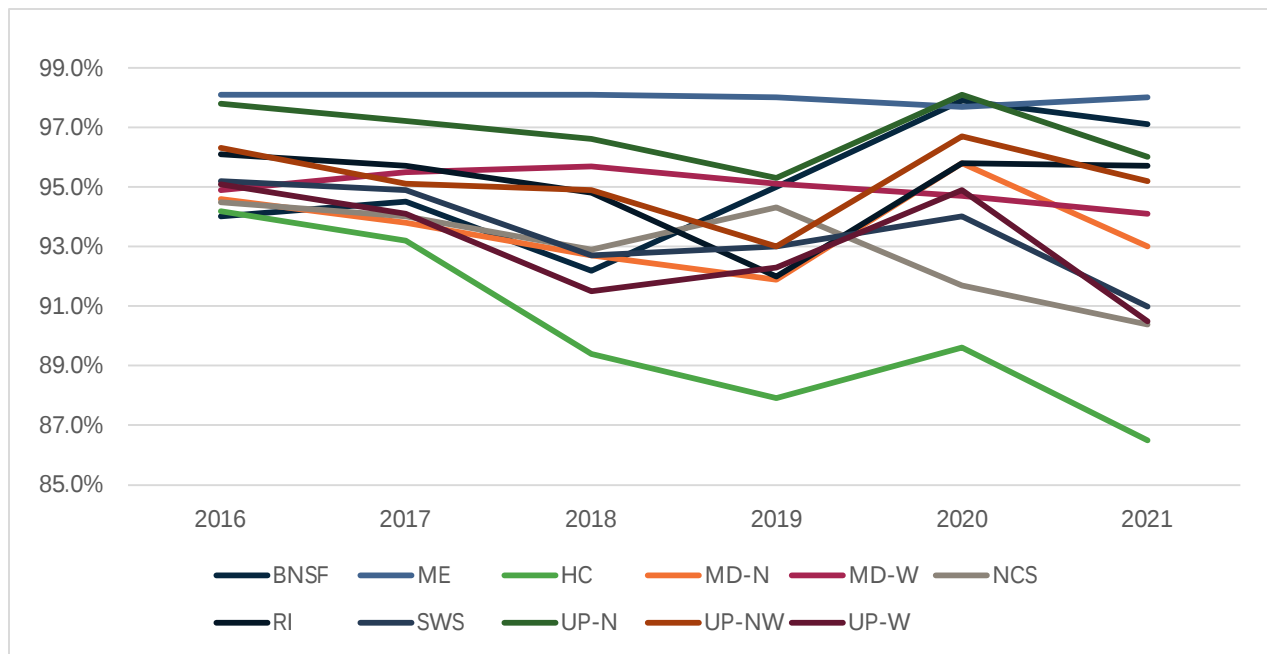
¹⁴ <https://metra.com/sites/default/files/inline-files/2021%20Annual%20Ridership%20Report%20v6.1.pdf>, unless otherwise noted

¹⁵ https://www.mysouthshoreline.com/images/December_2021_Ridership_YE_Performance_Report.pdf

On-Time Performance

Metra reports OTP for all 11 of its service lines. Regularly scheduled trains are considered on-time if they arrive at their last station stop no more than 6 minutes behind schedule. Canceled trains that do not complete their route are excluded from the OTP calculation. Any trains that are added for special events, non-revenue, or canceled trains are also not included.¹⁶ The information provided in Figure 2-22 depict the OTP of the different Metra lines, as well as the South Shore Line, which NICTD operates.

FIGURE 2-22: METRA ON-TIME PERFORMANCE (2016 TO 2021)



Source: Metra

Much of Metra's delays resulting in a lower OTP were due to freight train interference and signal/switch failures. The decline in OTP in 2021 was also related to the increase in the total number of trains operated on the tracks as ridership and train schedules were modified to accommodate the increase in the number of passengers post COVID-19 pandemic.¹⁷

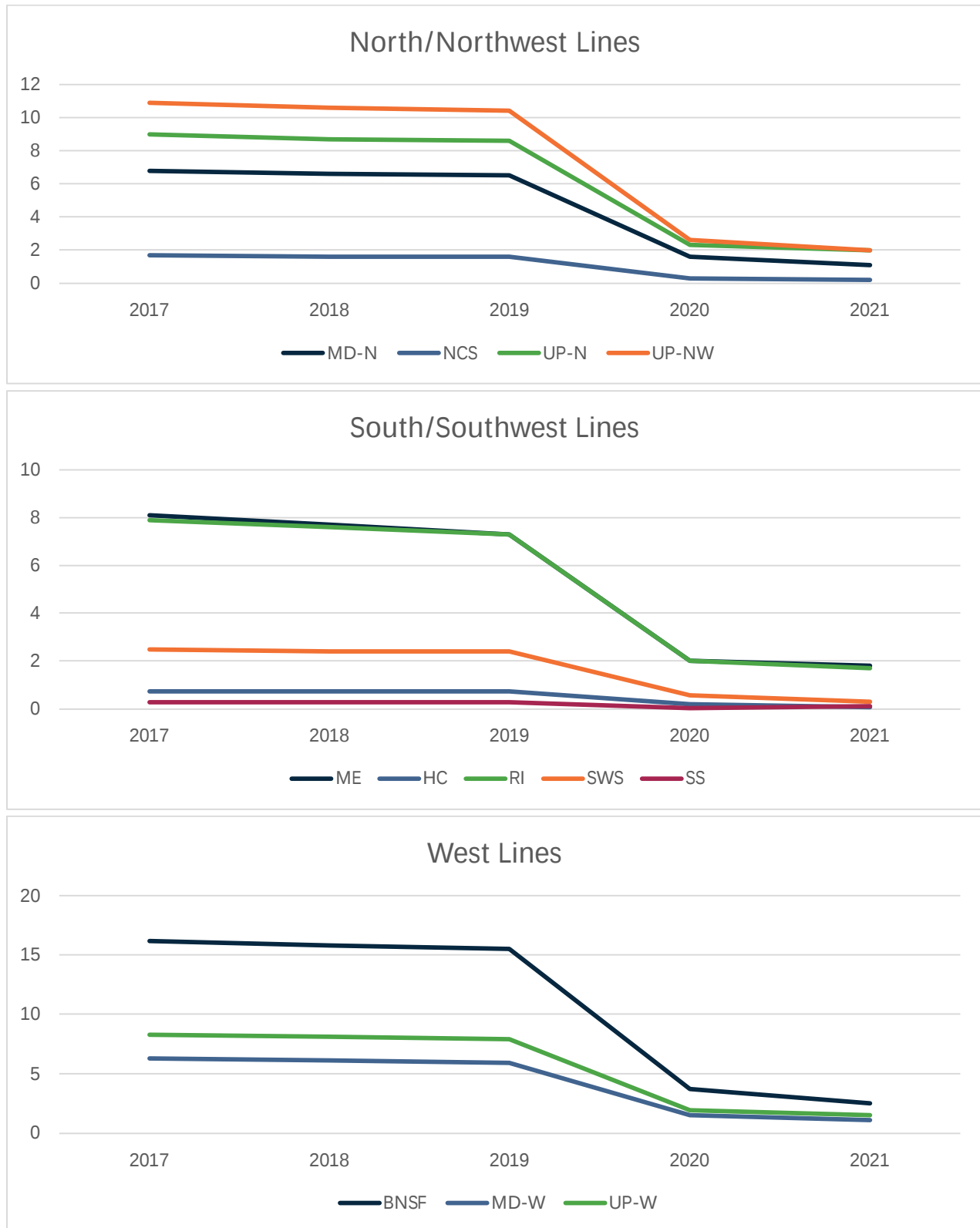
Ridership

The COVID-19 pandemic caused a major decline in ridership between 2019 and 2020. To adapt to changing ridership, Metra altered weekday schedules on all lines except the HC in March 2020. Schedules have and continue to be adjusted to meet the needs of commuters and other users. Ridership continues to fluctuate as former daily commuters shift between work from home to hybrid or in-person work schedules.

¹⁶ <https://metra.com/sites/default/files/inline-files/On-Time%20Performance%20Report%20-%20December%202021.pdf>

¹⁷ 2021 Annual Ridership Report v6.1, Metra.

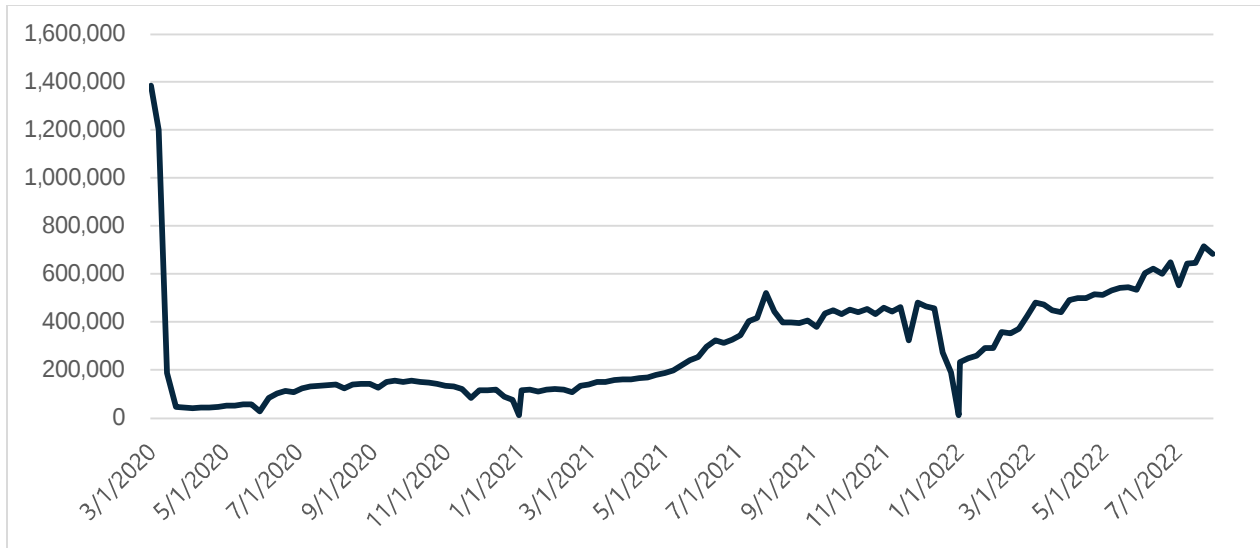
FIGURE 2-23: METRA RIDERSHIP (2017 TO 2021; MILLIONS)



Source: Metra

RTA has maintained a dashboard to monitor the recovery of each of its transit services from the COVID-19 pandemic, including Metra. As shown in Figure 2-24, while as of 2022 ridership levels have not recovered to their pre-pandemic levels, they are substantially higher than ridership levels following the outbreak in 2020 and in 2021, and the trends continue to improve.

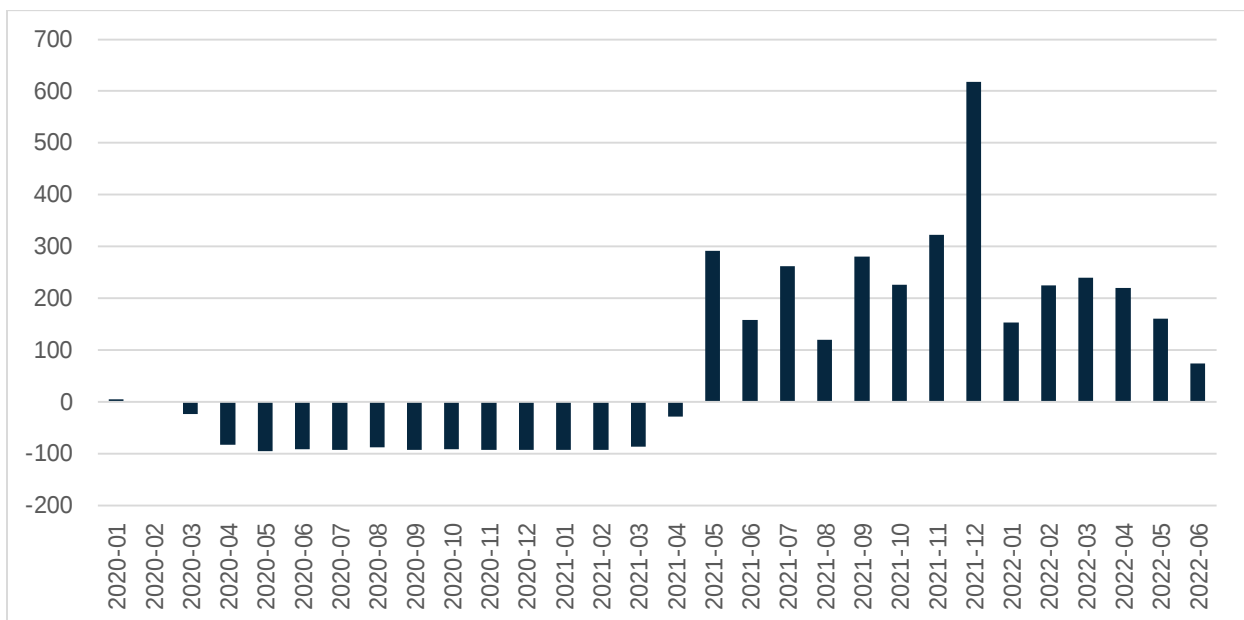
FIGURE 2-24: METRA WEEKLY RIDERSHIP SINCE THE COVID-19 PANDEMIC



Source: RTA

The RTA dashboard also shows Metra farebox revenues as a percentage of farebox revenues from the same month the year before. As shown in Figure 2-25, farebox revenues in 2021 and 2022 were much higher than in the time immediately post COVID-19 pandemic in 2020.

FIGURE 2-25: METRA MONTHLY FAREBOX REVENUE COMPARED TO THE PREVIOUS YEAR

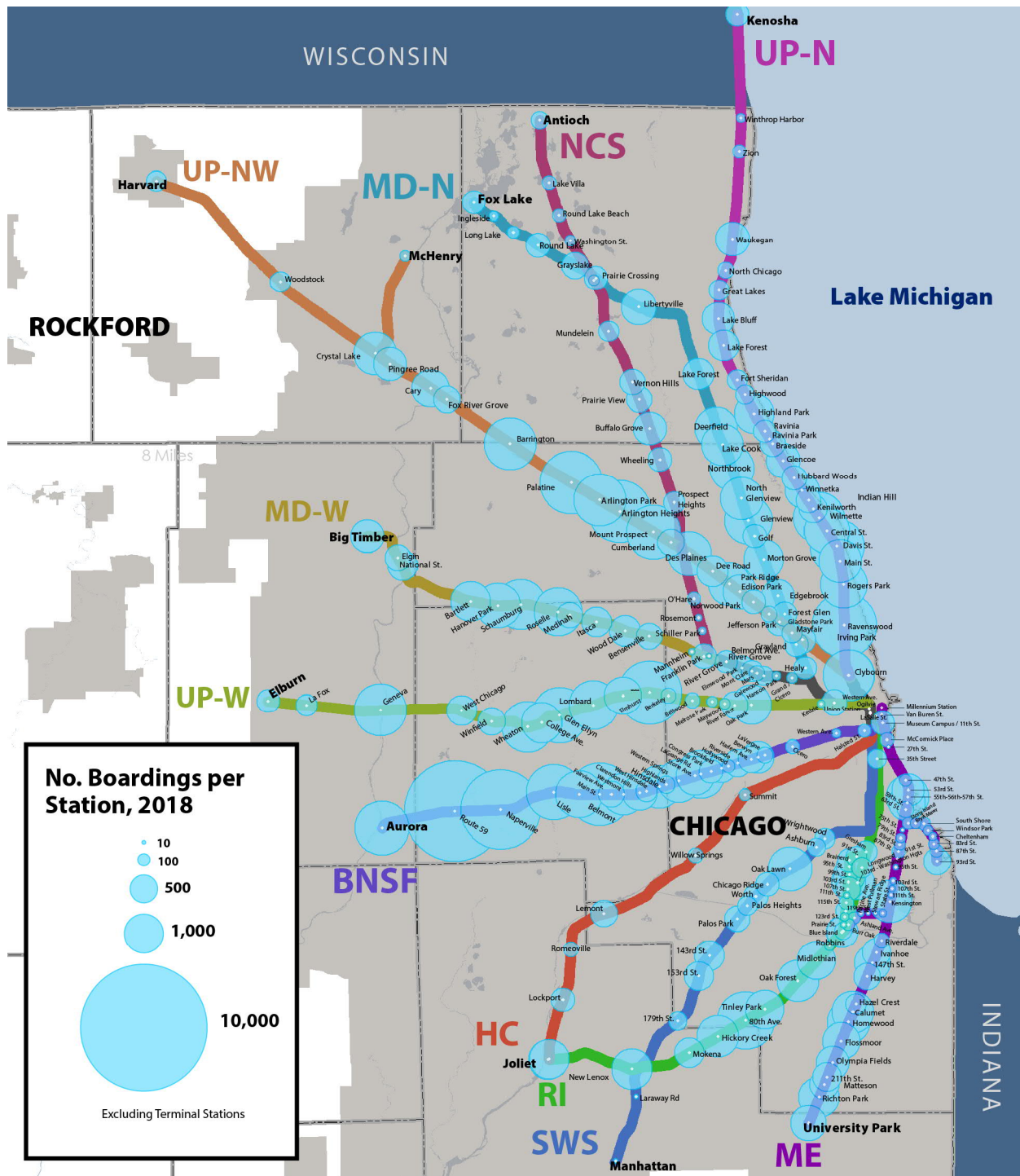


Source: RTA

Station Activity

Metra operates 242 stations along the Metra system connecting across the Chicagoland area and into Wisconsin. The latest annual data available for station boarding is from 2018. While the number of passengers and trains have changed since 2018 due to the COVID-19 pandemic, the magnitude of the differences in boardings at different stations is expected to be relatively unchanged. Figure 2-26 shows typical weekday boardings for Metra stations, excluding the terminal stations in the Chicago central business district. Appendix D provides additional station information. As shown in Figure 2-26, Metra stations vary widely in their ridership, ranging from well below 100 boardings per day to thousands of boardings.

FIGURE 2-26: METRA STATION BOARDINGS (EXCLUDING DOWNTOWN CHICAGO TERMINI)



Source: Metra, RTA

2.1.4. Public Financing for Projects and Service

Funding and financing for rail projects and operations in the United States varies according to the nature of the operations. Private freight railroad companies typically fund their own capital

expenditures and operating expenses from freight revenues. Public entities fund freight capital projects that yield public benefits and that would not have been funded by the private sector alone. Passenger services are typically subsidized by the public sector to ensure the public benefit provided by passenger rail operations.

State Funding and Financing for Rail

The largest source of revenue for transportation operations and infrastructure projects in Illinois is the Illinois Motor Fuel Tax, which is a per gallon tax on gasoline, diesel, and other fuels. Transportation projects and operations are also funded through registration fees, driver's licenses, and title fees. Revenues from these taxes and fees are almost exclusively directed toward roadway operations, maintenance, and capital improvements. Freight, commuter, and intercity passenger rail funding is mostly provided through annual appropriations from the state's General Fund rather than the same revenue sources that funded roadway projects. In the 2010s, annual funding (approximately \$60 million) of Illinois Amtrak state-supported services was shifted to the state's Road Fund.

In June 2019 the Illinois legislature passed Rebuild Illinois, a capital plan to invest \$45 billion in roads, bridges, railroads, universities, early childhood education centers, and other state facilities over the following six years. Of this \$45 billion, \$33.2 billion was authorized for transportation projects, including \$4.6 billion for mass transit, \$1 billion for rail, and \$400 million for CREATE Program projects. The plan is funded through a mixture of bonds and pay-as-you-go provisions. The revenues to support these projects are from an increase in the Illinois Motor Fuel Tax and other fees. A portion of these taxes and fees are directed toward transit and rail projects. Subsequent to the passage of Rebuild Illinois, the Illinois legislature appropriated specific provisions of the bill. Rail-related appropriations associated with Rebuild Illinois are as follows:

- » New intercity passenger rail corridor between Chicago - Quad Cities: \$225 million
- » New intercity passenger rail corridor between Chicago - Rockford: \$275 million
- » Intercity passenger rail improvements to the Chicago – Carbondale route: \$100 million
- » Springfield Rail Improvement Program: \$122 million
- » CREATE Program projects: \$491 million
- » Chicago Belt Railway Yard noise abatement: \$98 million
- » Track maintenance, locomotive overhauls, rolling stock: \$43 million

Several other state programs in Illinois are applicable to rail.

Illinois Competitive Freight Program

The Illinois Competitive Freight Program is a discretionary grant program designed to implement the goals of the Illinois State Freight Plan. IDOT uses its apportionment of the federal National Highway Freight Program (NHFP) for the program. Per provisions of the federal 2021 Infrastructure Investment and Jobs Act, up to 30 percent of these funds may be spent on rail, port, and intermodal projects. The program receives applications for freight projects and distributes funding of \$50 million per year between 2023 and 2027. The program required a 20 percent non-federal match (10 percent for interstate projects). During a previous version of this program between 2018 and 2022, the size of awards varied considerably from less than \$100,000 to \$40 million. Many of the rail-related projects that were funded were grade separations.

Economic Development Program

Administered by IDOT, the Economic Development Program does not fund rail improvements, but nevertheless can be relevant to rail projects, since it can fund roadway improvements to rail-served facilities. The program funds roadway improvements or new construction that are necessary for access to new or expanding industrial-, manufacturing-, or distribution-type companies and will contribute \$30,000 for every new job created and \$10,000 for every job retained.¹⁸ The program has \$15 million per year and will fund projects up to \$2 million. The program will fund up to 50 percent for projects on local roadways, and 100 percent for projects on state roadways.

Rail Freight Loan Program

The purpose of the Rail Freight Loan Program was to provide capital assistance to communities, railroads, and shippers to preserve and improve rail freight service in Illinois. This program is currently inactive.

Crossing Safety Improvement Program – Grade Crossing Protection Fund

The Grade Crossing Improvement Program funds projects at highway-rail grade crossings on local roads, including crossing safety improvements, closures, and grade separations. These funds are appropriated by the State of Illinois to IDOT from motor fuel taxes but are administered by the ICC. The program is funded at \$39 million annually. Projects are programmed years in advance, although the specific programming is subject to change.

Federal

Federal funding for intercity passenger and freight-rail infrastructure projects is provided primarily through competitive discretionary grant programs. Federal discretionary grant programs typically require at least a 20 percent non-federal match. Project applications where the non-federal matching significantly exceeds the minimum match level are often more competitive. Some discretionary grant programs are rail-specific and are administered by the FRA while others are multimodal and are relevant across modal administrations. As shown in Table 2-9, numerous examples exist of federal discretionary grant programs used for rail projects.

The 2021 Infrastructure Investment and Jobs Act (IIJA) includes \$66 billion in new funding for rail between federal fiscal year 2022 and 2026. This is a significant increase over previous federal funding levels. Table 2-9 summarizes the relevant U.S. Department of Transportation (U.S. DOT) discretionary grant programs.

¹⁸ <https://idot.illinois.gov/transportation-system/local-transportation-partners/county-engineers-and-local-public-agencies/funding-opportunities/economic-development-program>

TABLE 2-9: FEDERAL DISCRETIONARY GRANT PROGRAMS

Program	Annual Funding	Average Award Size	Eligible Projects	Eligible Applicants	Illinois Rail Example(s)
FRA Discretionary Grant Programs					
Consolidated Rail Infrastructure and Safety Improvements Program (CRISI) ¹⁹	Discretionary, \$1B/yr	\$8M in FY2021	MODE: rail, RELEVANT PROJECT TYPES: passenger and freight capital projects, workforce development, studies	Public agencies, Class II or III railroads, Universities, rail labor	FY2020 \$10M rail bridge replacement in Springfield, FY2019 \$13M CREATE Program project to double track, improve signals
Federal-State Partnership for Intercity Passenger Rail	Discretionary, \$3B/Yr off Northeast Corridor FY2022 – FY2026	New program	MODE: Intercity Passenger Rail, RELEVANT PROJECT TYPES: state of good repair, performance improvements or new services, planning, environmental studies	Public agencies	New program
Railroad Restoration and Enhancement Grants (RREG) ²⁰	Discretionary, \$50M/Yr FY2022 – FY2026	New Program, but up to 90 percent of subsidies in the first year and up to 30 percent in the sixth year for up to six years of service	MODE: Intercity Passenger Rail, RELEVANT PROJECT TYPES: Operating subsidies of intercity passenger rail services with preferences for restoring discontinued services, services that would “enhance connectivity and geographic coverage of the existing national network of intercity rail passenger service”	Public agencies	New program
Railroad Crossing Elimination Program ²¹	Discretionary, \$500M/yr FY2022 – FY2026	New program, no more than \$114M	MODE: road/rail crossings, RELEVANT PROJECT TYPES: grade separations or closures, track relocation, other safety improvements. Construction, planning, environmental, and design are eligible.	Public agencies	New program

¹⁹ Federal Railroad Administration. Consolidated Rail Infrastructure & Safety Improvements Grant Program Fact Sheet.

<https://railroads.dot.gov/elibrary/consolidated-rail-infrastructure-safety-improvements-grant-program-fact-sheet>

²⁰ Federal Railroad Administration. Restoration and Enhancements Grant Program Fact Sheet. <https://railroads.dot.gov/elibrary/restoration-and-enhancements-grant-program-fact-sheet>

²¹ Federal Railroad Administration. Railroad Crossing Elimination Grant Program Fact Sheet. <https://railroads.dot.gov/elibrary/railroad-crossing-elimination-grant-program-fact-sheet>

Program	Annual Funding	Average Award Size	Eligible Projects	Eligible Applicants	Illinois Rail Example(s)
U.S. DOT Multimodal Discretionary Grant Programs					
Rebuilding American Infrastructure with Sustainability and Equity (RAISE)	Discretionary, \$1.5B/yr FY2022 – FY2026	\$13M in FY2022	MODE: All surface modes, PROJECT TYPES: Capital and planning projects	Public agencies	FY2022 \$20M Improvements to Harvey Metra/Pace station, FY2022 \$20M grade separation in Springfield
Infrastructure for Rebuilding America (INFRA)	Discretionary, \$480M/yr non-highway FY2022 – FY2026	\$38M in FY2021, but 85% is reserved for projects \$100M+ in cost	MODE: All freight modes, but 70%+ highway, PROJECT TYPES: Freight projects	Public agencies	FY2021 \$15M grade-separation CREATE Program project, FY2018 \$132M corridor improvement CREATE Program project
National Infrastructure Project Assistance Program (MEGA)	Discretionary, \$1B/yr FY2022 – FY2026	New program, but projects must be \$100M+ in cost, and half funding for projects \$500M+ in cost	MODE: All freight modes, intercity passenger rail, certain transit projects, PROJECT TYPES: Large, complex projects capital projects that would otherwise be difficult to fund	Public agencies	New Program

Other Federal Funding Programs

Other federal funding programs are relevant to rail as well.

Railway-Highway Crossing (Section 130) Program. The Highway Safety Improvement Program, administered by IDOT, includes the federal Railway-Highway Crossing (Section 130) Program, the goal of which is to eliminate hazards at railway-highway crossings. In fiscal year 2021, Illinois received \$11.4 million for the Section 130 Program. Funding is split 60 percent for crossings on local roads, and 40 percent for crossings on state roads.

Federal Transit Administration Capital Investment Grants. New fixed guideways or extensions of existing guideways for public transportation, projects that improve the capacity of fixed-guideway projects shared between public transportation and intercity rail. The IIJA includes \$1.6 billion per year in advanced appropriations for this program and \$3 billion per year subject to annual appropriations FY2022 – FY2026.

Congestion Mitigation and Air Quality Improvement (CMAQ). The Congestion Mitigation and Air Quality (CMAQ) program provides a flexible funding source to state and local governments for transportation projects and programs to meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality, particularly in areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas), and for former nonattainment areas that are now in compliance (so-called “maintenance” areas). The federal matching share for these funds is 80 percent. Currently, 16 Illinois counties²² are nonattainment or maintenance areas eligible to receive CMAQ funding for projects that reduce vehicular emissions, including rail projects. The IIJA apportioned \$2.6 billion per year for the CMAQ program from FY2022 through FY2026. A range of rail-related projects have been selected for CMAQ funding in the past. For example, the CMAP FY2022 - FY2026 recommended program includes \$29 million for Metra alternative fuel locomotives. Other CMAP rounds of CMAQ funding have included Metra station improvements.

Economic Development Administration Grants. The U.S. Economic Development Administration (EDA) grant and loan assistance programs support local organizations with economic development, focusing on economically distressed communities.²³ One example of the application of EDA funds to rail infrastructure in Illinois was the 2016 investment of \$3.42 million of the EDA Public Works funds to support the installation of a short line railroad extension and expansion of yard to support an industrial site in Rochelle. The project helped to attract an employer to the region to create jobs and spur private investment.

Federal Financing Programs

The U.S. DOT offers several debt and credit assistance tools that may support passenger and freight-rail projects, of which the following are the most relevant.

Railroad Rehabilitation & Improvement Financing. The FRA's Railroad Rehabilitation and Improvement Financing (RRIF) Program provides direct loans and loan guarantees to finance development of railroad infrastructure. The program is capitalized up to \$35 billion, with \$7 billion reserved for projects benefiting Class II and Class III railroads. The RRIF Program is currently

²² Table of counties and pollutants: https://www3.epa.gov/airquality/greenbook/anayo_il.html

²³ For additional detail, see the EDA website: <https://www.eda.gov/programs/eda-programs/>

undersubscribed, with only \$5.7 billion in outstanding loans. Of these, \$2.5 billion represents loans to Amtrak and another \$2.0 billion represents loans to transit and local government agencies, with most of the remainder representing loans to Class II and Class III railroads. Potential borrowers have identified the long approval period (averaging 9 months just to approve the application as complete) and costs of application as reasons for the program's underutilization.

Railroad Rehabilitation & Improvement Financing Program (RRIF) Express. The RRIF Express program is designed particularly for Class II and Class III railroads as the only eligible applicants (including joint ventures that include one Class II and Class III railroad entity as eligible applicant). RRIF Express aims to reduce the time and costs associated with securing loans to modernize aging freight-rail infrastructure. Offering low-cost financing (2.25 percent) and expedited processing times, the program allows borrowers with a well-documented financial history and readily identified revenue streams to finance projects. Eligible projects include track improvement, bridge rehabilitation, acquisition of rolling stock, planning and design, and refinancing non-federal debt.

Transportation Infrastructure Finance and Innovation Act. The Transportation Infrastructure Finance and Innovation Act (TIFIA) Program provides credit assistance in the form of direct loans, loan guarantees, and standby lines of credit (rather than grants) to projects of national or regional significance. Under the TIFIA requirements, state governments, state infrastructure banks, special authorities, local governments, and even private parties can request minimum assistance of \$50 million for all projects (\$10 million for rural projects). TIFIA assistance is limited to 33 percent of total project costs and requires a dedicated repayment source pledged to secure the debt financing.

Local Funding Sources

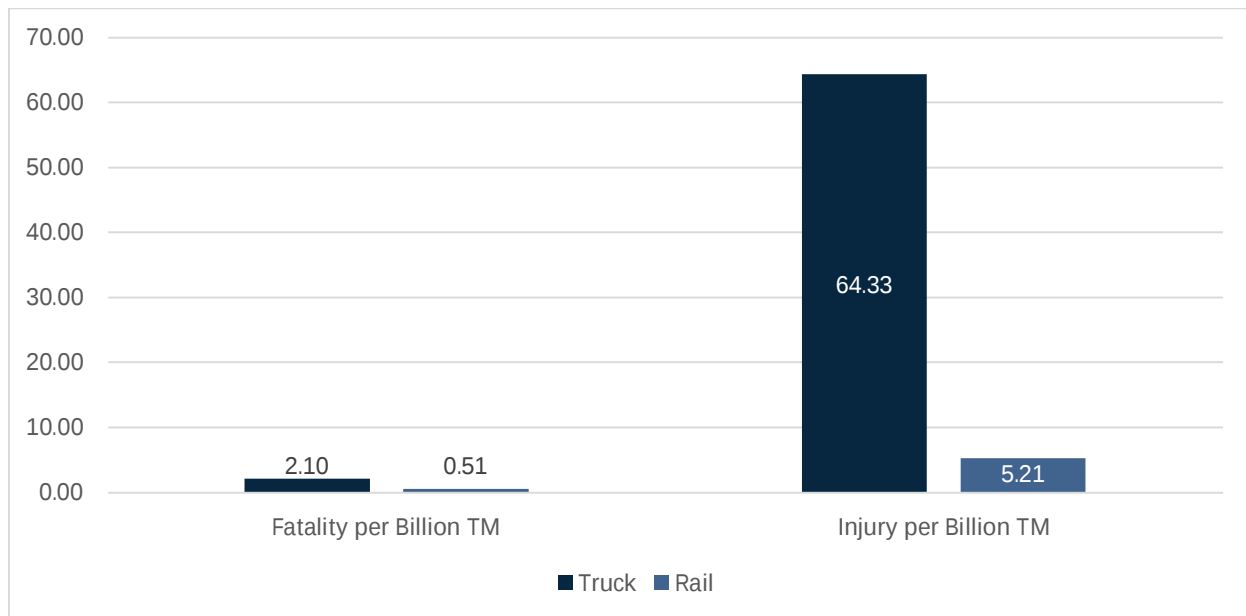
[Invest in Cook](#)

Invest in Cook grants help municipalities in Cook County further their transportation projects by covering the cost of planning, engineering, right-of-way acquisition, and construction associated with transportation improvements sponsored by local governments and private partners. The program was funded at \$8.5 million in the fiscal year 2021. There is no minimum or maximum grant sizes. State fiscal year projects ranged in size from \$50,000 to \$600,000.

2.1.5. Safety and Security of Rail Transportation

Rail is many times safer than highways. Figure 2-27 compares the rate of fatalities and injuries per ton-mile transported for truck and rail. As shown in Figure 2-27, rail results in about a quarter of the fatalities per ton-mile transported and about 8 percent of the injuries per ton-mile relative to trucking.

FIGURE 2-27: FATALITIES AND INJURIES OF RAIL AND TRUCK TRANSPORTATION (PER BILLION TON-MILES)



Sources: Modal Ton-Miles from the U.S. Bureau of Transportation Statistics, <https://www.bts.gov/content/us-ton-miles-freight>; Truck Injury and Fatality Statistics from the U.S. Federal Motor Carrier Safety Administration Large Truck and Bus Crash Facts, <https://www.fmcsa.dot.gov/safety/data-and-statistics/large-truck-and-bus-crash-facts>; Rail fatalities and injuries from the Federal Railroad Administration Safety Statistics Website, [4.08 - Casualty Summary Tables \(dot.gov\)](https://www.fra.dot.gov/safety-statistics)

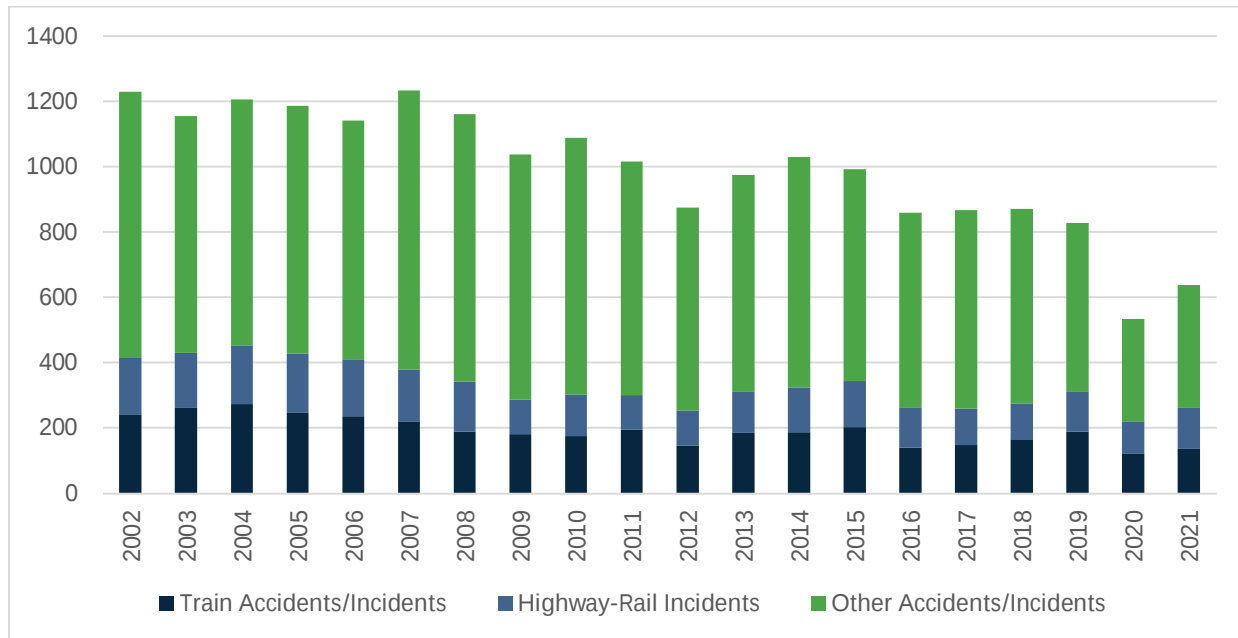
Safety Trends

The FRA maintains statistics on railroad safety “accidents/incidents,” classified into three categories.²⁴ Train accidents are derailments or other equipment-related incidents that cause damage to railroad track or structures. Highway-rail incidents are collisions between trains and automobiles, bicycles, or pedestrians at highway-rail grade crossings. The other category includes railroad work/contractor injury or sickness, incidents involving trespassers, and other occurrences.

As shown in Figure 2-28, the number of accidents/incidents has generally declined over the past 20 years. The total number of accidents for the 2012 to 2021 period declined by 26 percent from the prior 10-year period. Train accidents/incidents and other accidents/incidents declined by 27 percent, while incidents at highway/rail grade crossing declined by 21 percent.

²⁴ “Accident/Incident” is the term used by FRA to describe all reportable events. “These include collisions, derailments, and other events involving the operation of on-track equipment and causing reportable damage above an established threshold; impacts between railroad on-track equipment and highway users at crossings; and all other incidents or exposures that cause a fatality or injury to any person, or an occupational illness to a railroad employee.” <https://railroads.dot.gov/forms-guides-publications/guides/accidentincident-definitions>

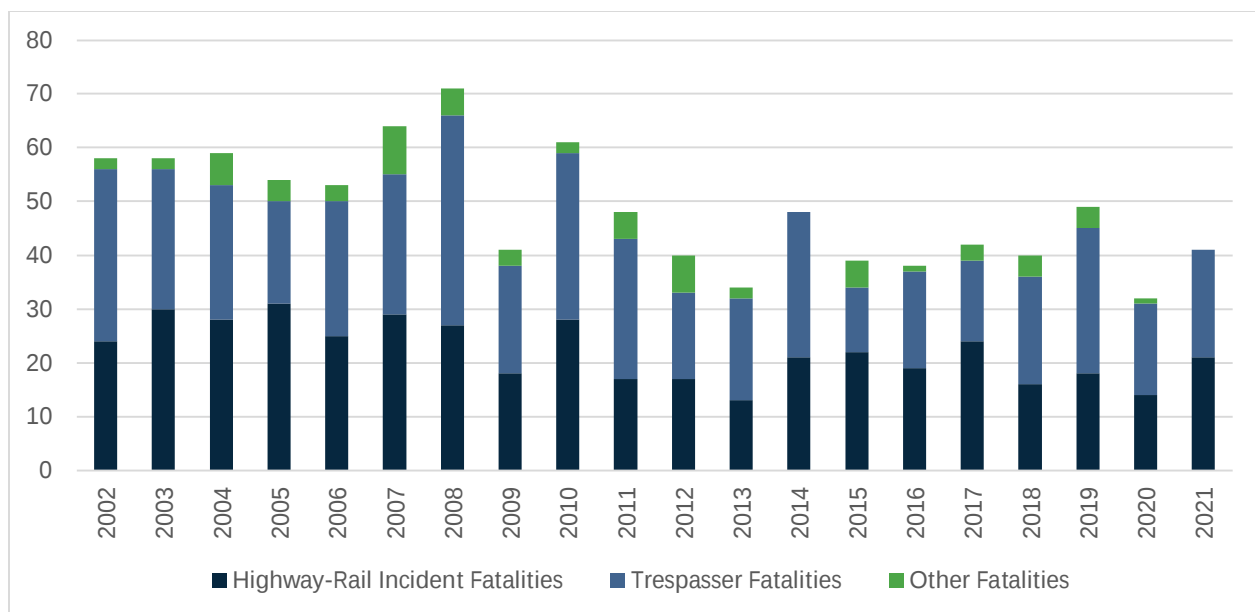
FIGURE 2-28: RAILROAD ACCIDENTS AND INCIDENTS IN ILLINOIS BY TYPE



Source: Federal Railroad Administration Safety Statistics Website

As shown in Figure 2-29, rail-related fatalities have generally decreased over the past 20 years. The average annual number of fatalities between 2012 and 2021 was 29 percent less than the average number of annual fatalities between 2002 and 2012. Between 2002 and 2021, the two leading causes of death were trespassers struck by trains (47 percent) and fatalities at highway/rail grade crossings (46 percent) between.

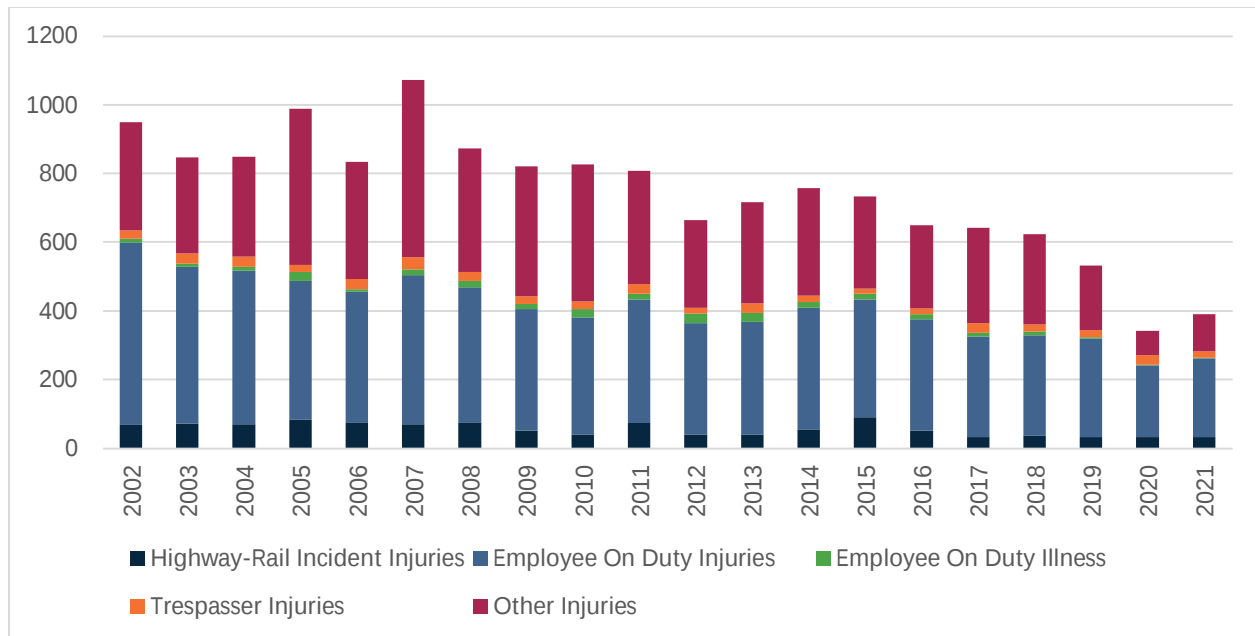
FIGURE 2-29: RAIL-RELATED FATALITIES IN ILLINOIS BY TYPE



Source: Federal Railroad Administration Safety Statistics Website

Rail-related injuries have generally declined over the past 20 years. The average number of annual injuries for the 2012 to 2021 period was 32 percent lower than the average annual number of injuries for the prior 10-year period. The highest rate of reported injuries between 2002 and 2021 was associated with railroad employees on duty (48 percent of reported injuries).

FIGURE 2-30: RAIL-RELATED INJURIES IN ILLINOIS BY TYPE



Source: Federal Railroad Administration Safety Statistics Website

Illinois Highway-Rail Grade Crossings

In its recent Grade Crossing Safety Action Plan submitted to the FRA, the ICC presented strategies to address the two largest sources of risk, namely highway-rail grade crossings and trespassing. Trespassing prevention strategies reflected education, enforcement, engineering, and additional data analysis to direct these activities. Traditionally, state governments have focused more on accident prevention at highway-rail grade crossings rather than trespass prevention because state governments have more options for addressing safety issues at crossings.

A total of 11,654 highway-rail crossings are located in Illinois (Table 2-10). Of these, 7,557 are locations where railroad tracks cross public roadways at grade.

TABLE 2-10: HIGHWAY-RAIL GRADE CROSSINGS BY TYPE

Crossing Type	Crossings
Public Road	7,557
Pedestrian Pathway	332
Private Roadway	3,765
Total	11,654

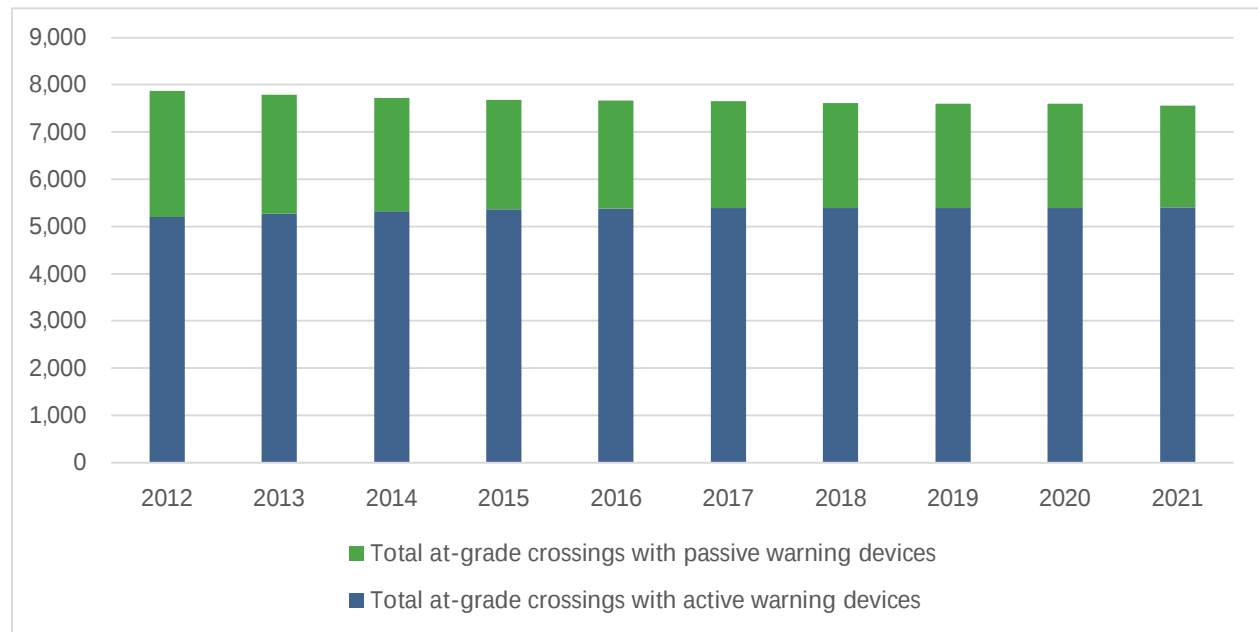
Source: Illinois Commerce Commission, 2020 data

As part of ongoing safety improvements in Illinois, the total number of public crossings and the number of public crossings with passive warning devices have decreased over the past 10 years. This is attributable to voluntary crossing closures by local communities and improvements to upgrade warning

devices from passive to active. Over the past 10 years, the public crossing modifications have included the following:

- » 310 fewer public roadway grade crossings from in 2021 than 2012 due to closures (4 percent reduction)
- » 205 more public roadway grade crossings with active warning devices in 2021 than 2012 (4 percent increase)
- » 515 fewer public roadway grade crossings with passive warning devices in 2021 than 2012 (19 percent reduction)

FIGURE 2-31: PUBLIC GRADE CROSSINGS IN ILLINOIS



Source: Illinois Commerce Commission

As in other states, highway-rail grade crossings are a source of risk that must be mitigated. Between 2016 and 2020, an average of 92 crashes per year occurred at Illinois crossings (Table 2-11). The majority of fatalities were pedestrians.

TABLE 2-11: AVERAGE ANNUAL CRASHES AT RAIL GRADE CROSSINGS CRASHES 2016 - 2020

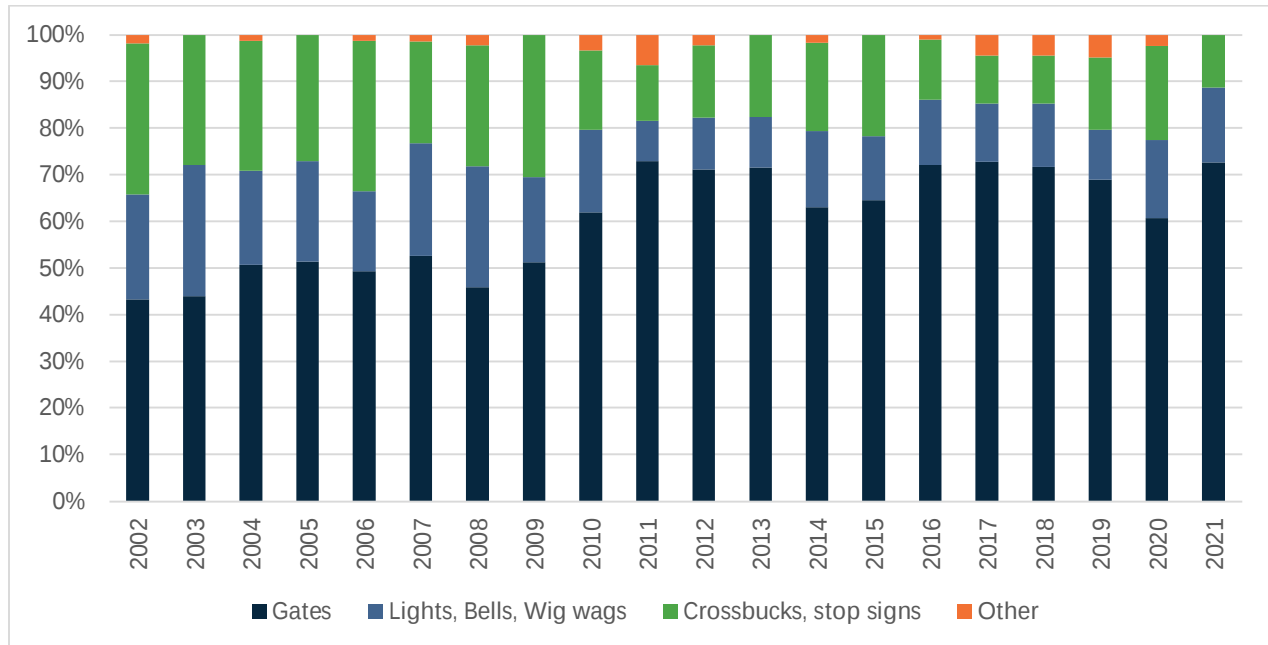
Type of Collision	Total Collisions	Fatal Collisions	Total Fatalities
Train Struck Vehicle	55	6	8
Vehicle Struck Train	20	2	2
Pedestrian	17	13	13
Total	92	21	23

Source: Illinois Commerce Commission, 2019 data

Over the past 20 years, an increasingly high percentage of crashes have occurred at crossings with gates and lights. While the gates and lights help to mitigate risks at these crossings, these high hazard gated crossings are also the busiest in terms of the number of trains and automobiles. The trend toward

more crashes at gated crossings likely results from efforts by ICC and IDOT to equip the most dangerous unprotected crossings with gates and lights. As the worst unprotected crossings are improved, the total number of crashes declines and preponderance of crashes shifts to high hazard gated crossings.

FIGURE 2-32: PERCENTAGE OF CRASHES AT HIGHWAY-RAIL GRADE CROSSINGS BY CROSSING COUNTERMEASURES



Source: Federal Railroad Administration Safety Statistics Website

Efforts to Improve Safety

Illinois is second only to Texas in the number of highway-rail grade crossings. To address safety at crossings, three programs have been established in Illinois:

- » **Grade Crossing Protection Fund (GCPF)** – Administered by the ICC, this program is centered around safety improvements at public highway-rail crossings on local roads. The GCPF provides \$42\$ million annually to be used for safety improvements. Reviewing funding for projects between 2011 and 2020, 37 percent of funding was used to upgrade crossings to gates and automatic flashing lights, another 28 percent was used for crossing separation projects, about 5 percent was used for installing four-quadrant gates, and another 5 percent was used for crossing resurfacing. The remainder was used for passive countermeasures, roadway geometry improvements, and other projects.
- » **Highway Safety Improvement Program** – Administered by IDOT, this program includes the federal Railway-Highway Crossing (Section 130) Program, the goal of which is to eliminate hazards at railway-highway crossings. In fiscal year FY2021, Illinois received \$11.4 million for the Section 130 Program. Funding is split 60 percent for crossings on local roads, and 40 percent for crossings on state roads.
- » **Rebuild Illinois** - The ICC received an additional \$78 million appropriated through Rebuild Illinois for the installation of grade crossing protection or grade separations at places where a public highway

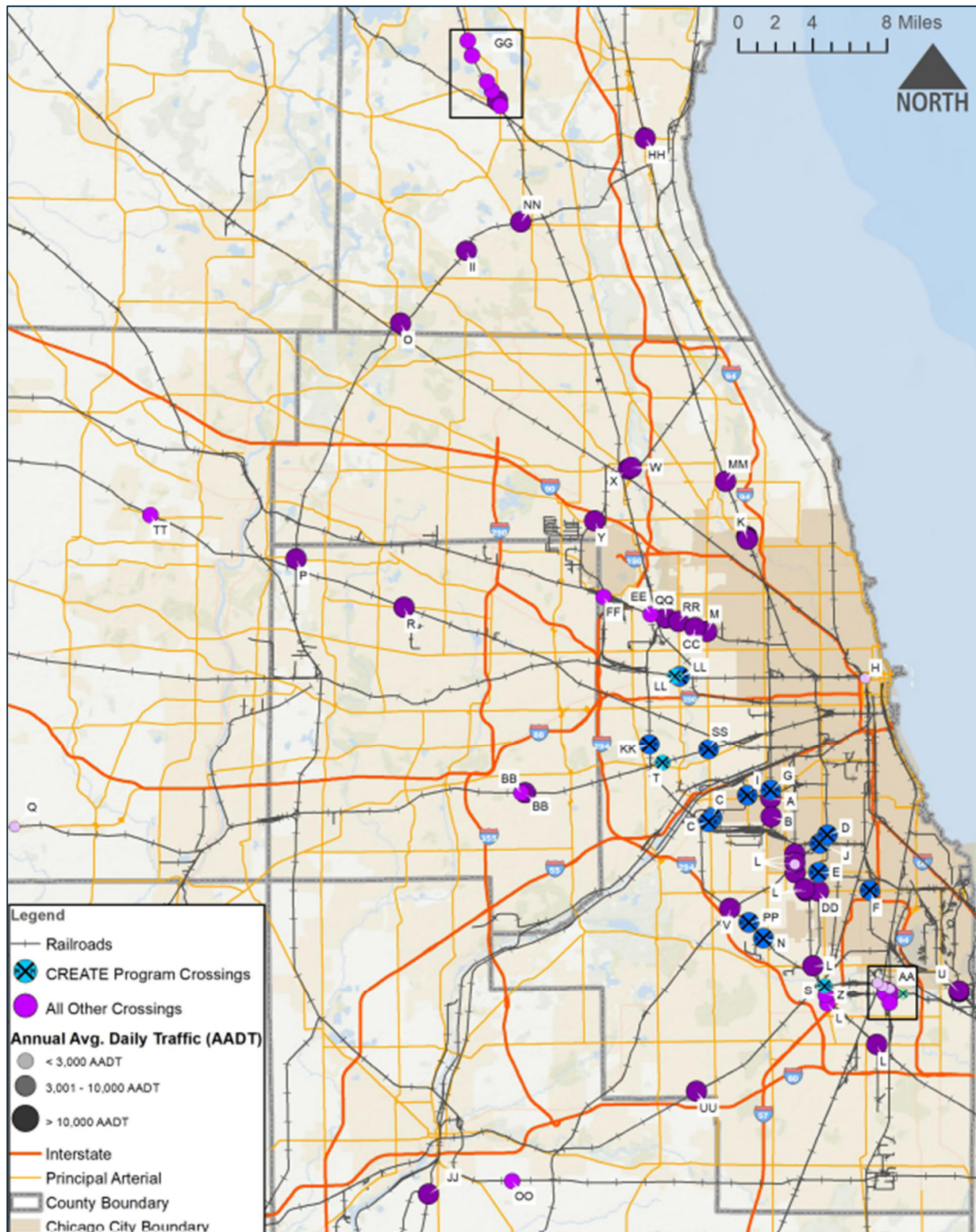
crosses a railroad at grade. Unlike the GCPF, these funds are not limited to local roads or other restrictions.

The safety improvements costs can vary depending on the type of improvement. For example, according to the ICC Crossing Safety Improvement Program, a typical gate with automatic flashing light signals on a two-lane road costs about \$300,000. Grade separations, however, can be extremely costly. A bridge over a railroad for a rural structure can cost \$600,000, whereas a multi-lane multi-railroad urban structure can cost over \$40 million. Improvements to passive countermeasures, such as crossbucks and lane dividers, are less costly. Projects that help to prevent people from trespassing on rail property are also eligible under the GCPF.

Highway-rail crossings create risks of crashes, but also delay roadway users. Highway-rail crossings that are occupied by trains for extended periods of time can create hazards if emergency vehicles are hindered by blocked crossings, or if impatient pedestrians climb through parked trains. In addition, drivers who anticipate a crossing to be blocked might race an oncoming train to the crossing. During the Illinois Rail Needs Assessment, eight municipalities mentioned the need to relieve blocked crossings. Similarly, eight respondents from the general public completing an online survey cited blocked crossings as a problem in their areas.

Given the density of rail traffic in the region, crossings are of particular concern for the Chicago metropolitan area. In 2019, CMAP issued its Northeastern Illinois Priority Grade Crossing report. This report was put together with the consultation of local and state agencies to evaluate the region's busiest railroad crossings and to identify priorities for grade separations or improvements. The report used quantitative and qualitative evaluation factors to identify the 47 priority crossings in the region. These included nine groupings of multiple crossings and 16 that are part of the CREATE Program. In some cases, potential improvements have been identified for the crossings, while in others, such engagement has not been started. The priority list will be updated periodically as rail operations change and new information becomes available. Figure 2-33 shows the identified crossings.

FIGURE 2-33: NORTHEASTERN ILLINOIS PRIORITY GRADE CROSSINGS (2019)



Source: Northeastern Illinois Priority Grade Crossings report, 2019

2.1.6. Rail's Economic and Environmental Impacts

Rail Economic Impacts

The rail industry in Illinois is vital in supporting the local economy by providing safe movement of people and goods. In addition, the rail industry supports the state's economy by providing employment and wages to its residents. The analysis in this section relies on 2019 and 2020 data provided by the Bureau of Economic Analysis and uses the following measures of impact:

- » Employment represents the number of full and part-time jobs.
- » Earnings include wage and salary disbursements to employees, supplements to wages and salaries, and owners' income.
- » Value Added/Gross Domestic Product (GDP) includes employee compensation; taxes on production and imports, minus subsidies; and gross operating surplus. It is the difference between the total output/sales and the intermediate inputs required to produce the output.

According to the Association of American Railroads (AAR) profile for Illinois, freight-rail operators employed 9,902 people in Illinois in 2021, with average wages/benefits per employee of \$134,500.²⁵ In addition, 29,600 railroad retirement beneficiaries live in Illinois with total railroad retirement benefits paid valued at \$808 million in 2019.

Passenger rail has a direct economic impact on Illinois as well, albeit on a smaller scale due to the lower number of employees in Illinois. According to Amtrak, the company employed 1,126 Illinois residents with total wages of those living in Illinois being \$95,618,435 in fiscal year 2021.²⁶ In fiscal year 2021, Amtrak purchased over \$327.7 million in goods and services in Illinois.

Metra employed 3,096 people in 2021.²⁷ The total gross pay amounted to \$235 million in 2021.²⁸

In addition to the direct impact of the rail transportation industry, the impacts have ripple effects through the economy due rail transportation industry's spending on supplier industries (known as indirect effects), and through the spending of income earned by employees of both the rail industry and its suppliers on household goods and services (known as induced effects). The direct employment of 15,986 people in the rail industry (for freight, passenger, and commuter rail) supports an additional employment of 48,882 people in Illinois through indirect and induced effects. Moreover, providing wages to those employees of the rail industry in the amount of over \$1.9 billion results in additional earnings of \$3.2 billion in other industries through the multiplier effect (indirect and induced impacts) with a total earnings value of almost \$5.1 billion. Table 2-12 summarizes total direct, indirect, and induced effects associated with the rail transportation industry. Indirect and induced effects are calculated using the Bureau of Economic Analysis's Regional Input-Output Modeling System (RIMS II) multipliers.

²⁵ Association of American Railroads, State Freight Rail Data, 2021: [AAR-Illinois-State-Fact-Sheet.pdf](#)

²⁶ Amtrak Fact Sheet, Fiscal Year 2021, State of Illinois.

²⁷ Regional Transportation Authority Mapping and Statistics, Metra Employees 2019.

²⁸ Ibid.

TABLE 2-12: ECONOMIC IMPACT ANALYSIS OF ILLINOIS RAIL INDUSTRY, 2019

	Economic Indicator	Direct	Indirect	Induced	Total
Freight Rail	Employment	11,772	16,244	19,752	47,768
	Earnings (\$M)	\$1,581	\$1,361	\$1,222	\$4,164
Passenger Rail (Amtrak)	Employment	1,284	1,772	2,154	5,210
	Earnings (\$M)	\$102	\$88	\$79	\$268
Commuter Rail (Metra)	Employment	2,930	4,043	4,916	11,889
	Earnings (\$M)	\$248	\$214	\$192	\$653
Total Rail impacts	Employment	15,986	22,059	26,823	64,868
	Earnings (\$M)	\$1,931	\$1,662	\$1,493	\$5,086

Source: WSP Analysis of the Economic Impact of Rail Employment using Bureau of Economic Analysis' RIMS II.

In 2019, the rail transportation industry generated \$2.8 billion in GDP within Illinois.²⁹

Rail's economic importance to Illinois is not just due just to the employment and spending of railroads and railroad employees within the state, but also because many Illinois industries depend on rail to serve their customers. Freight –rail-dependent industries, such as agriculture, mining, manufacturing, wholesale trade, and retail trade, alone account for about a quarter of the state's GDP.³⁰

Socioeconomic Benefits of Freight Rail

As an alternative to truck transportation, freight rail has fewer negative externalities, such as highway maintenance and congestion, greater fuel consumption, higher emissions, greater light pollution, and more crashes. Freight rail is extremely competitive in Illinois with a freight modal share of approximately 48 percent, when comparing only truck and rail.³¹ A useful exercise to assess the benefits of rail transportation is to consider a scenario whereby freight rail's modal share increases by 2 percentage points. In other words, the scenario analyzes the additional benefits that would result from freight rail having exactly half of the modal share.

A reduction in truck traffic benefits Illinois with associated fuel savings, reduced greenhouse gases and air pollutants, reduced highway safety risks, and reduced highway congestion and pavement damage. The benefits of diverting freight to rail are quantified by assessing the reduction in truck vehicle miles traveled (VMT) and associated savings. The VMT impact of rail can be quantified by dividing avoided ton-miles by the average tonnage carried by one truck, or its payload.

Based on IHS Markit's Transearch 2019 data for Illinois, truck ton-miles amounted to approximately 90.9 million, while rail ton-miles were around 84.9 million. A 2 percent increase in rail modal share is equivalent to 3.5 million rail ton-miles increase, which corresponds to approximately 2.8 million truck ton-mile decrease. Rail traffic tends to travel more miles to move between two points compared to trucks, which typically use the most direct available highway routes. To account for that difference in distances, the analysis applies a factor of 0.8 to the diverted freight ton-miles from truck to rail to

²⁹ Bureau of Economic Analysis, 2019.

³⁰ Bureau of Economic Analysis, 2019.

³¹ WSP Analysis of IHS Markit Transearch, 2019.

estimate the appropriate displaced truck VMT. Dividing 2.8 million diverted truck ton-miles by an assumed payload per truck of 20.7 tons³² equals 135.9 million VMT avoided per year.

Table 2-13 summarizes the annual nationwide fuel consumption, emissions, safety, congestion, and avoided pavement damage benefits of Illinois shippers using rail instead of trucks.

TABLE 2-13: IMPACTS OF TRUCK TO RAIL DIVERSION (INCREASE IN RAIL MODAL SHARE BY 2 PERCENTAGE POINTS) IN ILLINOIS

Benefit Category		Highway Parameter	Rail Parameter	Net Benefit of Using Rail
Reduced Fuel Consumption ¹		147 ton-miles per/gallon	479 ton-miles per/gallon	569,802 gallons
Reduced Emissions ²	CO ₂	22 pounds/gallon	22 pounds/gallon	5,686 metric tons
	NO _x	8.098 grams/VMT	114 grams/gallon	1,035 metric tons
	PM ₁₀	0.309 grams/VMT	2.9 grams/gallon	40 metric tons
	VOC	0.877 grams/VMT	4.84 grams/gallon	116 metric tons
Reduced Frequency of Crashes ³	Fatalities	1.5/billion ton-miles	0.5/billion ton-miles	3 fatal crashes
	Injuries	36.9/billion ton-miles	7.5/billion ton-miles	77 injury crashes
	Property Damage Only (PDO)	191.3/billion ton-miles	2.4/billion ton-miles	530 PDO crashes
Reduced Highway Damage and Congestion ⁴	Pavement Damage	\$0.22/VMT	n/a	\$30.2 million (2020\$)
	Congestion	\$0.21/VMT	n/a	\$28.8 million (2020\$)

Sources

- ¹ For trucking: U.S. Energy Information Administration 2020 Annual Energy Outlook; for rail: Association of American Railroads; 2018 fuel consumption values both rail and truck.
- ² CO₂ emission rate from the U.S. Energy Information Administration. For rail: emissions rates from U.S. Environmental Protection Agency; for trucking: emissions rates from WSP analysis of U.S. Environmental Protection Agency MOVES model; 2018 emission rates both rail and truck.
- ³ For rail: accident rates from 2019 FRA Data for Illinois (Ten Year Accident/Incident Overview by Calendar Year); for truck: crash summary for other single unit truck and truck-tractor with semi-trailer in Illinois for 2015 – 2019 from IDOT Crash Facts & Statistics.
- ⁴ Highway damage cost from Federal Highway Administration Addendum to the 1997 Federal Highway Cost Allocation Study, indexed for inflation. Assumes 90% rural miles 10% urban, 60% 80-kip trucks, 40% 60-kip trucks; congestion cost from U.S. DOT BCA Guidance (March 2022).

The reductions in emissions include avoiding the release of carbon dioxide (CO₂), which contributes to global warming, and several other pollutants known to harm human health and property. Particulate matter (PM₁₀) can harm lungs and cause atmospheric haze. Nitrous oxides (NO_x) contribute to respiratory ailments and acid rain. Volatile organic compounds (VOCs) are also harmful to human health.

While railroad transportation produces lower emissions compared to highway transportation, within Illinois are some areas of concentrated railroad activity. These areas can be of concern due to the resulting concentration of pollutants in these areas.

³² Federal Highway Administration, Quick Response Freight Manual II, September 2007, Table 4.20.

Intercity Passenger Rail Impact

According to the U.S. Bureau of Transportation Statistics, intercity passenger rail services use 47 percent less energy to carry a person one mile compared to automobile transportation.³³ With less fuel consumption, passenger rail generates fewer greenhouse gases. Intercity passenger rail provides mobility benefits, giving people options for intercity travel beyond air and beyond passenger vehicles. This benefits individuals who do not own an automobile or prefer not to drive/take a plane. As an example, some of the busiest Amtrak stations in Illinois serve communities with major universities, such as Bloomington – Normal with Illinois State University, Carbondale with Southern Illinois University, University of Illinois in Urbana – Champaign and Springfield. University students without cars can access their universities by train. Intercity passenger rail also provides congestion relief, particularly accessing busy metropolitan areas such as Chicago.

Commuter Rail Benefits

Commuter rail lines serve an important role in connecting communities and providing better access to economic opportunities. Metra commuter rail removes over 100,000 vehicles off the road during rush hour thereby greatly alleviating congestion in Chicago, one of the most congested cities in the United States. The largest reductions in congestion from Metra are on Chicago's South and Southwest sides. These are predominately black and hispanic areas of the City where many of region's Interstate Highways converge. On average, using commuter rail (Metra) saves a typical commuter more than six days of travel time every year, resulting in \$2,000 in savings annually.³⁴ One household can potentially save \$10,000 by using public transportation and living with one less car.³⁵ Moreover, riding commuter rail is 15 times safer than driving and reduces the region's carbon footprint. According to the National Academies of Sciences, public transportation in the United States saved 63 million metric tons of carbon dioxide equivalent emissions in 2018.³⁶

Freight-Rail Impacts on Industry Supply Chains in Illinois

Due to the unreliable availability of consumer products during the COVID-19 pandemic, Americans have become more aware of industry supply chains (i.e., the financial, information, and material flows that are needed to bring goods to market when and where they are needed). Within this context it is useful to consider the role of rail in key industry supply chains in Illinois. Industries to be analyzed include:

- » Retail/Distribution
- » Agriculture (probably grain and soybeans)
- » Food
- » Nonmetallic minerals
- » Chemicals

³³ US Department of Transportation, Bureau of Transportation Statistics, National Transportation Statistics, Table 4-20: Energy Intensity of Passenger Modes, 2019.

³⁴ Metra Fact Book 2019: [2019 fact_book.pdf \(metra.com\)](https://www.metra.com/factbook/2019).

³⁵ Metra Fact Book 2022: [2022 Fact Book \(metra.com\)](https://www.metra.com/factbook/2022).

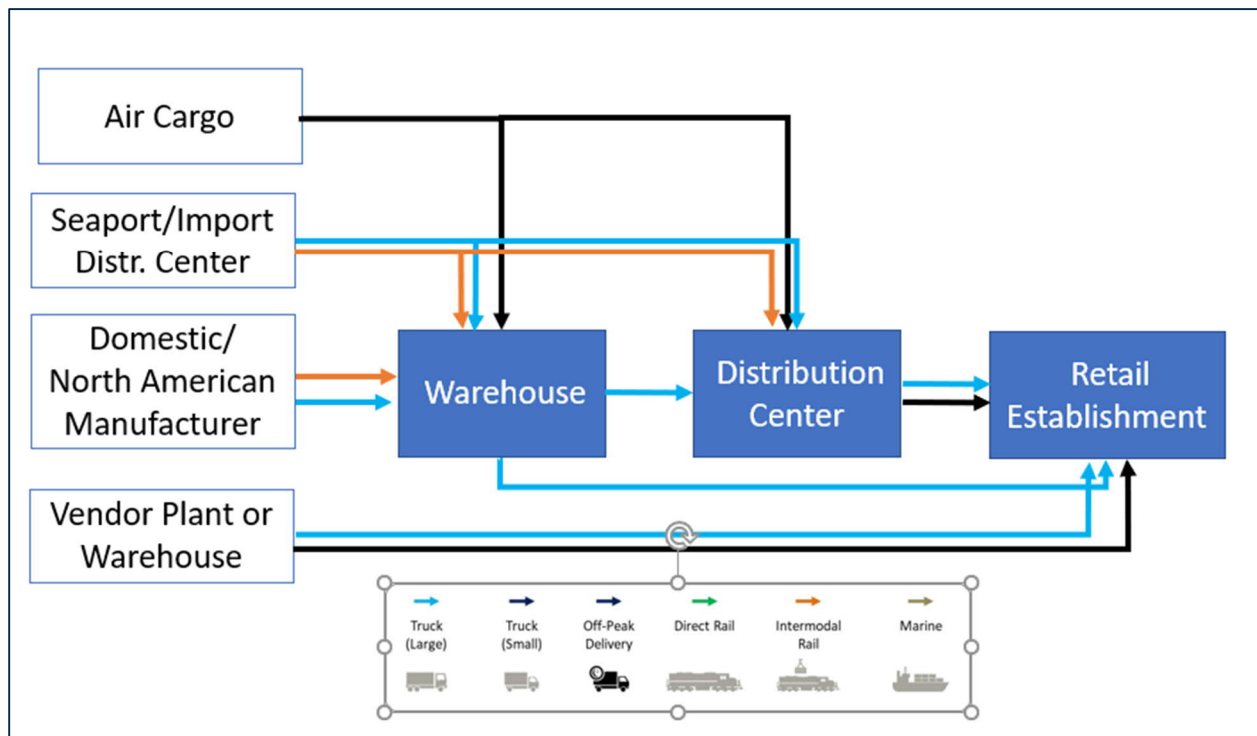
³⁶ National Academies of Sciences, Engineering, and Medicine 2021. An Update on Public Transportation's Impacts on Greenhouse Gas Emissions. Washington, DC: The National Academies Press. <https://doi.org/10.17226/26103>.

Retail/Distribution

Retail and distribution are key industries in Illinois. As of 2022 and measured by GDP, wholesale trade was 8 percent of the Illinois economy, while retail trade was 5 percent.³⁷ Transportation and warehousing were 3 percent of the Illinois economy, although this industry is more important in specific areas, such as in Chicago. Chicago's role as a national distribution hub is reflected by the relative size of the wholesale and retail sectors. Nationwide, the retail and wholesale distribution sectors are roughly of equivalent size in terms of GDP. However, in Illinois, the wholesale distribution industry is 40 percent higher. Wholesalers rely on Illinois as a transportation hub to distribute goods nationally.

Due to the Illinois status as the nation's rail hub, the retail/distribution industry within Illinois depends particularly on rail. Retailers primarily use containerized rail intermodal service rather than traditional carload rail service to move their goods (Figure 2-34). Intermodal rail is used primarily for shipping goods to warehouses and distribution centers from ports, although rail is also used to ship products to warehouses from manufacturing facilities.

FIGURE 2-34: GENERAL RETAIL/DISTRIBUTION SUPPLY CHAIN



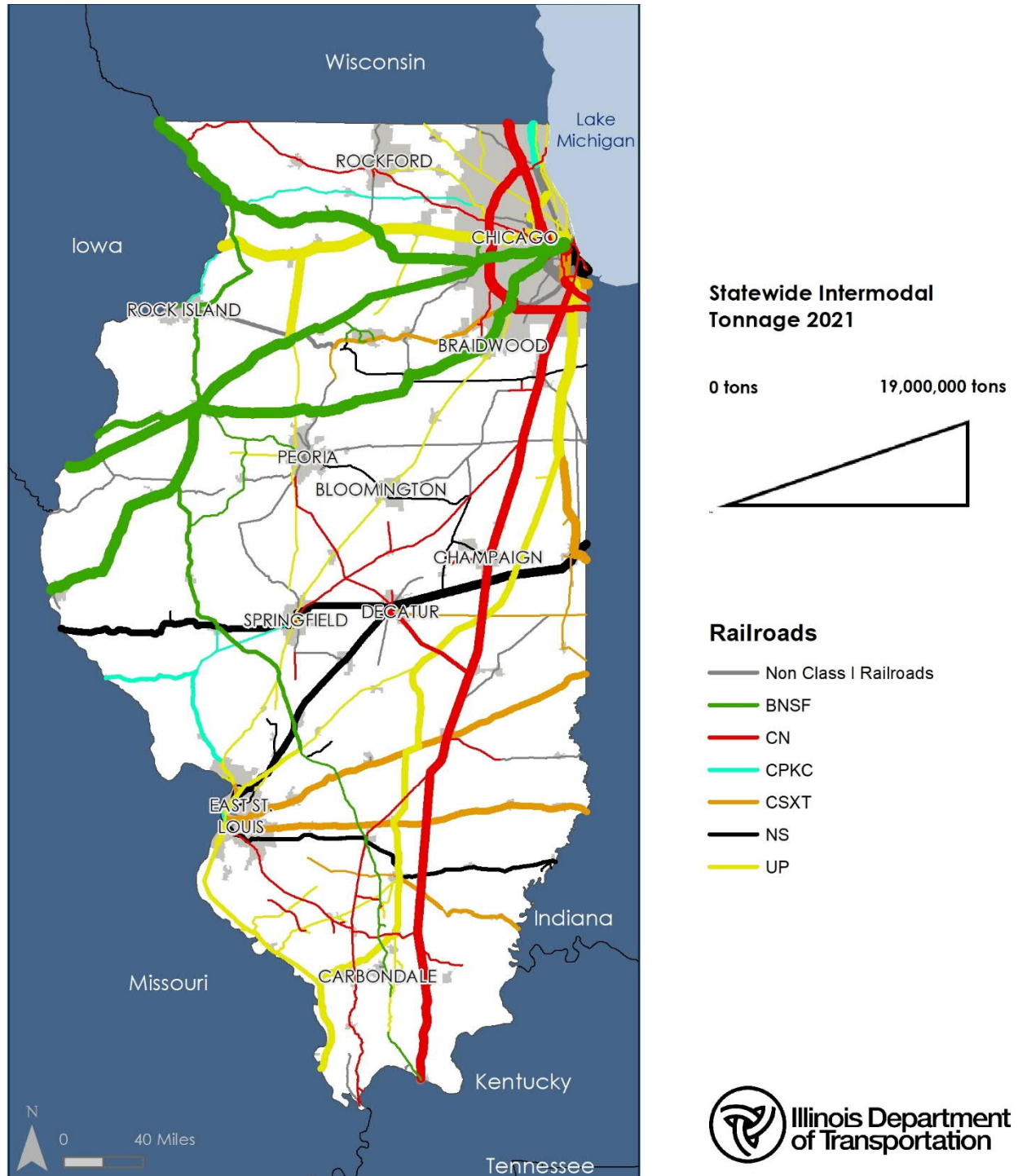
Source: Texas Freight Mobility Plan

As shown in Figure 2-35, the highest density intermodal routes in terms of tonnage that cross Illinois are those of BNSF, including the Transcon route (which connects Illinois with the West Coast) and the Great Northern route (which connects Illinois with the Pacific Northwest). Other very high-density rail lines include the UP overland route and Villa Grove Subdivision, the eastern railroad lines between Chicago and the Indiana border. CN lines connecting Chicago to western Canada and the CN former Illinois

³⁷ U.S. Bureau of Economic Analysis, data for calendar year 2022.

Central Line to the Gulf Coast are also significant. Intermodal traffic within Illinois is limited mainly to this specific subset of rail corridors.

FIGURE 2-35: TRAFFIC DENSITY OF INTERMODAL TRAFFIC ON ILLINOIS RAIL LINES IN 2021 TONS



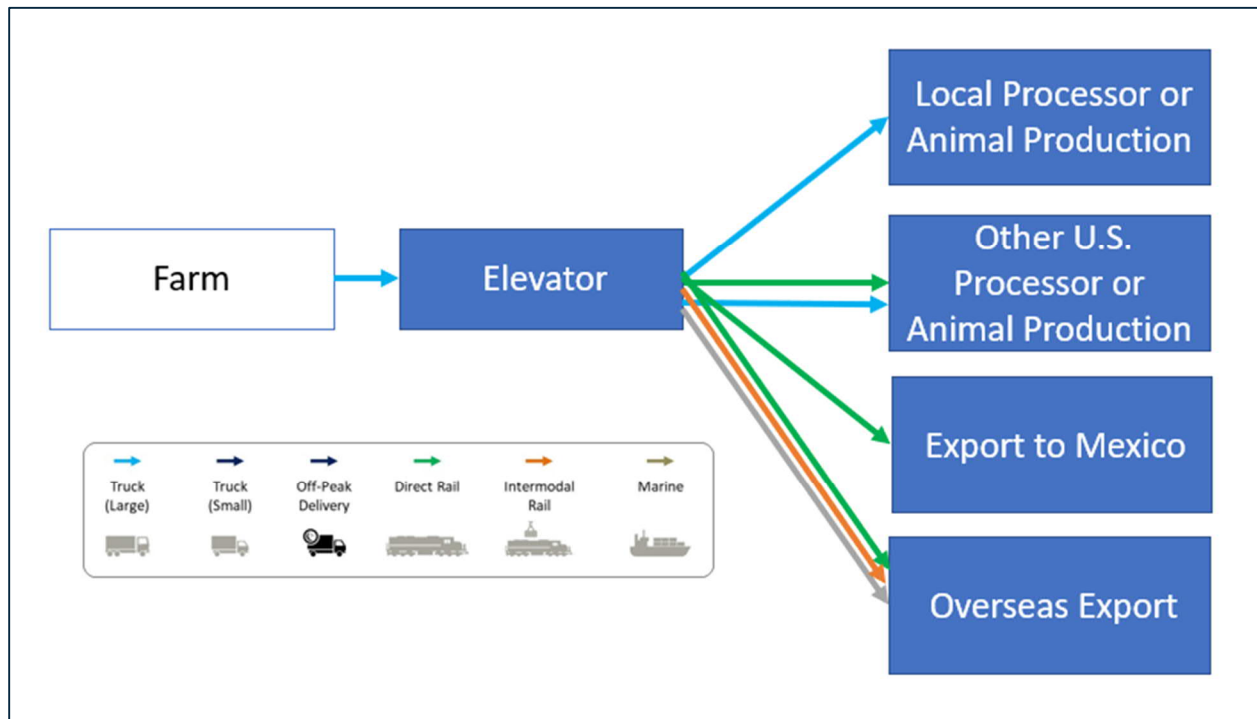
Agriculture

Farms are 1.4 percent of Illinois GDP in 2020, but agriculture also has a significant impact on other industries such as food manufacturing and supply industries to the agricultural sector and is a key industry in many parts of Illinois. According to the 2019 STB Waybill Sample, farm products are about 8 percent of the tonnage of rail shipments handled in Illinois, 15 percent of originating tonnage, and 7 percent of terminating tonnage. Fifty-eight percent of the tonnage of farm products that originate by rail from Illinois is corn, 11 percent is soybeans, 7 percent is wheat, 9 percent is other grains, and the remaining 14 percent is a variety of other commodities. Rail accounts for 8 percent of agricultural product tonnage handled in Illinois, with most of the rest carried by truck. Corn and soybeans are shipped by rail from counties throughout Illinois. Sixty-four percent of rail wheat shipments are from Cook County, and 96 percent of other grain shipments are shipped from Will County, so shipments of agricultural commodities excluding corn and soybeans are primarily from the Chicago area. About 81 percent of agricultural shipments from Illinois by rail are for domestic consumption, 13 percent for overseas export, and 6 percent are shipped to other North American countries, primarily Mexico. Most agricultural products shipped by rail for export from Illinois are traveling to New Orleans, LA, while Seattle, WA, is the second largest export port from Illinois. Eighty-eight percent of North American exports are heading to Mexico. A variety of locations in the United States receive domestic shipments of agriculture by rail from Illinois with Decatur, IL; Los Angeles, CA; Atlanta, GA; and Indianapolis, IN being the largest destinations.

In general, rail is used for shipping grain and soybeans long distances. The average shipment distance of agriculture by rail from Illinois in 2019 was 933 miles. By contrast, agricultural shipments by truck are much shorter. Generally, if grain or soybeans are shipped to nearby locations such as ethanol plants, food manufacturing facilities, or as animal feed, these shipments will move by truck. According to data by S&P Global, grains and soybeans are 68 percent of the tonnage of agricultural commodities that move by truck in Illinois. If grain is shipped to export locations or to more distant areas for animal feed, it will move by rail. In Illinois, rail shipments of grain and soybeans also compete with barge transportation, so that elevators located near river terminals may ship by barge rather than rail. The decision of whether to ship agricultural commodities by rail is generally driven by pricing, whether the difference of price at destination from origin justifies the expense of the rail movement. Figure 2-36 summarizes modal usage for shipping grains and soybeans.

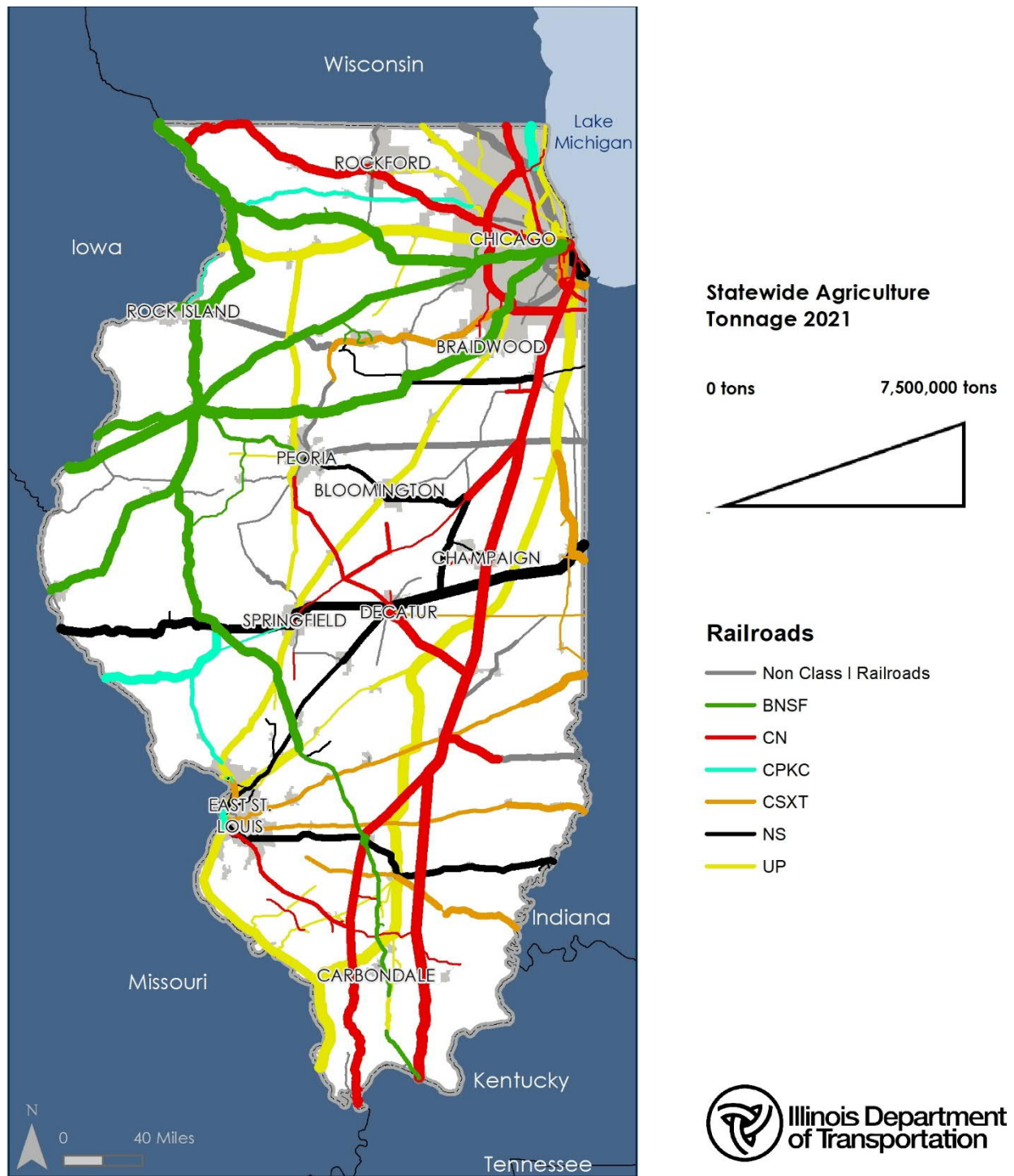
As shown in Figure 2-37, the concentration of farm products in terms of tonnage on Illinois rail lines illustrates the importance of specific areas in Illinois to agriculture. At places like Decatur, Peoria, and Galesburg there are large changes in agricultural traffic density, indicating that these are major origins/destinations of agricultural commodities. Farm products are transported over a broad range of Illinois rail lines, so that some rail lines may be less important to shippers in other industries, but very important to Illinois agriculture.

FIGURE 2-36: GRAIN/SOYBEAN SUPPLY CHAIN



Source: TxDOT Freight Plan

FIGURE 2-37: TRAFFIC DENSITY OF FARM PRODUCTS ON ILLINOIS RAIL LINES IN 2021 TONS



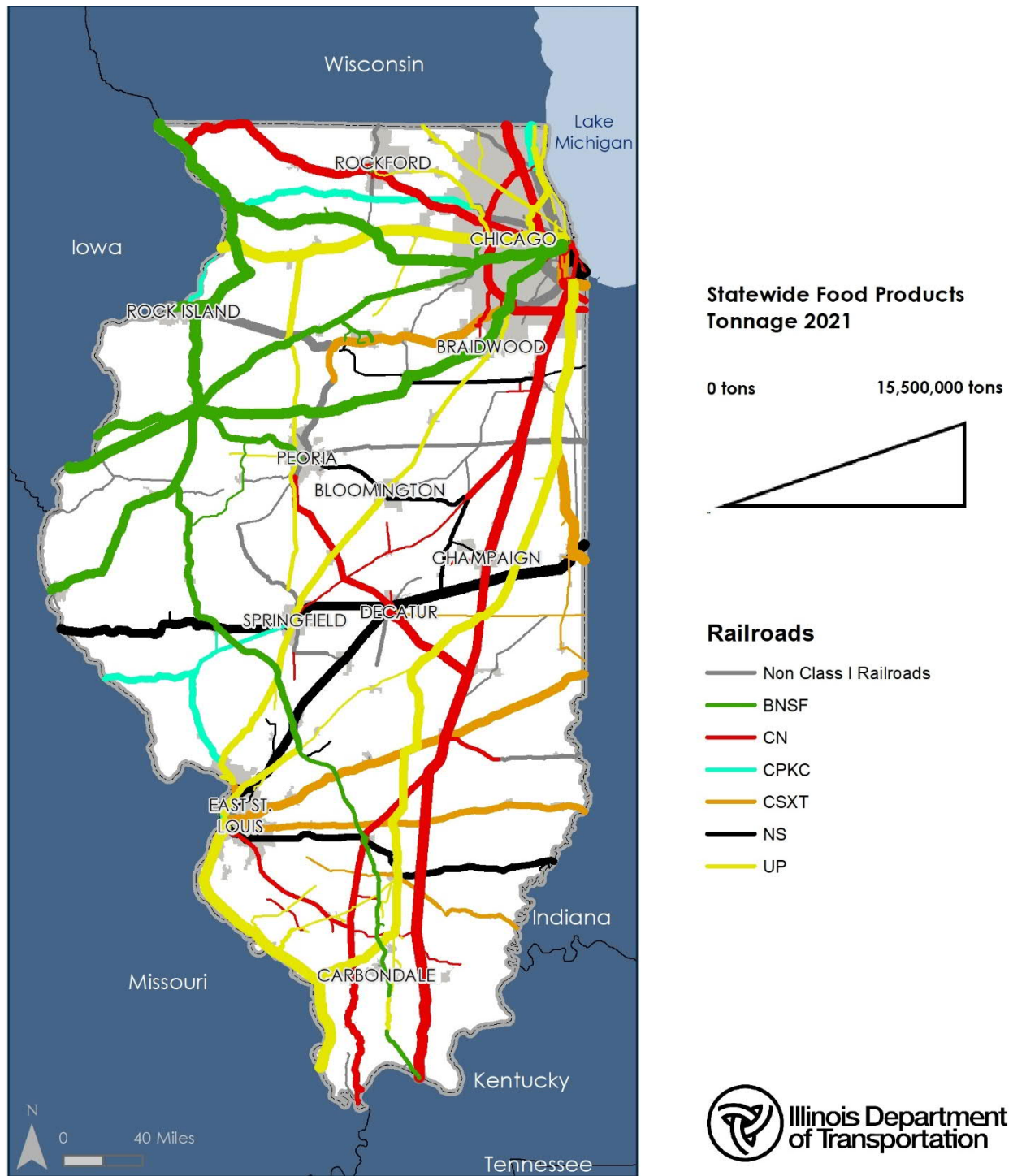
Food

Food manufacturing is 1.6 percent of the Illinois economy as measured by GDP in 2020. According to the FHWA Freight Analysis Framework-5, rail had an 8 percent modal share by tonnage for food products that originated in Illinois in 2020 and a 13 percent modal share for food products that terminated in Illinois. The highest volume food commodities to move by rail to, from, within Illinois are soybean meal, milled corn products, animal feed, sugar, food byproducts, milled wheat products, and soybean oil. However, the range of food products shipped by rail, and the seven products listed are only 40 percent of the tonnage. Chicago is the dominant origin and destination of food products by rail in Illinois, followed by Decatur. The largest trading partner with Illinois for food products by rail is California followed by Iowa.

For the food manufacturing industry, rail is used both for inbound shipments of farm products, food ingredients, and for outbound products shipments. The specific supply chains of food manufacturing companies in Illinois vary by subsector. Some commodities like soybean meal are shipped like other agricultural commodities for export, to domestic animal producers or as input for other food products for human consumption. Rail is used when products must be shipped long distances such as to seaports for export. Other food products have different supply chains.

As shown in Figure 2-38, the highest density of food products on Illinois rail lines are those that connect Chicago with points west. Changes in food product density suggest the importance of Decatur and Galesburg to the food manufacturing industry.

FIGURE 2-38: TRAFFIC DENSITY OF FOOD PRODUCT TRAFFIC ON ILLINOIS RAIL LINES IN 2021 TONS



Nonmetallic Mineral Products

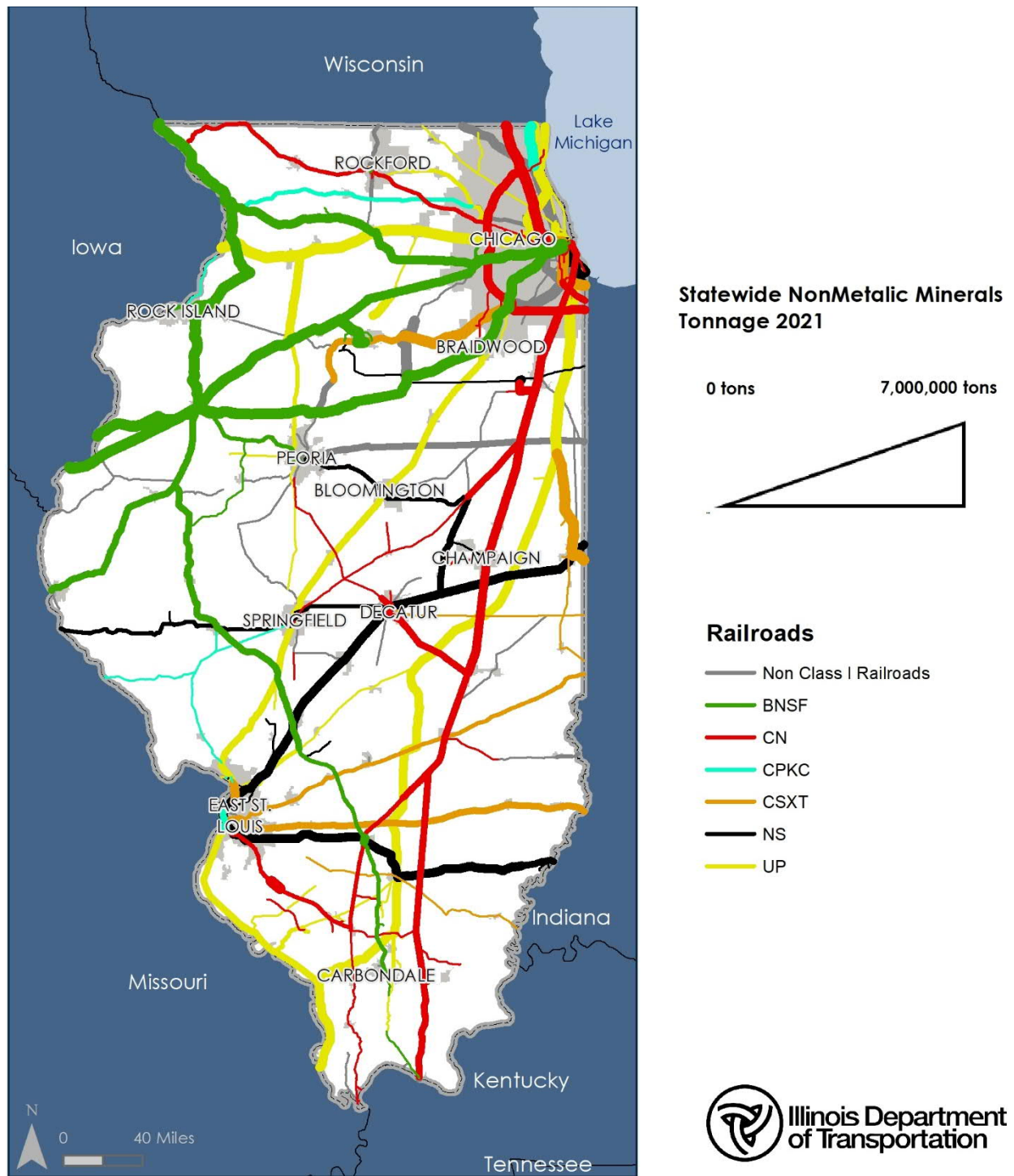
Nonmetallic mineral product manufacturing is 0.25 percent of the Illinois economy when measured by GDP, but its products are important to other industries in the state, as well as energy industries across the United States. By tonnage, rail has a 35 percent modal share for outbound nonmetallic minerals, whereas rail has a 2 percent modal share for inbound nonmetallic mineral products. Outbound dominates rail shipments of nonmetallic mineral products in Illinois, so that inbound flows of nonmetallic minerals to Illinois by rail are 7 percent of outbound flows, and intrastate flows are 8.5 percent of outbound flows. LaSalle County is by far the largest source of nonmetallic minerals, consisting primarily of specialized sand used for hydraulic fracturing energy development and other purposes. Most of the nonmetallic mineral tonnage handled by rail in Illinois consists of sand shipments from LaSalle County.

In contrast to rail, most truck movements of nonmetallic mineral products are crushed stone, accounting for 65 percent of nonmetallic mineral products handled. Another 28 percent are sand or gravel. According to estimates by S&P Global average, the truck shipping distance is 115 miles for crushed stone and 250 miles for sand/gravel. By contrast, outbound rail shipments of aggregates (crushed stone, gravel, and sand) travel much farther, with an average shipment distance of 1,011 miles, primarily reflecting outbound sand shipments to U.S. markets. Inbound and intrastate rail shipments of aggregates have a shorter average distance of only 99 miles. The largest destinations of nonmetallic mineral products shipped by rail are Lake County (north of Chicago) and St. Clair County (which includes East St. Louis). Together, these are a little over half of terminating tons. The largest origins of intrastate moves are Kankakee County and St. Clair County.

Given the divergent characteristics of inbound and outbound freight flows of nonmetallic mineral products, the role of rail is different for each. For outbound flows, rail provides a key transportation link for shipping specialty sand from Illinois to different parts of the country for energy exploration and other uses. For inbound and intrastate nonmetallic mineral shipments, rail competes more closely with trucking and is used for shipping aggregates relatively short distances where it is more economical to use rail.

Figure 2-39 displays not only nonmetallic mineral products moving by rail to, from, within Illinois, but also nonmetallic mineral products moving across Illinois. As shown, La Salle County is a key origin for sand in Illinois. High densities of nonmetallic mineral products also move from Wisconsin through Chicago, consisting primarily of frac sand originating in Wisconsin.

FIGURE 2-39: TRAFFIC DENSITY OF NONMETALLIC MINERAL PRODUCT TRAFFIC ON ILLINOIS RAIL LINES IN 2021 TONS



Chemical Products

The chemical manufacturing industry is 2.7 percent of the Illinois economy, making it the largest manufacturing industry in Illinois when measured by GDP. Rail has 61 percent mode share shipping chemical products from Illinois by tonnage and a 56 percent modal share shipping chemical products to Illinois. A wide variety of chemical products are shipped to, from, and within Illinois. Twenty-one percent of the tonnage handled by rail to/from/within Illinois consists of ethanol, while 13 percent is potassium (used for fertilizer), and 9 percent is plastic products. The remaining tonnages are spread across other products. The Chicago region is the largest origin and destination of chemical products in Illinois— 56 percent of outbound chemical product tonnage originates in Cook County, and 50 percent of inbound tonnage terminates in Cook County. St. Clair County is 11 percent of outbound rail chemical tonnage and 5 percent of inbound rail chemical tonnage. Will County is 10 percent of inbound rail chemical tonnage. States that specialize in petrochemicals and/or have bulk port areas are the largest trading partners with Illinois. Pennsylvania and New Jersey are the largest recipients of chemical shipments from Illinois, and Saskatchewan and Texas ship the most chemicals by rail to Illinois. Collectively, these account for 26 percent of outbound rail shipments from Illinois and 36 percent of rail shipments to Illinois. The remaining rail volume is spread across trading partners throughout North America.

The chemical industry consists of many different subsectors making different products, so it is difficult to generalize supply chains. However, the industry is relatively reliant on rail. Rail's modal share is elsewhere not as high as statistics for Illinois suggest. For example, the FHWA Freight Analysis Framework-5 estimates that rail's modal share for shipping chemicals nationwide by tonnage is about 15 percent. Nevertheless, the characteristics of products shipped create a reliance on rail. Many of the inputs and outputs of the industry are heavy, bulk commodities suitable for railroad transportation. Chemical supply chains are frequently global in scale, so shippers must ship long distances between port facilities and inland locations, which favors usage of rail. Chemical manufacturers operate within a network of facilities, many of which require large capital investments. Therefore, the flexibility of modifying pieces of the network can sometimes be limited. The American Chemistry Council conducted surveys of members in the second quarter of 2022 in which members reported that they were not only required to hold more inventory and acquire more railcars due to supply chain problems, but about half of respondents indicated that they were forced to reduce production because of supply chain problems.³⁸ This suggests that the chemical industry does not always enjoy supply chain flexibility. If one piece of the supply chain is performing poorly, companies cannot easily just find other sources of supply.

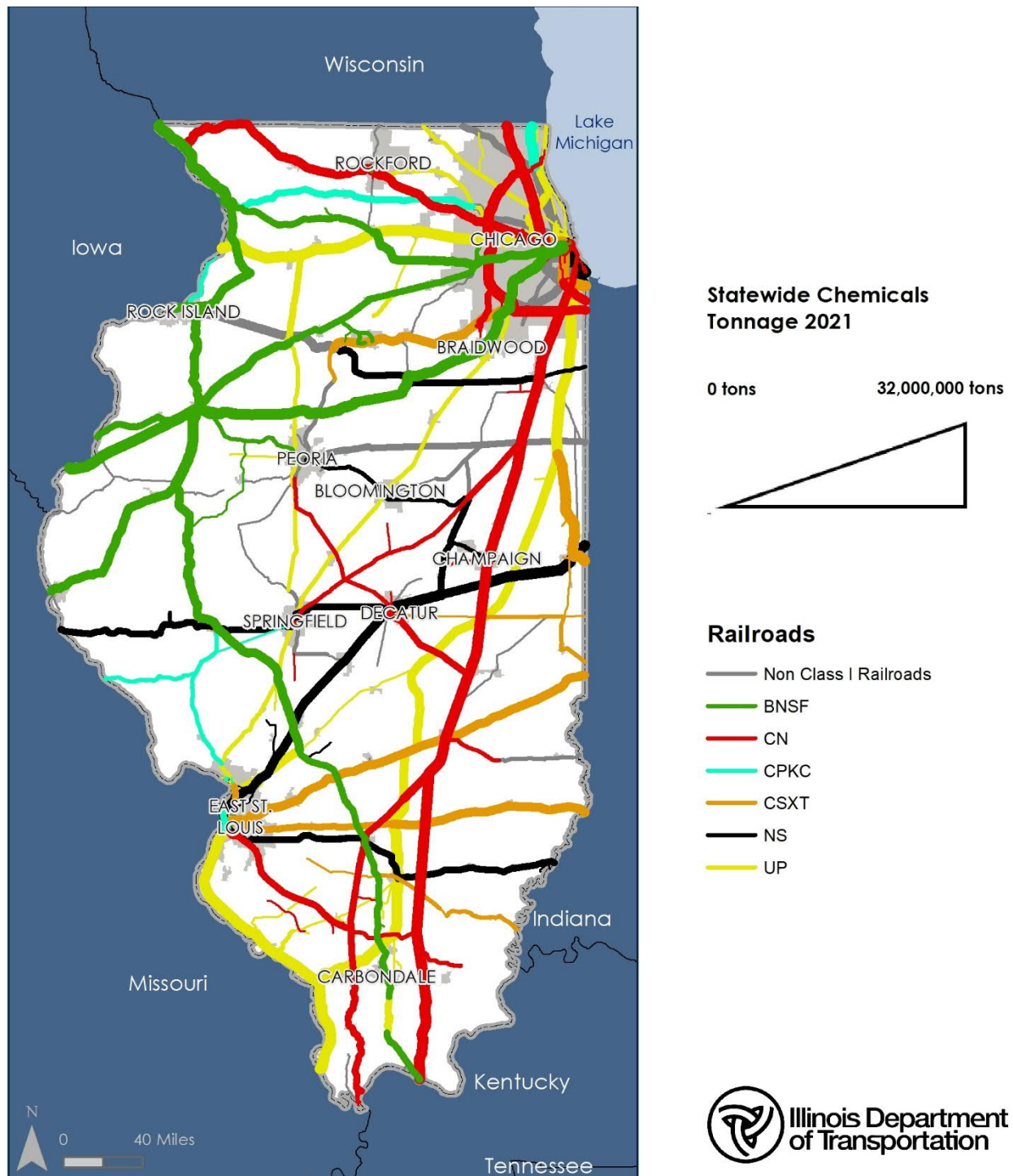
Some chemical shipments are of hazardous materials. Although rail is generally a safer transportation option than highway transportation and as the railroad industry points out, 99.9 percent of hazardous materials on rail reach their destination without incident, accidents continue to occur. Railroads, federal authorities, and the State of Illinois will continue to work to improve the safety of hazardous chemical shipments. As an example, the Illinois Commerce Commission Hazardous Materials Safety Program inspects railroad equipment, provides technical assistance, and facilitates provides education and outreach to first responders.³⁹

³⁸ American Chemistry Council, Updated Survey Report: Supply Chain and Freight Transportation Problems Escalated for Chemical Manufacturers, Q2 2022.

³⁹ <https://www.icc.illinois.gov/icc-reports/report/AnnualReportOnAccidentsIncidentsInvolvingHazardousMaterialsOnRailroadsInIllinois>

Figure 2-40 displays traffic flows of chemical products to, from, within, and across Illinois. The density of rail lines generally follows the overall density of rail lines in Illinois with several exceptions. For example, the CN former Illinois Central line has a relatively high density, reflecting chemical trade with the Gulf Coast. Changes in density show the heavy presence of the chemical industry in certain areas such as Decatur and Morris.

FIGURE 2-40: TRAFFIC DENSITY OF CHEMICAL PRODUCT TRAFFIC ON ILLINOIS RAIL LINES IN 2021 TONS



2.2. Trends and Forecasts

This section presents projected future conditions and trends for freight and passenger rail in Illinois and the factors that influence them. It explores projected changes to demographics and economic growth

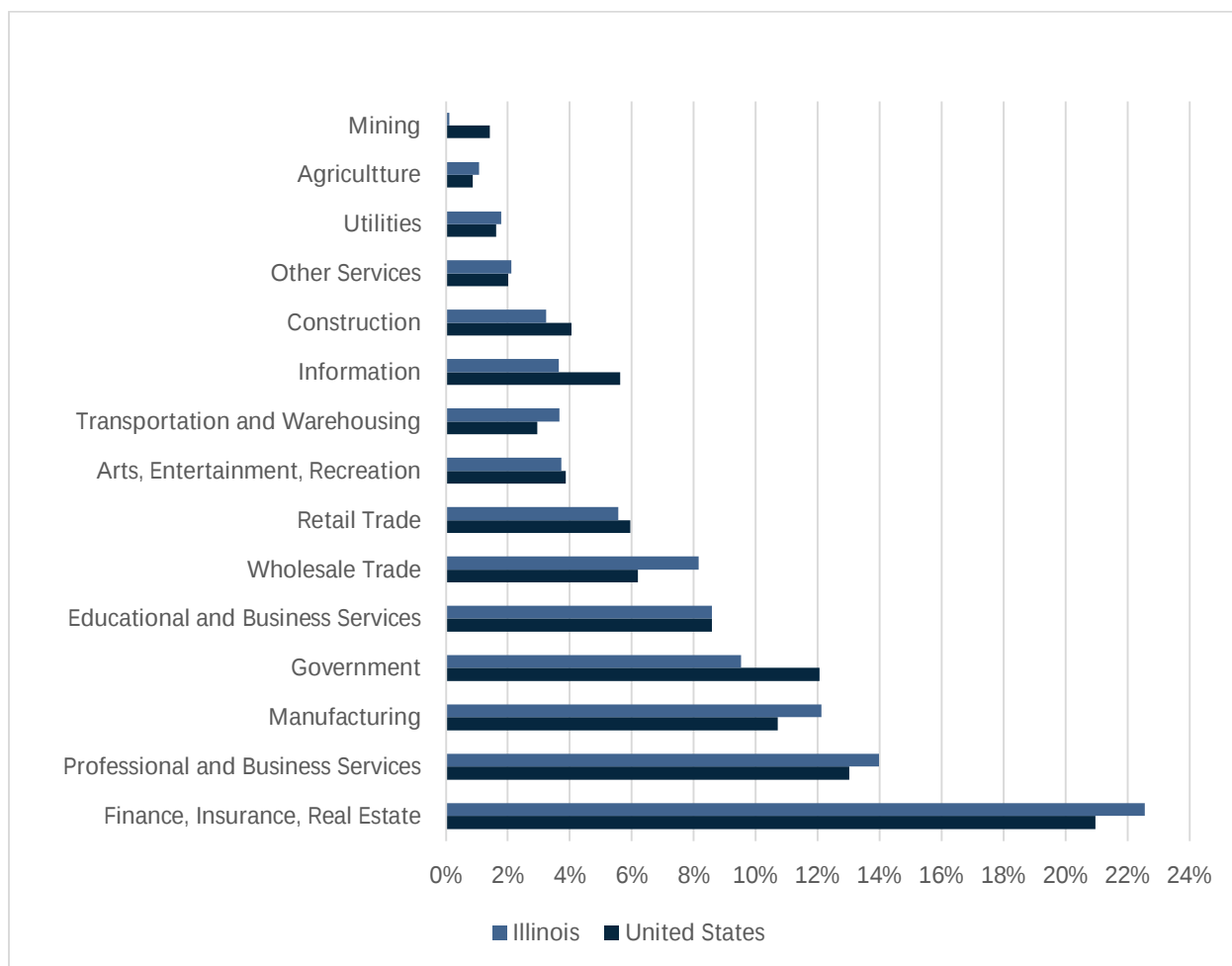
factors, demand for freight movement, demand for passenger travel, and projected trends in fuel costs, rail congestion, highway and airport activity, and land uses.

2.2.1. Demographic and Economic Growth Factors

Gross Domestic Product

Illinois' real GDP—a measure of overall economic activity within the state—increased from \$640.7 billion (2012 chained \$) in 2000 to \$780.0 billion (2012 chained \$) in 2021 according to the Bureau of Economic Analysis (Figure 2-41). Illinois' growth represents a 21.7 percent increase real GDP; by comparison, the United States saw an increase in real GDP by 49.3 percent. During this period, Illinois' compound annual growth rate was approximately 0.9 percent, compared to the U.S. average of 1.9 percent.

FIGURE 2-41: ILLINOIS AND U.S. SECTORS BY SHARE OF GDP (2021) COLORS USED IN THESE CHARTS THROUGHOUT ARE TOO DARK.



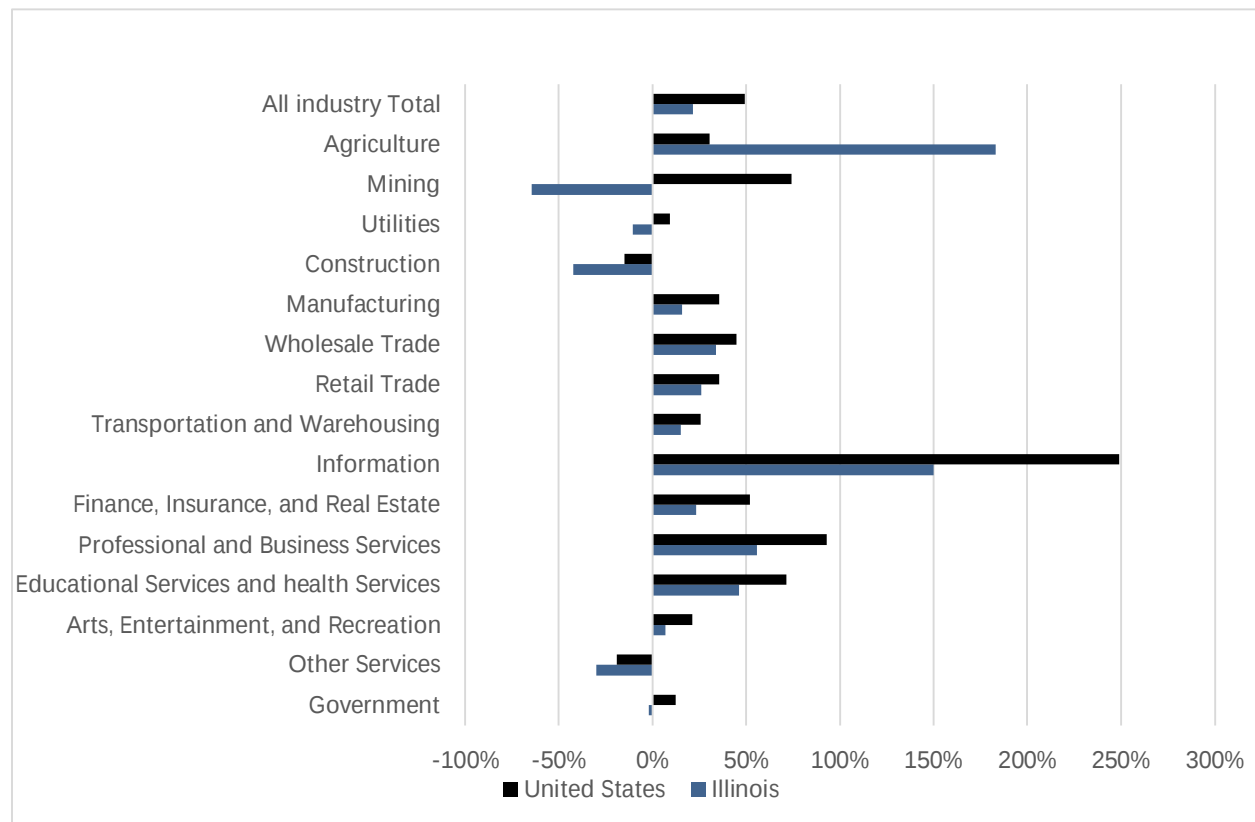
Source: U.S. Bureau of Economic Analysis, Gross Domestic Product by State

Illinois' largest industry sector in terms of GDP is the finance, insurance, and real estate sector with 23 percent of the state's GDP, which is 2 percent greater than the United States share. The second largest sector is the professional and business services industry with 14 percent followed by manufacturing at 12 percent. While not all sectors rely directly on the state's freight transportation, a

substantial number do (e.g., the agriculture, mining, utilities, construction, manufacturing, wholesale trade, retail trade, transportation, and warehousing industries). The freight reliant industries made up 35.8 percent of Illinois GDP valued at \$338.5 billion.

One of the fastest growing sectors in Illinois between 2000 and 2021 was agriculture (Figure 2-42), which grew by 183 percent, greatly outpacing the United States growth in this sector by 153 percent. The second fastest growing sector was information, which grew by 150 percent. The mining and construction sectors saw 62 percent and 42 percent declines, respectively, during this period. These sectors rely heavily on freight.

FIGURE 2-42: ILLINOIS AND U.S. REAL GDP GROWTH BY SECTOR (2000-2021)

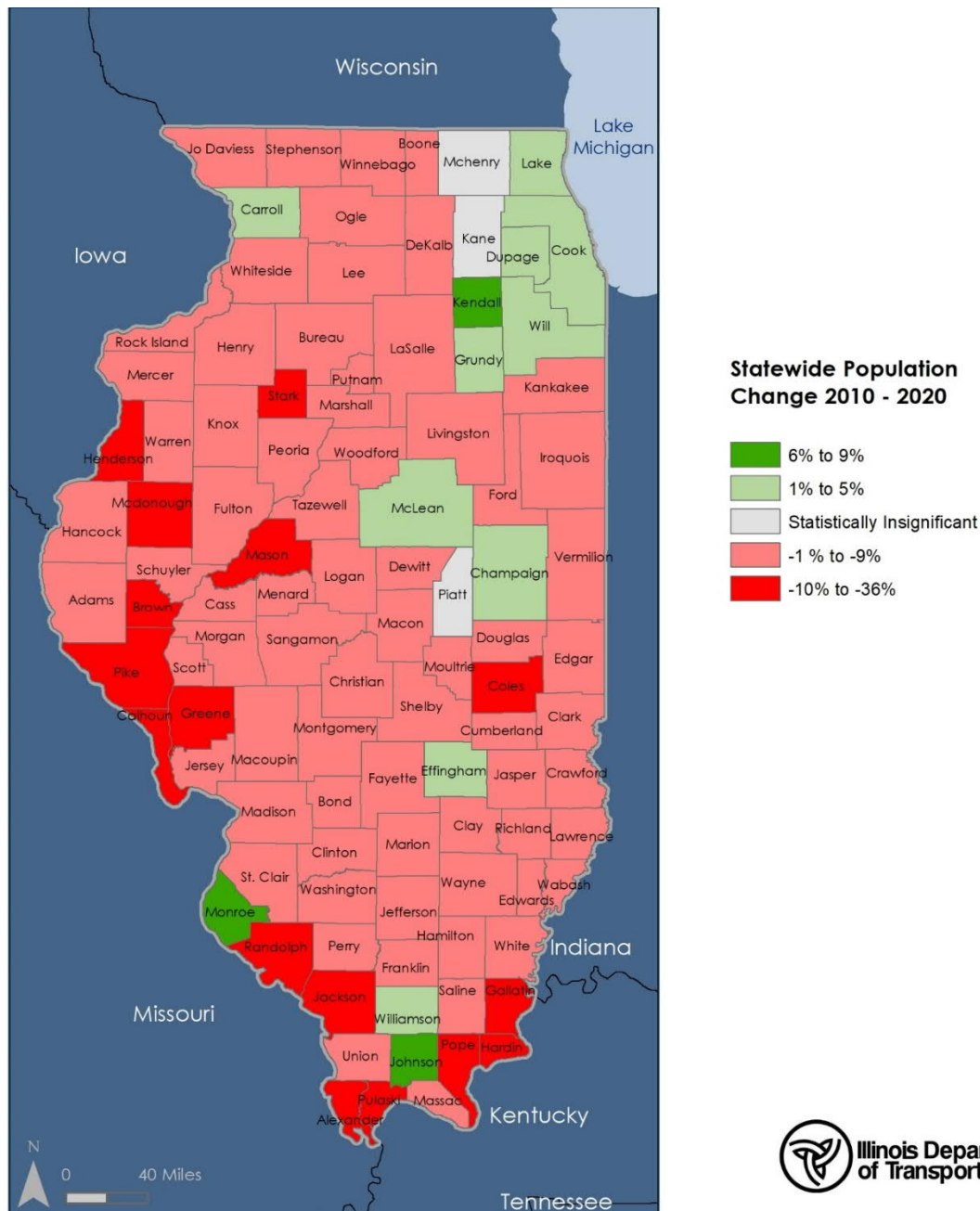


Source: U.S. Bureau of Economic Analysis, Real GDP by State (Chained 2012\$)

Population

According to the U.S. Census Bureau, Illinois' population declined 0.14 percent between 2010 and 2020 from 12,830,632 to 12,812,508 people. The population of the United States increased an average of 7.35 percent over the same time. Illinois was the only state whose population declined in the Midwest region, where the population grew 5.2 percent during the same period. However, certain counties, such as Kendall, Monroe, and Johnson Counties, grew significantly during this time period.

FIGURE 2-43: PERCENTAGE CHANGE IN POPULATION FOR ILLINOIS COUNTIES (2010–2020)



Source: U.S. Census Bureau



Employment

According to the U.S. Bureau of Labor Statistics, total nonfarm employment has surpassed its pre-recession peak in Illinois and stands at about 6.0 million as of June 2022, almost 14 percent higher than the recent low due to the COVID-19 pandemic. Despite this, the total nonfarm employment level is about the same as it was in 2001.

Illinois' most prominent economic sectors (as measured by share of total employment) are trade, transportation, and utilities, and professional and business services. The trade, transportation, and utilities sectors employed 19.8 percent of the state's workers (over 1.2 million employees) as of July 2022. The professional and business services sector employs about 973,000 workers.

Employment has dropped most dramatically in the mining and logging industry, falling more than 22 percent from May 2019 to May 2022. As of July 2022, mining and logging made up only 1 percent of total employment in the state.

Table 2-14 shows the Illinois' shows employment and employment change in industry clusters that use rail in 2001, 2010, and 2019. The table also shows the location quotient (LQ) for industry clusters in Illinois that rely on rail. LQ measures the relative concentration of employment in an area compared to the United States. If an industry has an LQ of one in Illinois, the concentration is equivalent to that of the United States. An LQ above 1 suggests a concentration in Illinois above the national average, while an LQ below 1 suggests that the industry is less concentrated in Illinois. The top two LQ industry clusters are machinery manufacturing (1.78), and agricultural inputs (1.73). Some industries, such as agriculture and some manufacturing industries have grown in terms of GDP but declined in terms of employment, reflecting increased productivity (i.e., output per employee).

TABLE 2-14: ILLINOIS FREIGHT-RAIL RELATED INDUSTRY CLUSTERS

Cluster	Jobs				Job LQ
	2001	2010	2019	Percent Change 2001 - 2019	2019
Agricultural Inputs	8,383	7,104	7,762	-7.41	1.73
Agricultural Wholesale	17,840	16,869	16,369	-8.25	1.33
Agriculture & Related	22,274	18,816	16,892	-24.16	0.38
Beverage	22,697	19,094	23,165	2.06	0.92
Chemical Manufacturing	29,001	23,615	21,701	-25.17	1.4
Food	83,204	75,713	84,405	1.44	1.32
Food Wholesale	31,615	36,562	42,158	33.35	1.36
Machinery Manufacturing	103,971	70,651	66,016	-36.51	1.78
Metal Manufacturing	158,376	104,609	110,860	-30.00	1.51
Mineral Product Manufacturing	19,873	12,291	13,893	-30.09	0.85
Mining	7,703	6,598	5,898	-23.43	0.76
Oil & Gas Upstream	12,586	10,083	10,512	-16.48	0.33
Plastic / Rubber Manufacturing	58,649	41,859	46,394	-20.90	1.43
Textile Manufacturing	16,898	8,305	8,373	-50.45	0.59
Transportation Manufacturing	50,482	31,506	45,585	-9.70	0.67
Transportation Services	183,314	167,524	201,780	10.07	1.41
Wholesale & Distribution	290,857	255,726	298,358	2.58	1.15
Wood Product Manufacturing	96,501	61,080	54,880	-43.13	1.1

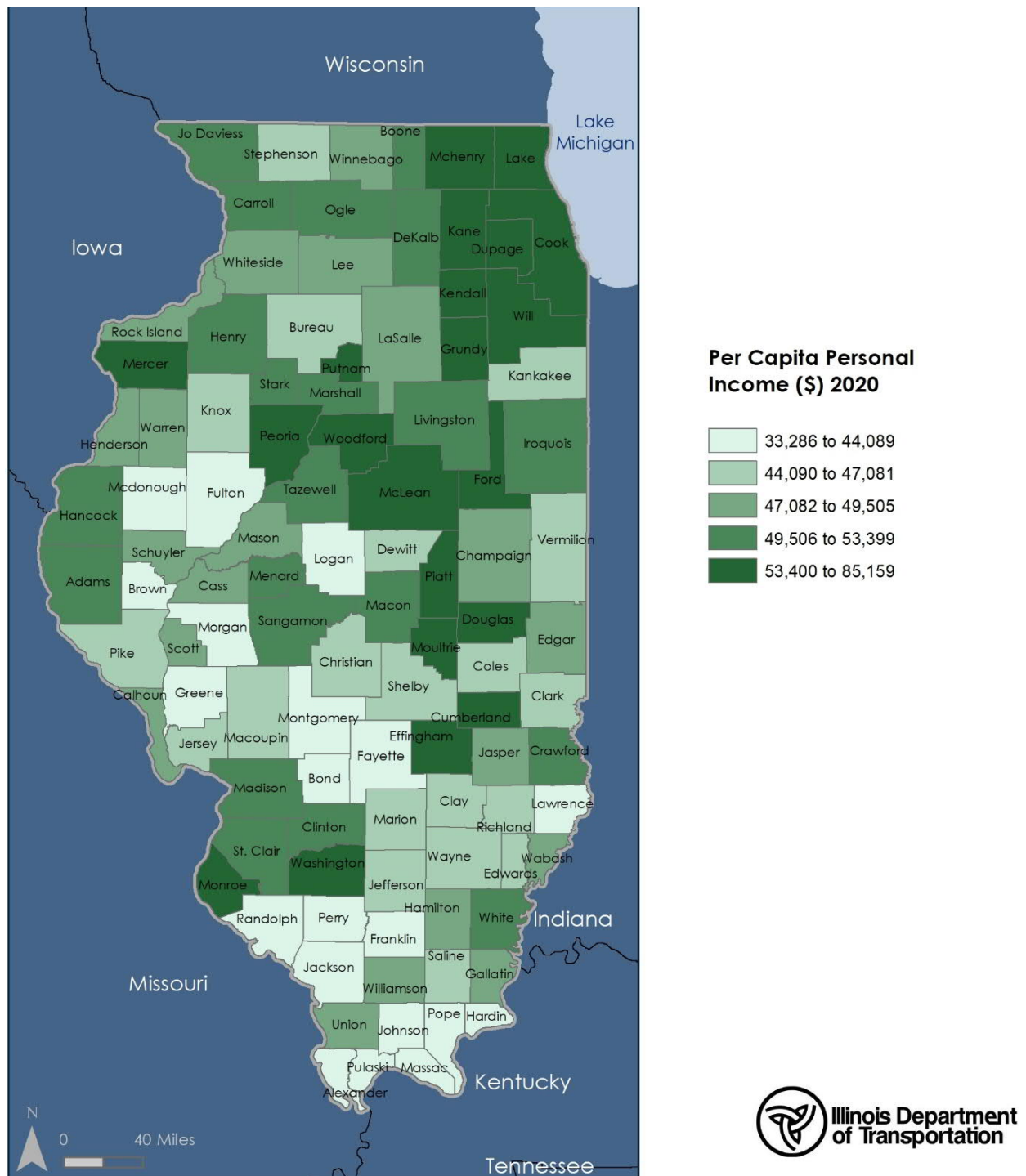
Source: Illinois Freight Plan, EMSI

Personal Income

Rail's role in supporting economic development is influenced by the relative prosperity in regions served. For example, rail may provide a key transportation corridor that links areas with higher average incomes with lower average incomes. Both economically distressed and economically prosperous areas benefit from economic integration by access to labor, raw materials, and finished goods. In 2021, Illinois' per capita personal income (PCPI) was \$67,095, which was 5.8 percent higher than the national average of \$63,444. The 2021 PCPI reflected an annual 4.9 percent increase from 2017, which was higher than the change in the national average of 0.7 percent over the same timeframe. Among states in the Midwest region, Illinois' PCPI is the highest, with North Dakota (\$65,554), Minnesota (\$65,486), and South Dakota (\$64,720) following behind. Between 2017 and 2021 Illinois PCPI grew 25 percent compared to North Dakota (24 percent), Indiana (24 percent), Michigan (22 percent), Missouri (22 percent), Ohio (21 percent), Iowa (21 percent), Kansas (21 percent), Minnesota (21 percent), Ohio (21 percent), and Wisconsin (20 percent).

In 2020, Lake County had the highest PCPI (\$85,159) among Illinois counties with Cumberland (\$80,116), DuPage (\$79,127), Cook (\$69,935), and Moultrie (\$69,297) Counties following just behind. All these counties reported a PCPI greater than the state average of \$61,957. The top-earning counties were in the greater Chicago metropolitan area, reflecting the city's presence as the economic center of the state.

FIGURE 2-44: ILLINOIS, PER CAPITA PERSONAL INCOME (2020)



2.2.2. Freight Demand

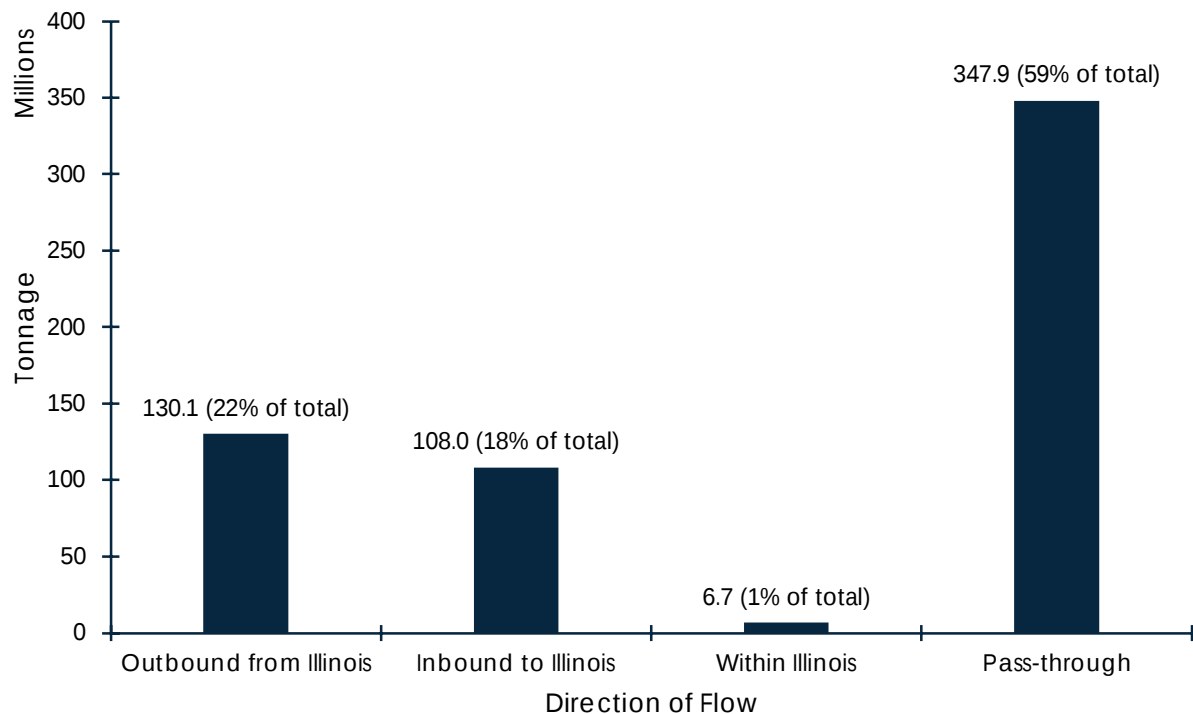
This review of rail freight flows to, from, within, and through Illinois relies on the STB's Carload Waybill Sample, a sample of waybills from rail carriers that terminate at least 4,500 carloads per year. Waybills are documents issued by rail carriers that provide details of shipments. While the Waybill Sample

provides significant detail about Illinois rail shipments, the STB maintains strict confidentiality requirements for sharing data from the Waybill Sample, requiring that results be aggregated so that information on specific shippers is hidden. Therefore, some information has been aggregated. Other adjustments have been made to the Waybill Sample because some rail moves use multiple waybills, particularly in Illinois where traffic is interchanged between eastern and western railroads. Unfortunately, it is difficult to link waybills. In cases where records indicated that waybills were linked, the resulting ambiguity as to final origin/destination was incorporated into the analysis. To be consistent with the rest of the Illinois State Freight Plan, the analysis year was 2019.

Summary of Flows by Direction

In 2019, the Illinois rail network moved 592.7 million tons of freight. As shown in Figure 2-45, most freight handled by the Illinois rail network (59 percent) passed through the state between other states. Otherwise, Illinois shipped out more traffic than it received, and relatively little freight-rail traffic originated and terminated within Illinois (1 percent of the total).

FIGURE 2-45: ILLINOIS FREIGHT-RAIL TRAFFIC TONNAGE BY DIRECTION (2019)



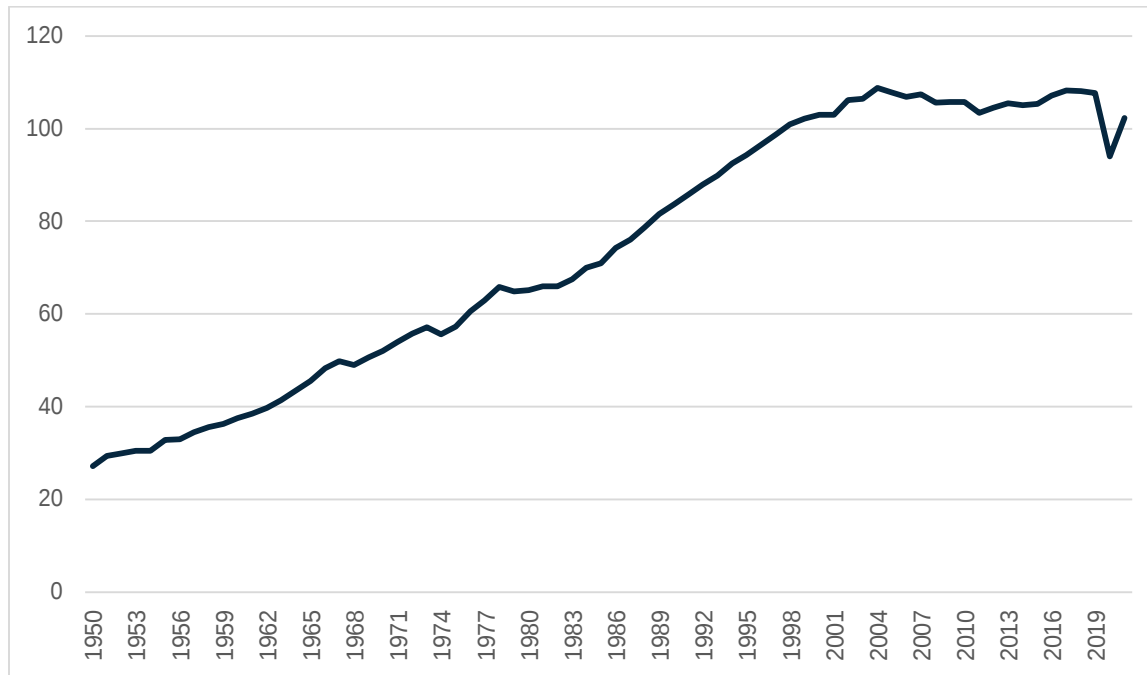
Source: WSP analysis of 2019 STB Waybill data

Appendix E provides a more detailed analysis of freight-rail flows and trends, as well as the impact of supply chain trends.

2.2.3. Passenger Travel Demand and Growth

Highway travel is the most heavily used mode of transportation in Illinois. Average vehicle miles traveled (VMT) per day rose consistently between 1950 and 2004 and remained relatively constant until the COVID-19 pandemic in 2020, where it declined but partially rebounded in 2021 (Figure 2-46).

FIGURE 2-46: AVERAGE VEHICLE MILES TRAVELED (BILLIONS)



Source: U.S. Congressional Research Service/Meteorcomm LLC, ETMS Wireless Network, 2011

The Illinois travel demand model has been analyzed for intercity auto VMT (auto trips greater than 50 miles). The results suggest a 20 percent growth rate between 2017 and 2045, equivalent to an annual growth rate of 0.7 percent.

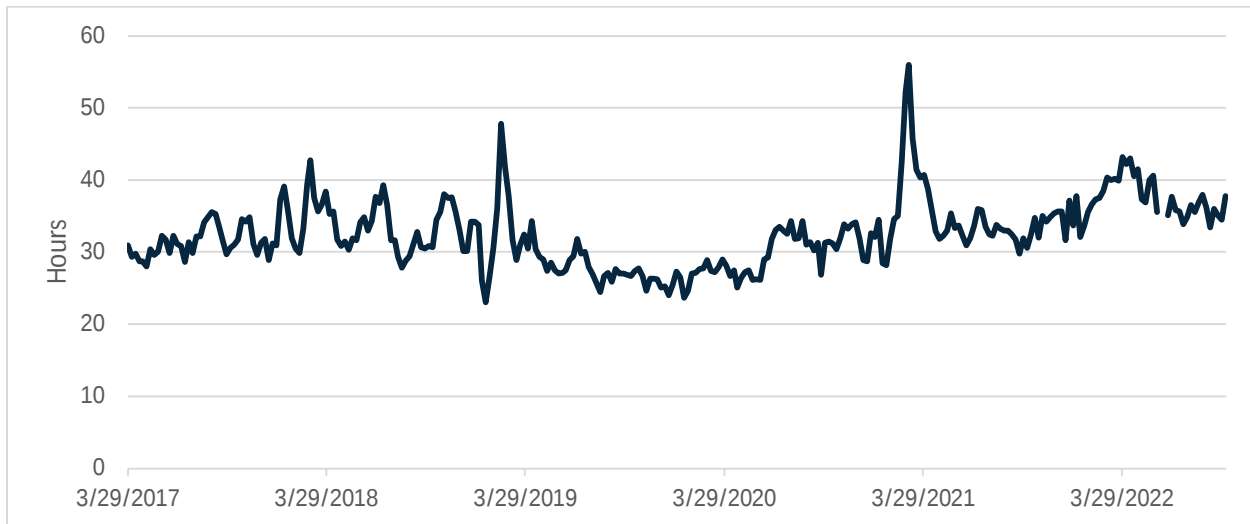
2.2.4. Fuel Cost Trends

Because both passenger and freight rail are less energy intensive compared to highway transportation, increases in fuel costs tend to reduce the relative cost of railroad to highway transportation. However, if rail and highway modes shift to other energy sources such as electric, the importance of these relative costs may diminish. Real gasoline and diesel prices are forecast to increase steadily over the next 28 years. According to the U.S. Energy Information Administration's Annual Energy Outlook 2020, both retail motor gasoline and diesel prices are expected to increase by an average of 0.8 percent in real dollars per year through 2050.

2.2.5. Rail Congestion Trends

The STB requires railroads to report several metrics that are relevant to rail congestion in Illinois, specifically congestion in Chicago. The Chicago Terminal is the busiest and most congested rail terminal in North America. Trends generally suggest that rail congestion dipped in 2020 but increased in 2021 and 2022. The STB tracks seven-day average freight transit for the Chicago region (Figure 2-47). Between April 2017 and October 2022, the average freight transit across the Chicago region was 32.5 hours. The average dipped in 2020 and increased in 2022.

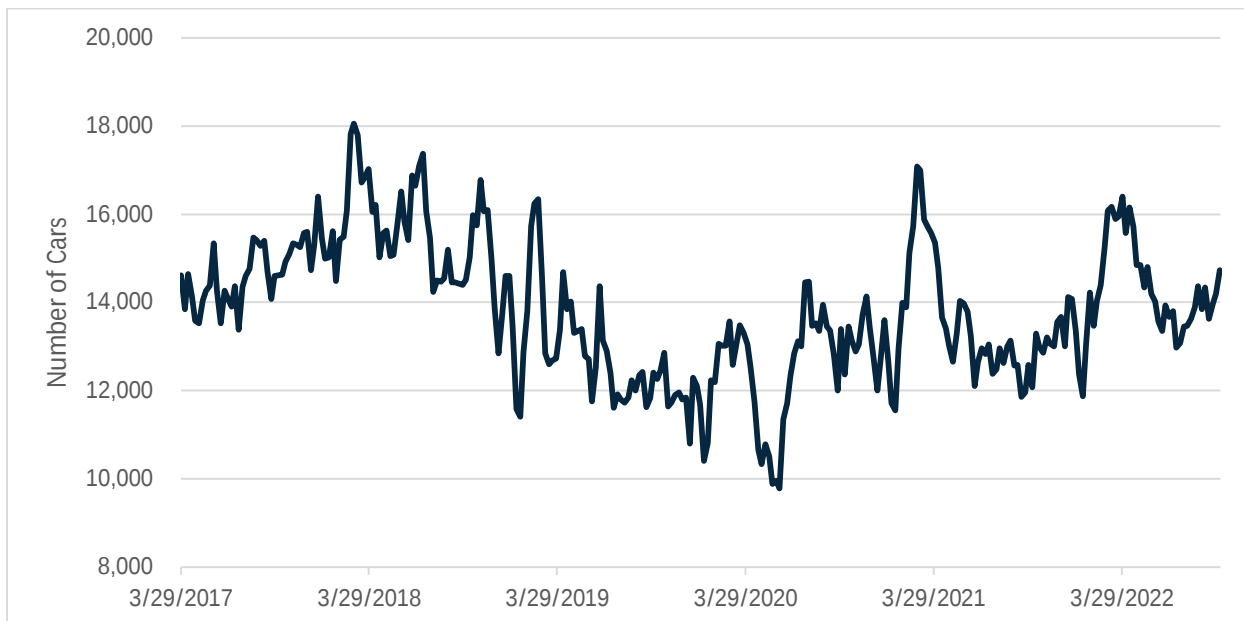
FIGURE 2-47: SEVEN-DAY AVERAGE FREIGHT TRANSIT (CHICAGO REGION)



Source: Surface Transportation Board

The STB tracks the seven-day average yard inventories for the number of railcars for 11 rail yards across the Chicago region (Figure 2-48). A higher number of railcars on hand suggests that railyards are not processing railcars as quickly and that railyards are becoming congested. Between March 2017 and October 2022, the seven-day average inventory of railcars was 13,826. The highest seven-day average inventory of railcars was in February 2018 with 18,065, and the lowest was in June 2020 with 9,784.

FIGURE 2-48: SEVEN-DAY AVERAGE YARD INVENTORIES (CHICAGO REGION)



Source: Surface Transportation Board

STB statistics suggest that there is an ongoing need to reduce rail congestion and improve the efficiency of rail movements in the Chicago region. The CREATE program is central to these efforts. After completing nearly half of its projects, the CREATE program has reduced the average transit time from 48 hours to 34 hours over the last 20 years.

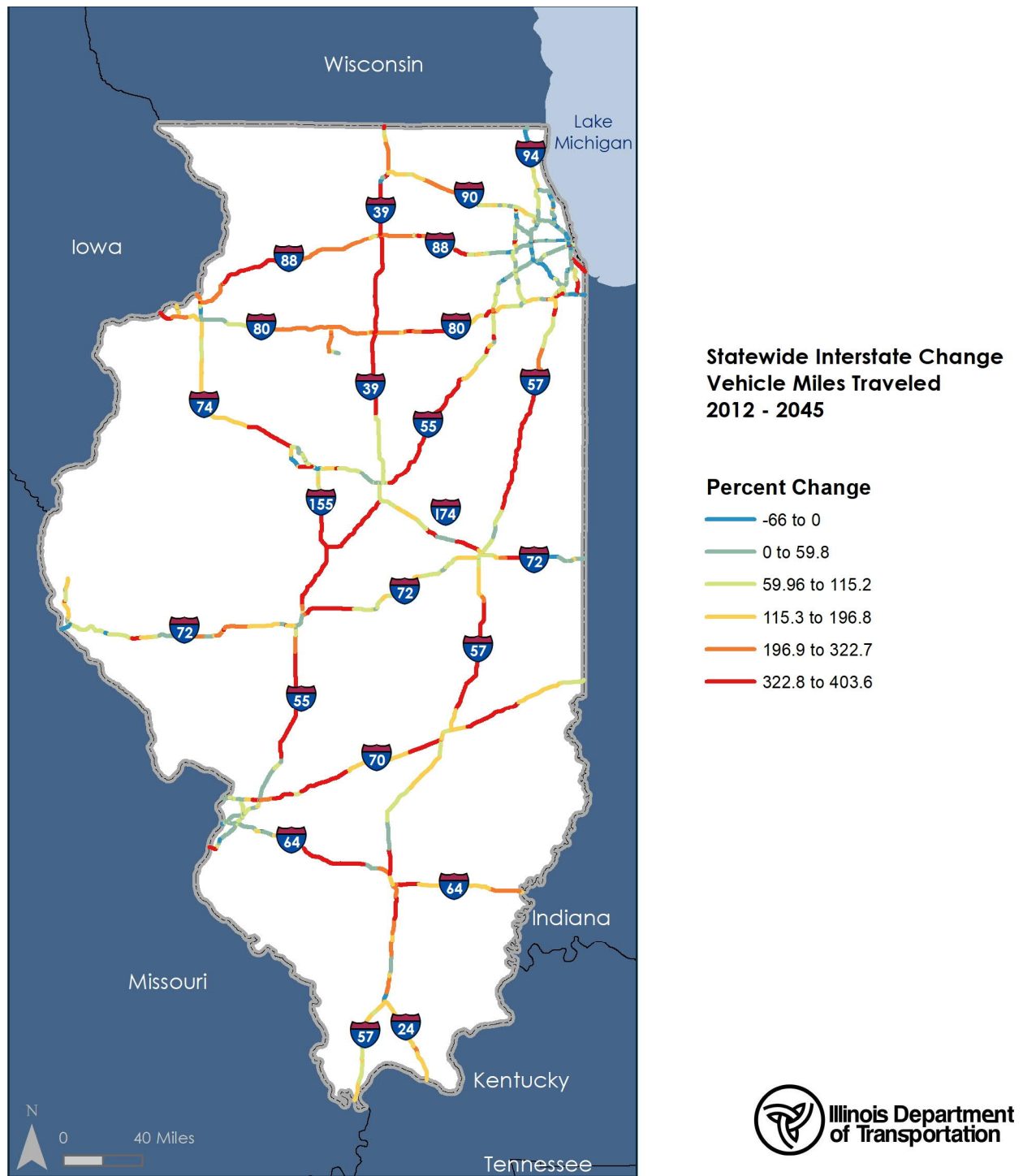
2.2.6. Highway and Airport Congestion Trends

Highway Congestion

Although overall VMT in Illinois is expected to grow moderately, traffic on certain highway segments is expected to increase faster. Figure 2-49 shows the percentage change in VMT from 2012 to 2045 based on U.S. Department of Transportation's Freight Analysis Framework 4 (FAF4) estimates. Sections of Interstates 39, 55, 88, 64, 70, 80, 57 and 155 are estimated to have an increase in VMT up to 403 percent. Without significant investment, congestion could increase. Furthermore, according to the Texas Transportation Institute Urban Mobility Report, delays cost the average Chicago Metropolitan Area commuter 74 hours in 2019.⁴⁰ These delays declined to 39 hours in 2020 due to the COVID-19 pandemic but may increase again as commuters return to their offices. Rail can help to reduce congestion, not only in the Chicago metropolitan area but also other areas of congestion within the state.

⁴⁰ Texas Transportation Institute, 2021 Urban Mobility Report, June 2021, <https://mobility.tamu.edu/umr/>.

FIGURE 2-49: ILLINOIS INTERSTATE SYSTEM ESTIMATED CHANGE IN VEHICLE MILES TRAVELED (2012 TO 2045)

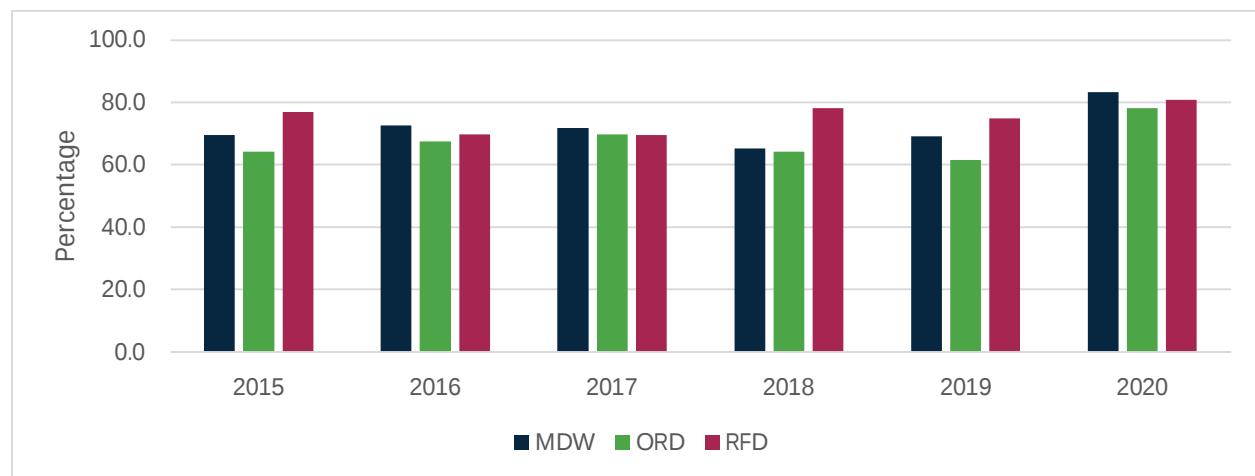


Source: Analysis of U.S. Department of Transportation Freight Analysis Framework (FAF4) Database

Airport Congestion

The Chicago airspace is one of the most congested on the planet. According to data from FlightAware (an aviation intelligence company), nearly one-quarter (approximately 28,000) of all flights arriving at O'Hare Airport and Midway Airport between May and July were delayed. More than 2,000 flights were canceled. In June, two of every five flights were delayed. According to the Federal Aviation Administration (FAA), about 85 percent of delay minutes in Chicago were attributable to bad weather. The FAA collects and publishes information on three airports in Illinois: Midway, O'Hare, and Rockford. As shown in Figure 2-50, on-time statistics generally did not show a consistent trend, although performance improved in 2020, likely because of less traffic as a result of the COVID-19 pandemic. Passenger rail services provide direct access to downtowns enabling them to compete with air services. By providing access to some airports, passenger rail can complement air service.

FIGURE 2-50: PERCENTAGE OF ON-TIME DEPARTURES BY AIRPORT (2015 TO 2020)



Source: FAA Aviation System Performance Metrics, 2015-2020

2.2.7. Land Use Trends

Rail affects and is affected by surrounding land uses. Transit services like commuter rail provide a transportation nucleus around which concentrated developments can be built, such as transit-oriented development (TOD). TODs are mixed-use spaces near transit stations that provide people with easier access to jobs and services. The goal of a TOD is to encourage the use of the transit while providing a positive community space. Palatine, IL, is an example of a successful TOD where 1,000 units of new housing and 200,000 square feet of office and commercial space were constructed near the village's Metra station.

Similarly, rail freight facilities can provide a transportation hub around which associated development is built. Shippers can save money by locating near freight hubs and/or sharing rail freight facilities. Industrial developments can help to concentrate rail and other industrial activities, so they do not conflict with surrounding land uses. Industrial parks share rail spurs, sidings, and sometimes the services of a dedicated switching railroad. One example in Illinois is the Peru Industrial Park where shippers share a 3-mile spur that the Peru Industrial Railroad serves.

Developments can also be centered near multimodal facilities such as transloads and intermodal terminals, which benefits shippers by minimizing the length of truck drayage moves to access the multimodal hubs. A major example of one of these developments in Illinois is the CenterPoint

development in Joliet (Figure 2-51), which is anchored by a UP and a BNSF intermodal terminal. The logistics development is 6,400-acres with 17 million square feet of existing warehouse space. The development is on the site of the former Joliet Army Ammunition Plant.

FIGURE 2-51: CENTERPOINT INTERMODAL



Source: CenterPoint

3. PASSENGER RAIL OPPORTUNITIES AND INVESTMENTS

3.1. Introduction

Intercity and commuter passenger rail transportation are integral to the Illinois multimodal transportation system. Providing passenger rail alternatives to get people to and from their destination offers environmental benefits, reduces congestion and maintenance demands on the highway system, provides the traveling public with greater mobility options, and improves the quality of life of Illinois residents and visitors.

Chicago is the hub of the Midwest intercity passenger rail system and the national long-distance network. It is also the hub of the Metra commuter rail system that serves two-thirds of Illinois residents who live, work, and travel in Northeastern Illinois.

This chapter builds on planning work that involved extensive public and stakeholder input completed by IDOT and its strategic partners, including FRA, Amtrak, and Metra, in providing passenger rail in the state. The needs and perspectives of key stakeholders and the public are incorporated into identifying opportunities and investments. The needs and opportunities identified account for Amtrak's focus on enhancing the passenger experience and improving reliability of its corridors, which is in concert with FRA's move to shift its planning and funding emphasis through its corridor development program. The end of this chapter discusses the implications of FRA's Corridor Identification Program. As shown in Chapter 3, on-time performance (OTP) has recently been a concern for intercity passenger rail, particularly related to passenger trains delayed by freight trains. The Illinois approach to intercity passenger rail will also be impacted by the work of the Illinois High-Speed Rail Commission, which convened in 2023 and will be preparing a high-speed rail plan for the State.

Metra is rebounding from the impacts of the COVID-19 pandemic on ridership and operations by looking to the future to ensure adequate capacity and operational fluidity.

Plans reviewed and incorporated into this synthesis include the Illinois Rails Needs Assessment (IRNA), Amtrak's Connects Us, Chicago Access Program, the Chicago Hub Improvement Program, FRA's recently released Midwest Regional Rail Plan, and the CREATE Program. Amtrak and Metra were interviewed and provided additional feedback to update projects identified in the ILRNA where applicable.

Table 3-1 is a matrix of intercity passenger rail projects included in this chapter.

TABLE 3-1: INTERCITY PASSENGER RAIL SERVICE

	Service	Long-Distance Route	Source
Existing Service Expansions	Hiawatha	Chicago-Milwaukee-Twin Cities	Amtrak Connects Us, Midwest Regional Rail Plan, Wisconsin Department of Transportation and Minnesota Department of Transportation
	Lincoln Service Expansion	Chicago-St. Louis-Kansas City	Amtrak Connects Us
	Saluki Service Expansion	Chicago-Carbondale-New Orleans	Amtrak Connects Us
	Hoosier Service Reinstatement	Chicago-Indianapolis-Cincinnati	Amtrak Connects Us
	Chicago – Michigan destinations Realignment	Chicago-Detroit, Chicago-Grand Rapids, Chicago – Port Huron	Amtrak Connects Us
New Service	Chicago-Rockford	Chicago-Rockford-Dubuque	Amtrak Connects Us
	Chicago – Quad Cities	Chicago – Quad Cities – Iowa City	Amtrak Connects Us, Midwest Regional Rail Plan
	Chicago-Peoria	NA	Feasibility Study
Chicago Improvements	Chicago Union Station		Chicago Access, Chicago Hub Improvement Program
	St. Charles Air Line Bridge 14 th St. Yard Connector		Chicago Access
	Purchase UP Canal St. Yards		Chicago Access
	St. Charles Air- Rock Island District connector upgrade		Chicago Access
	Interim platform at Joliet on Rock Island District		Chicago Access
	CREATE Program P2 Rock Island Connector		CREATE Program – 75 th St. CIP, Chicago Access
	CREATE Program P3 Forest Hill Flyover		CREATE Program – 75 th St. CIP
	CREATE Program P4 Grand Crossing		CREATE Program
	CREATE Program P5 Brighton Park		CREATE Program
	CREATE Program P6 Canal		CREATE Program
	CREATE Program P7 Chicago Ridge		CREATE Program
Equipment	Rail Car Purchase		IDOT Office of Intermodal Project Implementation
Station Improvements	Carbondale New Multimodal Center		Amtrak Annual Report 2021
	Effingham ADA Compliance		Amtrak Annual Report 2021
	Homewood ADA Compliance		Amtrak Annual Report 2021

	Service	Long-Distance Route	Source
	Plano ADA Compliance		Amtrak Annual Report 2021

Table 3-2 is a matrix of commuter rail projects included in this chapter.

TABLE 3-2: COMMUTER RAIL SERVICE

	Service	Source
Service Expansions / Enhancements	NICTD South Shore Line	NICTD
	Metra BNSF Improvements	ILRNA
	Millennium Station to 11th Place Improvements	ILRNA
	Metra UP-NW Improvements and Extension including New Woodstock Yard	Metra
	Metra Electric District Improvements	Metra
	O'Hare Express Service	Metra
Operational Improvements	A-2 Flyover	ILRNA
	Kensington Interlocking Improvements	ILRNA
	CREATE Program Project EW2	ILRNA
	Metra Fleet Modernization Plan	ILRNA
	Metra Station Improvements	ILRNA
	Metra Downtown Yard	Metra
Capacity Projects	Metra UP North Improvements	ILRNA
	Metra Milwaukee District West Improvements	ILRNA
	Metra UP-West Improvements	ILRNA
	Metra Rock Island Improvements	ILRNA

3.2. Intercity Passenger Rail Service

Intercity passenger rail service includes both Amtrak's long-distance routes and Illinois' state-supported routes as discussed in Chapter 2. The opportunities presented in this chapter are based on routes that either originate or terminate (or both) in Illinois, with Chicago serving as the hub. These projects have been identified in passenger rail planning documents. The sources used for these projects, as noted in the matrix, include the ILRNA, Amtrak Connects Us, Amtrak Chicago Access Program, FRA's recently completed Midwest Regional Rail Plan, Amtrak's Annual Report, and IDOT's Office of Intermodal Project Implementation (OIP).

3.2.1. Existing Service Expansion, Reinstatement, and Realignment

The first set of projects and initiatives include expanding existing services by adding roundtrips, reinstating service that has recently been terminated, or realigning service onto routes to separate passenger and freight trains.

Chicago – Milwaukee: Hiawatha Service Expansion

Studies

- ❖ 2004 - Midwest Regional Rail System Business Plan
- ❖ 2017 - Environmental Assessment and Service Development Plan (FRA shows as Canceled)
<https://railroads.dot.gov/environmental-reviews/chicago-milwaukee-intercity-passenger-rail-corridor-environmental>
- ❖ 2021 - Midwest Regional Rail Plan

Cost Estimate

- ❖ \$150 - \$200 million (OIP)

Where Project Was Identified

- ❖ IDOT OIP
- ❖ FRA 2021 Midwest Regional Rail Plan
- ❖ Amtrak Connects Us

Project/Program Description and Background

This project upgrades infrastructure to increase the frequency of Amtrak Hiawatha trains between Chicago and Milwaukee from 7 to 10 daily roundtrips. Project elements include signal improvements, a section of double track, additional rolling stock.

Since 1989, the Wisconsin Department of Transportation (WisDOT) and IDOT have jointly contracted with Amtrak to operate the Hiawatha Service, which operates between Union Station in Chicago and Milwaukee Intermodal Station in

Milwaukee, WI. Intermediate stops are in Glenview, IL; Sturtevant, WI; and Milwaukee's General Mitchell International Airport. With a typical capacity of 416 seats per train and 7 round trips per day (Monday through Saturday) and 6 round trips on Sunday, the Hiawatha Service offers approximately 2,912 seats Monday through Saturday and 2,496 on Sunday in each direction to travelers in the Chicago-Milwaukee corridor.

Also operating on that corridor is Amtrak's Empire Service between Chicago and the Twin Cities via Milwaukee with one daily round trip. Prior to the COVID-19 pandemic, the Hiawatha Service operated near or over capacity. Conflicts with freight and other passenger rail services (Metra) also created reliability issues. The expansion of service will enable additional capacity, reduce conflicts and thereby improve reliability, and provide passengers with more travel options.

Host Railroad(s)

CPKC, Metra

Project Status

WisDOT and IDOT are completing an Environmental Assessment and Service Development Plan (in coordination with the FRA). The last activity reported was 2017.



Chicago – Milwaukee - Twin Cities

Cost Estimate

- ❖ \$53 million

Source: [Wisconsin Department of Transportation Twin Cities-Milwaukee-Chicago Intercity Passenger Rail Service](https://wisconsin.gov/transportation/twin-cities-milwaukee-chicago-intercity-passenger-rail-service) (wisconsindot.gov)

Where Project Was Identified

- ❖ FRA 2021 Midwest Regional Rail Plan
- ❖ Amtrak Connects Us

Program/Project Description and Background

WisDOT and the Minnesota Department of Transportation (MnDOT) are leading this project in partnership with FRA, Amtrak, La Crosse Area Planning Committee, and the Ramsey County Regional Railroad Authority.

The Twin Cities-Milwaukee-Chicago (TCMC) Intercity Passenger Rail Project adds a second daily round-trip passenger train on the 411-mile corridor between Chicago, IL, and Twin Cities (St. Paul and Minneapolis), MN. The service will follow Amtrak's existing long-distance Empire Builder route. The new service will complement the existing Empire Builder schedule, providing travel flexibility with both a morning and midday departure from Chicago and St. Paul.

The service will follow Amtrak's existing long-distance Empire Builder route. The new service will complement the existing Empire Builder schedule, providing travel flexibility with both a morning and midday departure from Chicago and St. Paul.

The existing long-distance Amtrak Empire Builder service has operated since the 1920s, currently serving stations at St. Paul, Red Wing, and Winona, MN; La Crosse, Tomah, Wisconsin Dells, Portage, Columbus, and Milwaukee, WI; and Glenview and Chicago, IL. Ridership for the segment of the Empire Builder that would be served by the TCMC service was 111,438 in fiscal year 2016.

Several freight and passenger railroads own the current rail route. To add intercity passenger rail service to the TCMC corridor, additional capacity must be made available so that the needs of the host freight railroads that own and operate the track infrastructure are met. The service must also integrate with the existing long-distance Empire Builder service and the existing and planned intercity Hiawatha Service. The added service would provide additional transportation options and a valuable connection to major population centers within Minnesota, Wisconsin, and Illinois.¹

Host Railroad(s)

CPKC, Metra, Amtrak (Chicago Union Station)

Project Status

The project is in the final design phase for railroad infrastructure improvements. Construction is anticipated to begin in 2023 and end in 2025. Partial service is anticipated to begin in 2024.



Chicago – St. Louis: Lincoln Service Expansion

Studies

- ❖ 2003 – EIS for the Chicago to St. Louis HSR Corridor (IDOT awarded a \$1.1 billion HSR grant based on this EIS and associated Record of Decision)
- ❖ 2011 – FONSI between Joliet and Dwight to make upgrades to allow for 110 mph service

Cost Estimate

- ❖ Not Available

Where Project Was Identified

- ❖ IDOT OIPI
- ❖ FRA 2021 Midwest Regional Rail Plan
- ❖ Amtrak Connects Us

Project Description and Background

The project comprises improvements to the corridor allowing for reduced travel times of 1 to 1.5 hours plus additional frequencies on the existing Lincoln Service including:

- ❖ Four round trips between Chicago and St. Louis with speeds up to 110 mph
- ❖ One round trip extends to Kansas City on the Missouri River Runner service.

The project includes 1) upgrades to 183 miles of track, 2) the addition of 12.3 miles of double track, 3) upgrades and/or extensions of 13 existing sidings, 4) upgrades to existing crossovers and grade crossing surfaces, 5) enhanced warning devices at 174 grade crossings, 6) closure of 24 grade crossings, 7) quad gates at crossings where approved train speeds are greater than 90 mph, 8) fencing, 9) rehabilitation or replacement of stations at Dwight, Pontiac, Lincoln, Springfield, Carlinville, and Alton, 10) addition of six new high-speed trainsets, and 11) installation of Positive Train Control between Dwight and Q Tower.

In 1992, the U.S. Department of Transportation designated the corridor as a high-speed rail developmental route as part of the Chicago Hub Network, which included intercity passenger routes radiating from Chicago in all directions.

In 2004, FHWA and FRA issued an Environmental Impact Statement (EIS) Record of Decision (ROD) allowing improvements between Dwight and St. Louis. Based on the 2004 ROD, in 2010 the FRA awarded \$1.1 billion to IDOT to improve the corridor between Dwight and St. Louis including 1) track upgrades to 110 mph standards, 2) sidings and crossovers, 3) grade crossing surfaces, 4) signals and warning systems, 5) stations, and 6) new high-speed passenger train sets.

In 2011, an environmental Finding of No Significant Impact (FONSI) was issued that would permit adding improvements between Joliet and Dwight to extend 110 mph service beyond the original Dwight to St. Louis section of the corridor. The improvements include 1) a second mainline track between Joliet and Elwood, 2) 36 miles of track upgrades, 3) a new freight siding, 4) new crossovers to existing double track for approximately 2 miles, and 5) upgrades to existing crossovers, grade crossing surfaces, signals and warning systems, and stations. The project also provides for an additional six new high-speed trainsets.



Chicago – St. Louis: Lincoln Service Expansion

Host Railroad(s)

CN, UP

Project Status

Work completed on the Chicago to St. Louis Corridor includes siding reconstructions, grade crossing improvements, fencing installation, utilities and signal improvements, and bridge construction/modifications.

All improvements along the 3rd Street corridor in Springfield have also been completed. New diesel locomotives have been delivered and are in service. Signal system testing has been completed and certified for reliability by the FRA. Trains are approved to travel at 90 mph between Laraway Road, south of Joliet, and CPKC Wann, two miles south of Alton.

Chicago – St. Louis: Full Build Out

Studies

- ❖ 2012 – Tier 1 EIS to enhance capacity and improve passenger train service including frequency, reliability, and trip time. The four full-build alternatives considered in the EIS provide double track along the corridor and allow for eight daily round trips at 110 miles per hour (mph) See Chicago – St. Louis Lincoln Service Expansion for prior studies

Cost Estimate

- ❖ \$7 billion

Where Project Was Identified

- ❖ IDOT OIPI
- ❖ ILRNA
- ❖ FRA 2021 Midwest Regional Rail Plan
- ❖ Amtrak Connects Us

Program/Project Description and Background

Previous federal and state investments in the Chicago-St. Louis corridor were used to construct infrastructure enabling Amtrak service at speeds of up to 110 mph between Joliet and St. Louis, including track and station reconstructions, siding extensions, bridge rehabilitations, PTC implementation, grade crossing upgrades, and new high-speed trainsets.

This project would leverage these previous investments by completing the full-build

improvements including double tracking the entire corridor, additional sidings, culvert and bridge improvements, roadway grade separations, a rail flyover near Joliet and one south of Springfield, new river crossings over the Chicago and Mississippi Rivers, and station improvements at seven existing locations.

Tier 2 EIS studies were recommended as next steps to complete this alternative and includes the following:

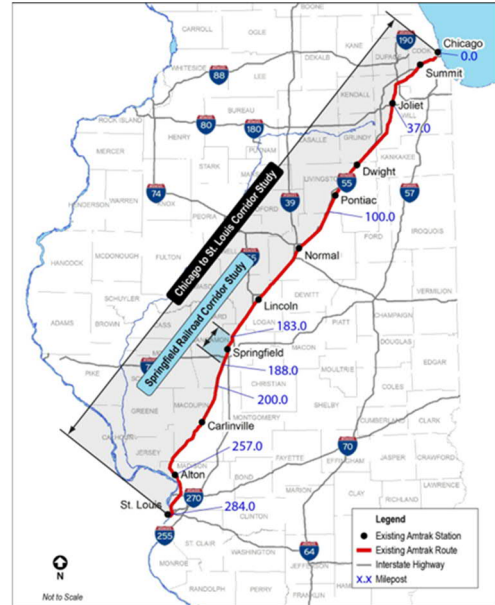
- ❖ Chicago to Joliet
- ❖ Joliet to Springfield
- ❖ Springfield
- ❖ Springfield Flyover
- ❖ Springfield to St. Louis Area
- ❖ St. Louis Area
- ❖ Station improvements - Joliet, Dwight, Pontiac, Normal, Lincoln, Carlinville, and Alton

Host Railroad(s)

CN, UP

Project Status

Federal RODs were issued in 2012 for the final Tier 1 EIS for the full build out and the Tier 2 EIS for the Springfield Railroad relocation project. Additional Tier 2 EISs will need to be completed as funding becomes available for each project section.



Chicago – Champaign – Carbondale: Illini / Saluki Service Expansion

Studies

- ❖ None

Cost Estimate

- ❖ \$63 million*

Where Project Was Identified

- ❖ Amtrak Connects Us
- ❖ IDOT OIPI

Program/Project Description and Background

The project would add capacity for one additional round trip between Chicago and Champaign and reduce trip time between Chicago and Carbondale. Another initiative, the Chicago Access Program, would add adequate capacity within Chicago, while this program would add the needed capacity to the route outside of Chicago. The project is funded through the Rebuild Illinois capital bill, which did not specify the needed improvements.

Host Railroad(s)

CN, Amtrak (Chicago Union Station)

Project Status

Rebuild Illinois includes \$100 million for corridor improvements. Of this amount \$37 million has been committed to the Chicago Access Program.



* The cost is what was funded through the Rebuild Illinois Capital bill. Of the amount provided, \$63 million is left for unspecified projects that will reduce passenger and freight conflicts on the corridor.

Hoosier State Service Reinstatement

Studies

- ❖ 2019 – Intercity Passenger Rail Conceptual Infrastructure Plan: Hoosier State Passenger Rail completed by Indiana Department of Transportation.
[HoosierStateConceptualInfrastructurePlan.pdf](#)

Cost Estimate

- ❖ Based on the Conceptual Plan completed in 2019, an estimate of probable capital costs was developed for two of the proposed service scenarios (i.e., 2 round trips and 79 mph) based on the infrastructure improvements identified in the plan. Depending on the scenario costs are estimated to total between \$150 million and \$526 million.

Where Project Was Identified

- ❖ Amtrak Connects Us
- ❖ FRA Midwest Regional Rail Plan
- ❖ Intercity Passenger Rail Conceptual Infrastructure Plan: Hoosier State Passenger Rail

Project Description and Background

The project would restore service between Chicago and Indianapolis in a way that would make the service more compelling than the service that ended in 2019

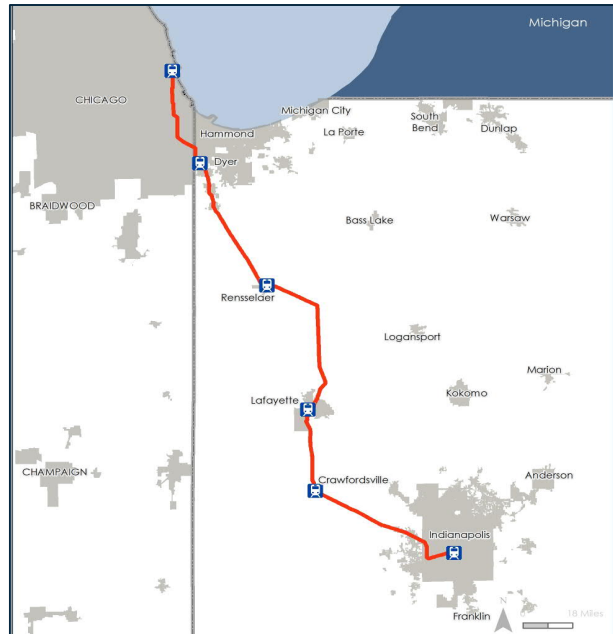
when the State of Indiana eliminated funding. A series of infrastructure improvements would improve trip times and make the service more competitive with automobile travel. Multiple service scenarios have been explored. The preferred scenario will provide two daily roundtrips. The maximum

authorized speed for the route is 60 mph. To meet the speeds and round-trip expectations for the preferred improvement, the following improvements will need to be completed:

- ❖ Modifications to or construction of new passing sidings
- ❖ Elimination of existing bottlenecks
- ❖ Improvements to Lafayette Yard.

The Hoosier State Service operated between Indianapolis and Chicago before the State of Indiana ended service in 2019. The Hoosier State Service operated four days per week, with stops in Indianapolis, Crawfordsville, Lafayette, Rensselaer, and Dyer. On the three days that the Hoosier State Service did not operate, the Cardinal Service provided passenger rail service to the same stops, at the same times, effectively providing seven-day-per-week service between Indianapolis and Chicago. Because the Cardinal Service operates between New York City and Chicago, it is a long-distance route that does not rely on state support and therefore continues to operate.

Approximately 30,000 passengers used the Hoosier State annually prior to the service being terminated. The trip time between Chicago Union Station and Indianapolis Union Station was nearly 5 hours absent unforeseen delays. The same trip can be made by automobile in approximately 3 hours and 15 minutes with no traffic interference. The Hoosier State Service train schedules mimicked the Cardinal Service schedule crossing Indiana so that



Hoosier State Service Reinstatement

northbound trains departed Indianapolis at 6:00 a.m. and southbound trains arrived in Indianapolis at 11:50 p.m.

Host Railroad(s)

Six different railroads (CSX, Amtrak, Metra, UP, CN, NICTD)

Project Status

Included in the Midwest Regional Rail plan as a Regional/Core Express corridor and would serve as a hub to additional destinations of Columbus, Cincinnati, and Nashville.

Chicago – Detroit, Chicago – Grand Rapids, Chicago – Port Huron Realignment to South Shore Line

Studies

- ❖ 2014 – A draft Tier 1 EIS
- ❖ 2017 – Service Development Plan
- ❖ Michigan DOT was the project lead in partnership with FRA, IDOT and Indiana Department of Transportation. The Tier 1 focused on the South of the Lake section of the corridor. [Chapter 2 Chicago–Detroit/Pontiac Passenger Rail Corridor Program Tier 1 Draft Environmental Impact Statement \(dot.gov\)](#)

Cost Estimate

- ❖ \$1 billion⁴²

Where Project Was Identified

- ❖ Illinois Rail Needs Assessment

Project Description and Background

The Michigan Department of Transportation (MDOT) and Amtrak have been working to reduce travel times and increase speeds on passenger service between Chicago and Detroit to a maximum of 110 mph between Porter, IN, and Dearborn, MI. This project would complement that effort by upgrading the Illinois segment of the “South of the Lake” corridor.



Amtrak has been considering alternatives for Michigan trains accessing Chicago. One alternative would be to shift trains to the NICTD South Shore Line, and then access Union Station over the St. Charles Airline Connector through the Metra/NICTD Lakefront Line. Another alternative would be to construct a passenger only track within the NS right-of-way between Porter, IN, and 21st Street in Chicago, per the Amtrak Chicago Gateway Blue Ribbon Panel.⁴¹

Intercity passenger rail service in the Michigan part of the corridor currently includes three daily round trips between Chicago and Detroit/Pontiac, Michigan (the Amtrak Wolverine Service). The maximum train speed on most of this corridor is 79 mph, with the exception of the 97-mile Amtrak-owned section between Kalamazoo, MI, and Porter, IN, where passenger trains operate at speeds up to 110 mph. Wolverine Service trains travel the 300 miles between Chicago and Pontiac, MI, in about 6 hours 30 minutes at an average speed of 47 mph.

In addition to the Wolverine Service trains, Amtrak operates a daily round trip between Chicago and Battle Creek, MI, (the Blue Water), which continues beyond the corridor to Port Huron, MI, and a round trip between Chicago and New Buffalo, MI (the Pere Marquette), which continues to Grand Rapids, MI). The 29-mile stretch of NS's Chicago Line between Porter, IN, and the Indiana/Illinois state line is the single most delay-prone intercity passenger rail corridor in the country.

⁴¹ Amtrak, Report of the Amtrak Chicago Gateway Blue Ribbon Panel, October 2015, <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/businessplanning/Chicago-Gateway-Amtrak-Blue-Ribbon-Panel-Final-Report.pdf>.

⁴² See Illinois Rail Needs Assessment Appendix F Attachment 4.

Chicago – Detroit, Chicago – Grand Rapids, Chicago – Port Huron Realignment to South Shore Line

Host Railroad(s)

NS, CN

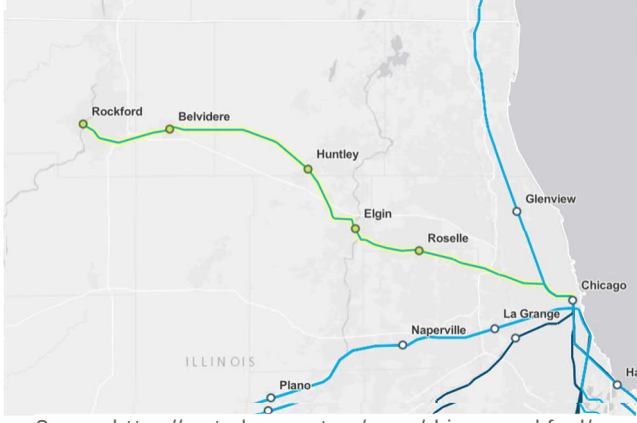
Project Status

MDOT as lead state, in consultation with FRA, has concluded that continued work at the corridor level would not be beneficial in the longer term and that advancement of work at the project level identified in this plan would be more beneficial. As such, on November 30, 2018, FRA rescinded the Notice of Intent to prepare an EIS for the Chicago-Detroit/Pontiac corridor originally published in the Federal Register on August 31, 2012.

FRA will not issue a Final EIS or ROD and concluded that this does not prevent future National Environmental Policy Act review of projects within the corridor if federal funding is received, as defined under the work to date in the Level 1 Alternatives Analysis dated April 2014 and the Service Development Plan dated August 2017.

3.2.2. New Service

The opportunities in this section represent new state-supported passenger rail service. For the corridors that will include Iowa destinations, agreements with the State of Iowa will be necessary.

Chicago – Rockford – Dubuque	
Studies	Project Description and Background The project would re-establish service between Chicago and Rockford with two round trips daily. In mid-2006, the State of Illinois doubled its funding for existing state-supported Amtrak routes. Illinois made a formal request to Amtrak for a feasibility study for service between Chicago, Rockford, Galena, and Dubuque. The resulting report identified a route between Dubuque and Chicago on the CN. Negotiations with CN to establish the service were unsuccessful so in 2014 the State of Illinois announced a revised plan for a route on lines that UP and Metra own. Service between Chicago and Rockford would start with one round trip and be increased to a second round trip later. Improvements included track upgrades, capacity improvements, bridge improvements, and new stations. Stops were planned for Elgin, Huntley, and Belvidere. In 2015, the project was put on hold. In 2019, IDOT received funds from the Rebuild Illinois capital program to re-establish Chicago – Rockford service. Host Railroad(s) UP Project Status In July 2023, Governor JB Pritzker announced that Metra will utilize its Milwaukee District West Line and relationship with UP Railroad to extend service beyond Elgin to reach Rockford, with expected stops in Huntley and Belvidere.
❖ TBD – Chicago to Rockford Feasibility Study, IDOT ❖ 2022 - Rockford to Dubuque Passenger Rail Extension Feasibility Study, East Central Intergovernmental Association (ECIA)	 Source: https://amtrakconnectsus/maps/chicago-rockford/
Cost Estimate	
❖ Chicago to Rockford received \$275 million in funding from Rebuild Illinois. ❖ Rockford to Dubuque estimated at \$282 million to \$381 million.	
Where Project Was Identified	
❖ Amtrak Connects Us ❖ OIPI	

Chicago – Quad Cities – Iowa City

Studies

- ❖ 2013 - Chicago to Council Bluffs-Omaha Regional Passenger Rail System Planning Study, FRA
- ❖ 2022 - Chicago to Quad Cities Passenger Rail Drainage Study

Cost Estimate

- ❖ Chicago to Quad Cities received \$225 million in funding from Rebuild Illinois and had received \$177 million from FRA's High-Speed Intercity Passenger Rail program.

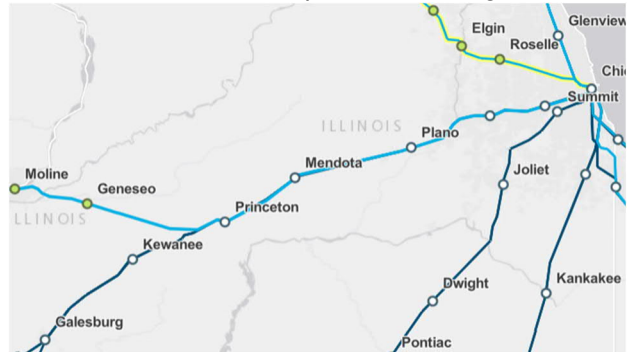
Where Project Was Identified

- ❖ Amtrak Connects Us
- ❖ FRA Midwest Regional Rail Plan
- ❖ IDOT OIPI

Project Description and Background

The project would re-establish service between Chicago and the Quad Cities with a new intermediate stop in Geneseo. Other stations served will include The Q in Moline, Princeton, Mendota, Plano, Naperville, La Grange, and Chicago Union Station with two daily round trips.

The Chicago - Quad Cities corridor was originally part of the Rock Island Railroad route network and ceased operations in 1978.



Source: <https://amtrakconnectsus.com/maps/chicago-rockford/>

In 2013, the Iowa DOT completed a final EIS for a passenger rail corridor between Chicago and Omaha Nebraska routed through the Quad Cities with a stop in Moline, and three major stops in Iowa: Iowa City, Des Moines, and Council Bluffs. The study proposed a phased approach to provide 79 mph service, with Phase I being the segment between Chicago and the Quad Cities.

In 2010, IDOT received federal funding to initiate passenger rail service between Chicago and the Quad Cities. In 2011, IDOT began preliminary engineering on the infrastructure improvements needed to implement the service and National Environmental Policy Act activities to identify and mitigate potential environmental impacts of the project. The project was put on hold in 2015, and in spring 2017 was reinitiated.

The proposed service will begin at Chicago Union Station and terminate at the Moline Multimodal Station.

Host Railroad(s)

BNSF, Iowa Interstate

Project Status

The project is in final design.

Chicago - Peoria

Studies

- ❖ 2003 – A Feasibility Study was compiled for the City of Ottawa to examine commuter rail service from LaSalle/Peru to Joliet Union Station. Ridership from the Peoria area was not included in the study.
- ❖ 2011 - An Amtrak Feasibility Study was compiled to determine the potential for establishing passenger rail service from Peoria to Normal to Chicago. Only a rail shuttle from East Peoria to Normal was studied in more detail.
- ❖ 2012 – A Midwest HSR Association study was compiled to examine the Spoke & Hub around Chicago. Feeder bus service was assumed for Peoria to Normal.
- ❖ 2013 – The Tri-County Regional Planning Commission funded a study to determine the potential for commuter service between Peoria and Bloomington/Normal. This study analyzed bus service and commuter rail service originating at Peoria's airport.
- ❖ 2021 – Midwest Regional Rail Plan included a reference to establishing an east-west route from Davenport, IA through Galesburg, Peoria, Bloomington (Hub), and ending in Champaign.

Cost Estimate

- ❖ \$2.54 billion

Where Project Was Identified

- ❖ IDOT OIPI

Project Description and Background

The project would establish passenger rail service between Chicago and Peoria via the former “Rocket Island Rocket” route that between Peoria, LaSalle-Peru, Ottawa, Morris, and Joliet. The feasibility study, completed in 2022, included exploring seasonal stops in Utica, home to Starved Rock State Park.

Peoria's rail passenger service ended in 1978 when the Rock Island Railroad shut down the Peoria Rocket due to poor track conditions and low ridership with no subsidies.

Amtrak and the State of Illinois briefly ran a passenger train from Chicago to East Peoria, named the Prairie

Marksman between August 10, 1980, to October 4, 1981. This service ran on the Chicago - St. Louis corridor to Chenoa, then along the Toledo, Peoria and Western Railway from Chenoa to terminate in East Peoria. Due to poor ridership, this service was terminated.

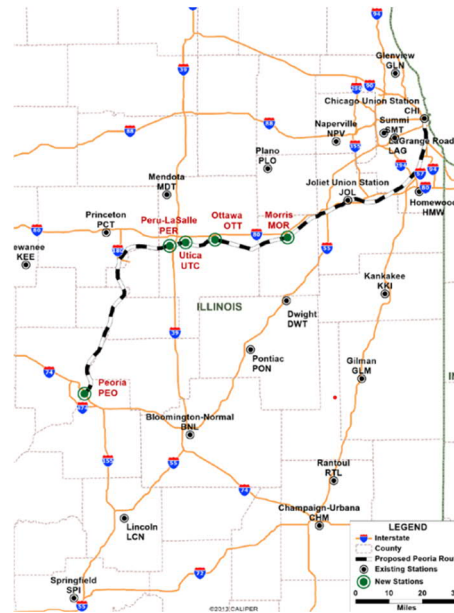
Peoria ranks 8th in the list of largest cities in Illinois. Of the top 15 largest cities in Illinois by population, Peoria is the only one without current or planned access to passenger rail service. Further, the Peoria metropolitan area has a population of just over 400,000 and is the largest metro area in the state without passenger rail service.

Host Railroad(s)

Tazewell & Peoria Railroad, Iowa Interstate Railroad, CSX, Metra—and depending on the route option in Joliet—CN.

Project Status

Feasibility study was completed in 2022. Next steps identified in the study are to identify a lead agency, seek grant funding through FRA's Corridor ID Program and work with either FRA (if federal funds involved) or IDOT (if only state funds are involved) to complete a Phase I report.



3.2.3. Chicago Improvements

The opportunities and investments identified in this section focus on improvements in Chicago to enhance the passenger experience, expand capacity, and increase reliability. The opportunities discussed have cross-corridor, and commuter and freight-rail impacts.

Chicago Union Station Improvements	
Studies	<u>Project Description and Background</u> ❖ 2012 – Union Station Master Plan <u>Master Plan Chicago Union Station</u>
Cost Estimate	❖ \$132.3 million
Where Project Was Identified	❖ Chicago Access Project ❖ ILRNA ❖ CMAP LRTP
The project would expand station entrances, widen and add platform access, and provide track signal and interlocking improvements for better train operations. Specific improvements include concourse capacity improvements, reactivating the mail platform for passenger use, expanding commuter rail platforms, and upgrading the station's ventilation. The project would increase capacity, improve passenger access and circulation, improve connections with city buses, establish connections to the CTA subway system, and bring the station into compliance with the Americans with Disabilities Act (ADA). The CREATE Program P2 project is a related project that will reroute Metra Southwest Service trains from Union Station to the LaSalle Street Station to free up capacity for additional Amtrak trains. Union Station is the third-busiest railroad station in the United States, serving over 300 trains per weekday carrying about 120,000 arriving and departing passengers—a level of passenger traffic that would rank it among the 10 busiest airports in the United States. Union Station is Metra's busiest station and is also the hub of Amtrak's network of regional trains, serving the Midwest as well as most of the nation's overnight trains, which connect to the Atlantic, Gulf, and Pacific Coasts. Prior to the COVID-19 pandemic, Union Station often operated at or close to capacity. Weekday rush-hour ridership was higher pre-pandemic than at any time in the past. Union Station will be the hub for the planned network of improved and high-speed intercity passenger rail routes in the Midwest, further increasing traffic in trains and passengers. The Chicago Union Station project has been included in a 2022 MEGA application submitted to U.S. DOT as part of a broader Amtrak application. <u>Project Status</u> Great Hall, Burlington Room, Legacy Club, and Grand Staircases in the Great Hall restorations have been completed. Clinton Street entrance improvements are under construction. MEGA grant funding is being sought for improvements to the mail platform, final engineering for platform capacity expansion, final design, and construction for concourse improvement and project management services.	



Source: <https://chicagounionstation.com/about/future>

Chicago Access Program Projects

Studies

- ❖ Amtrak concept design completed for St. Charles Air Line – Rock Island District connector upgrade and the interim platform at Joliet.
- ❖ Feasibility study completed for St. Charles Air Line Bridge – 14th St. Yard Connector.

Cost Estimate

- ❖ \$266.2 million

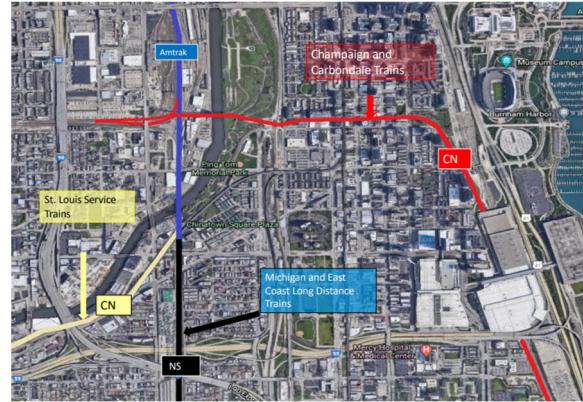
Where Project Was Identified

- ❖ Chicago Access Project
- ❖ ILRNA
- ❖ CMAP LRTP

Project Description and Background

The components of Amtrak's Chicago Access Program include:

- ❖ St. Charles Airline bridge 14th St. yard connector to construct a ramp to safely connect to the St. Charles Airline to Union Station Union Station
- ❖ St. Charles Airline – Rock Island District connector upgrade
- ❖ Purchase UP Canal St. yards to provide storage space for equipment needed for future services between Chicago and the Twin Cities, Quad Cities and Rockford as well as additional frequencies to Milwaukee, St. Louis, and Detroit.
- ❖ Interim platform at Joliet on the Rock Island District



Chicago is the key connection point for Amtrak's vision of intercity passenger rail in the Midwest and in the United States. Chicago is the hub for existing services, additions to existing services, and new services. Unfortunately, accessing Union Station can add time, cause delays, and degrade passenger experience due to congested freight host rail lines, backup maneuvers for some trains, and awkward connections.

Amtrak has developed a program to improve access into and out of Union Station—the Chicago Access Project. The project would remove the awkward backup maneuvers for the City of New Orleans, Illini, and Saluki trains, which will shave 10 to 15 minutes off their schedules. Amtrak could move trains serving St. Louis and Michigan off congested CN and NS rail lines. Congestion on the CN line (Heritage corridor) in part results from four at-grade rail-to-rail crossings between Union Station and Joliet.

The improvements would allow St. Louis trains to use Metra's Rock Island District corridor instead of CN's Heritage corridor between Chicago and Joliet. Chicago to Michigan trains would use the Metra/NICTD Lakefront Line and then access the South Shore Line of NICTD, rather than using the NS line. As a result, the project would separate freight and passenger operations, so that Amtrak would operate on solely on passenger/commuter rail lines.

Project Status

Project sponsors applied for U.S. DOT MEGA grant program for \$251.1 million to be matched by \$83.7 million from its annual appropriation and an equal amount from a combination of partners including Illinois and Michigan transportation departments, the City of Chicago, Metra, and Cook County.

CREATE Program Projects

Studies

- ❖ 2005 - CREATE Program Feasibility Plan
- ❖ 2009 – Amendment to the CREATE Program Feasibility Plan
- ❖ 2011 – Modification to the amended Plan
- ❖ 2012 – Clarification to the amended plan

Cost Estimate

- ❖ 75th St. CIP - \$625 million
- ❖ P4 - \$97 million*
- ❖ P5 - \$90 million
- ❖ P6 - \$90 million
- ❖ P7 - \$90 million

Where Project Was Identified

- ❖ Chicago Access Program
- ❖ CREATE Program
- ❖ IDOT OIPI
- ❖ ILRNA
- ❖ Midwest Regional Rail Plan

Project Description and Background

The passenger rail projects remaining to be completed as part of CREATE Program include:

- ❖ P2 the Rock Island Connector which is part of 75th Street Corridor Improvement Program (CIP) – a flyover to connect Metra Southwest Service mainline tracks to the Rock Island Line.
- ❖ P3 the Forest Hill Flyover, also part the 75th St. CIP – CSX north-south flyover to eliminate conflicts between north-south and east-west train movements at Forest Hill Junction (75th St. and Western Ave).
- ❖ P4 Grand Crossing – construction of new mainline capacity between Grand Crossing and Control Point 518 (Pershing Rd) to provide new direct route for Amtrak trains from New Orleans or Carbondale to Chicago Union Station.
- ❖ P5 Brighton Park – new flyover to separate CN/Metra Heritage Corridor and CSX/NS tracks on the CREATE Program Western Avenue Corridor.
- ❖ P6 Control Point (CPKC) Canal Flyover – construction of double-tracked flyover to carry two Illinois Central Railroad Company main tracks (owned by CN) over two Baltimore & Ohio Chicago Terminal Railroad tracks (now CSX).
- ❖ P7 Chicago Ridge Flyover – construction of flyover to separate two NS/Metra Southwest Service Line and Indiana Harbor Belt tracks (two existing and one future).
- ❖ P1 at 63rd and State was completed in 2016.

The CREATE Program is a public-private partnership that has worked since 2003 to improve the way passengers and goods move over rail. The goal of the partnership is to make Chicago's railroad network safer, more efficient and better able to accommodate growth in freight and passenger traffic. The Final Feasibility Study was completed in 2005.



be
the

the

of
new
rail

CREATE Program Projects

The focus is and has been on efficiency, safety and communities while untangling North America's busiest rail hub, making the CREATE Program a project of both national and regional significance. Within the CREATE Program there are six categories of projects: the Belt Corridor, the East-West Corridor, the Western Avenue Corridor, Passenger Corridors, Tower Projects, and grade-separation projects.

Project Status

- ❖ P2 the Rock Island Connector – in Final Design
- ❖ P3 the Forest Hill Flyover – under Construction
- ❖ P4 Grand Crossing – Phase I on hold
- ❖ P5 Brighton Park – initiation pending funding availability
- ❖ P6 Canal – Phase I underway
- ❖ P7 Chicago Ridge – initiation pending funding availability

* P4 – 7 costs are estimates from the final feasibility plan as amended and do not include right-of-way or contingencies

3.2.4. Equipment

To support expanded service and proposed new routes, additional rolling stock will need to be acquired. This will include both passenger cars and locomotives.

Rail Car Purchase	
Studies	Project Description and Background
❖ TBD	Procure additional passenger cars and locomotives as needed to support future service expansions. This includes railcars for the multistate Midwest equipment pool.
Cost Estimate	
❖ \$255 million	Project Status
Where Project Was Identified	In the process of delivery
❖ IDOT OIPI	

3.2.5. Station Improvements

The following opportunities are based on information provided in Amtrak annual reports. As noted, the ADA improvements are based on a settlement Amtrak reached with the Department of Justice to make their passenger facilities ADA accessible.

Carbondale New Multimodal Transportation Center		
Studies	Project Description and Background	
❖ 2016 – Preliminary design completed.	Southern Illinois Multi-Modal Station (SIMMS) replaces an existing Amtrak passenger rail station in downtown Carbondale, IL. SIMMS will connect the following multiple modes of transportation in a single, convenient location where patrons can easily make transfers and connections:	
❖ 2018 – Amtrak design review.		
Cost Estimate		
❖ \$20.6 million*		
Source of Project		
❖ Amtrak Annual Plan 2021		
	❖ Amtrak passenger rail ❖ RMTD service ❖ Bicyclists ❖ Saluki Express service ❖ Greyhound Bus service ❖ SCT service	❖ JCMTD service ❖ Shawnee Mass Transit service ❖ Passenger vehicles ❖ Taxis ❖ Pedestrians
	The new Transportation Center will include retail space such as a café and market, and bike sharing. The station will include office space for Amtrak, Greyhound, JCMTD, RMTD, and the Southern Illinois University Welcome Center.	



Carbondale New Multimodal Transportation Center

The station serves a rural area where average incomes are relatively low, and access to employment, goods, and services can be limited. In this context, it is important to establish transportation connections to other areas in the state.

The proposed SIMMS project replaces an aging, deteriorating, and functionally obsolete train/bus station in downtown Carbondale with a new station that will bring together multiple modes of transportation into one safe, efficient, and convenient location serving southern Illinois. Collecting all users in a single location will enhance links between transit agencies and enable better regional mobility.

Project Status

The project was awarded a \$13.9 million U.S. DOT BUILD grant in 2019 and a \$2.8 million IDOT Transit Improvement grant in 2020 to provide funding for design and construction of the new facility. The project is in design and is expected to start construction in the fall of 2022.

* 2019 BUILD grant application found at [Project-Narrative---SIMMS-Carbondale-IL-BUILD-2019-PDF \(explorecarbondale.com\)](https://www.explorecarbondale.com/Project-Narrative---SIMMS-Carbondale-IL-BUILD-2019-PDF).

ADA Compliance Improvements – Effingham, Homewood, Plano

Studies

- ❖ Not applicable

Cost Estimate

- ❖ Nationwide costs are estimated at \$1.2 billion. Homewood station modifications totaled \$15 million. Effingham station modifications totaled \$2.5 million.

Where Project Was Identified

- ❖ Amtrak Annual Report August 2022

Project Description and Background

As part of Amtrak's nationwide ADA Stations Program, ADA compliance modifications are planned for Effingham, Homewood, and Plano.

Effingham improvements include a new platform and an accessible route from the public right-of-way to the platform. The Homewood Station entrances and waiting rooms will be modified to meet ADA compliance, and a new platform will be constructed. The Plano modifications will include a new platform and an accessible route from the public right-of-way to the platform.

Snapshot: ADA Stations Program (ADASP), Passenger Information Display System (PIDS), and Accessible Boarding Technologies (ABT)

Tasks Completed/ Planned					
Progress Since Last ADA Report, Reporting Period: 11/01/21 – 04/30/22					
Tasks completed	Previously Completed	Completed Year-to-date	In Progress	Remaining	Progress Since Last Report
Surveys	397	400	–	0	3
Assessments	386	390	1	0	4
Station Designs Projects	194	205	122	125	11
Station Construction Projects	161	168	45	239	7
PIDS Designs	89	89	–	0	–
PIDS Deployments	51	54	16	24	3
Bridge Plate Deployments	328	330	–	0	2

In 2020,

Amtrak reached a settlement with the U.S. Department of Justice to make all 387 of their stations ADA compliant. Five phases will bring stations into compliance: survey, assessment, design, construction, and post assessment. Under the settlement agreement, Amtrak is to complete 15 designs per year and then complete construction within 36 months of all external approvals.

Project Status

The Effingham and Homewood projects were completed in 2022. No information on the status of the Plano Station was found.

Nationwide surveys have been completed for all stations as of April 2022, and assessments have been completed for all stations except one that is in progress.

3.3. Commuter Rail Service

The opportunities and investments overviewed in this section support commuter rail service in the Chicago region. Metra is the service provider in partnership with host railroads and the NICTD. The projects identified include those that will allow for expanding service to previously unserved areas and enhancements to existing routes, projects that will result in operational improvements and in some instances, increased capacity to serve more riders on routes that prior to the pandemic were at or near capacity.

3.3.1. Service Expansions and Enhancements

The following projects include expanding service to new stations or enhancing existing facilities to accommodate new or expanded service.

NICTD South Shore Line

Cost Estimate

❖ \$649.5 million*

Where Project Was Identified

❖ NICTD

Project Description

The following investments and improvements are planned and being studied for the South Shore Line commuter rail service operated by NICTD:

- ❖ Add a second main track and improve stations along 26 miles of the line between Gary and Michigan City, IN as part of the Double-Track Northwest Indiana Project.
- ❖ Relocate track in Michigan City, so that it is no longer embedded street-running track but instead on a separate right-of-way with a new station.
- ❖ Increase capacity through the area shared with Metra south of Millennium Station in Chicago.
- ❖ Construct the 8-mile West Lake Corridor Extension from Hammond to Dyer, IN, which would use electric powered trains on a new right-of-way that would be elevated in some locations and at ground level for others, serving four new stations.
- ❖ Realign track into South Bend Airport, so that trains travel straight into the airport, rather than over the existing circuitous route.



Source: Railway Age, June 21, 2022

The South Shore Line operates from South Bend, IN, to downtown Chicago, IL. From Gary, IN to South Bend (approximately 59 miles), the railroad is mostly single track, except for one 6.5-mile section of double track and three separate passing sidings that total 2.2 miles. The proposed Project begins in Gary, IN, west of Virginia Street, and ends near Carroll Avenue in Michigan City, IN.

Most of the commuter South Shore Line shares track with the Chicago South Shore and South Bend Railroad freight service. Commuters on the South Shore Line frequently experience less than optimum on-time performance, limited schedules, and trains without enough seating capacity. The lack of a second track constrains capacity and results in inflexible schedules, reliability issues, and long running times, making it less competitive with automobile travel times. Additionally, the 2 miles of embedded, street-running track in Michigan City, along with 39 at-grade crossings in 3 miles, contribute to some of the highest roadway and rail accident rates in Indiana.

Project Status

The NICTD Double-Track project is under construction with funding support from FTA's New Starts program.

* [Project Overview \(doubletrack-nwi.com\)](https://doubletrack-nwi.com)

Metra BNSF Improvements

Cost Estimate

- ❖ \$270 million

Where Project Was Identified

- ❖ ILRNA

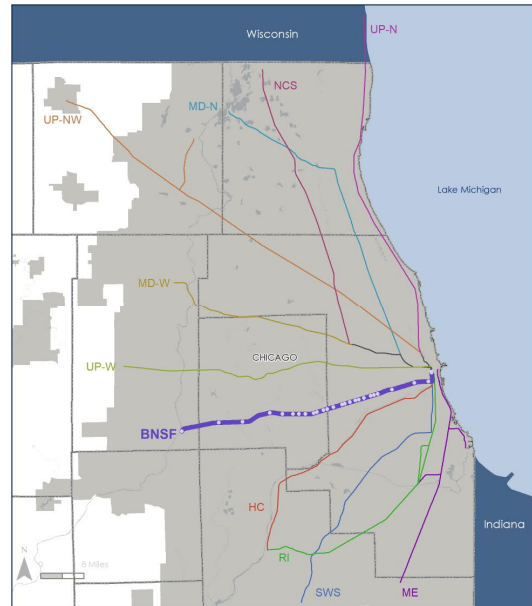
Project Description

The project would make track, signal, and other improvements to expand service and alleviate crowding on Metra's highest ridership line. A new station at Eola Road in Naperville could provide additional commuter options and relief for congested stations.

Project Status

The following improvements are included in Metra's 2022 Capital Budget:

- ❖ Tie replacement, cleaning or replacement of ballast, and replacement of switch components and heaters along the Metra BNSF Line to Aurora
- ❖ Refurbishment or replacement of rail and switches
- ❖ Bridge improvements and replacement of retaining walls
- ❖ Yard improvements



Millennium Station to 11th Place Improvements

Cost Estimate

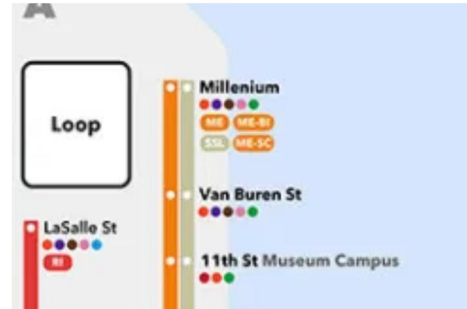
❖ \$500,000⁴³

Where Project Was Identified

❖ ILRNA

Project Description

The project would include the expansion and configuration of throat tracks, and the construction of new platforms at Van Buren Street and Millennium Stations to accommodate NICTD and Metra service increases. This project would convert an existing storage track into a fourth throat track and second NICTD lead track, convert hand-thrown switches to powered switches, and add crossovers to eliminate the bottleneck. This project would also construct new platforms serving existing Track 14 at Millennium Station and the new fourth main track at Van Buren Street Station and expand storage space east of Van Buren Street Station.



Source: <https://transitmap.net/metra-rahul-rajul/>

Project Status

Funds are programmed by Metra to complete the project with reimbursement by NICTD through its fixed facility agreement with Metra.

3.3.2. Operational Improvements

The following improvements are aimed at creating operating efficiencies for moving trains through the system with less conflicts. Modernized rail cars coupled with station improvements will result in a better passenger experience and bring them into ADA compliance.

⁴³ [Capital Program | Metra](#) Project PE 5557 MED Improvement Project.

Metra A-2 Flyover

Cost Estimate

- ❖ \$1.1 billion

Where Project Was Identified

- ❖ ILRNA

Project Description

This project would construct a flyover to grade separate the current multiple rail-to-rail grade crossing and bring surrounding structures into a state of good repair.

The A-2 interlocking is the busiest junction on Metra's system where 3 tracks carrying Metra trains on the Milwaukee District North, Milwaukee District West, North Central, UP-West, and Amtrak's Hiawatha cross over 4 tracks on the UP-West line at grade. Each weekday, over 350 trains carrying more than half of Metra riders pass through the antiquated interlocking system that is manually controlled by employees in the adjacent tower. In addition, the A-2 interlocking is used to access the Union Pacific California Avenue Yard and the Metra Western Avenue Yard for day-time maintenance and storage.



Source: Rails4MFlicker

The project would eliminate train conflicts, resulting in an estimated 2-minute time savings for every train stopping at the adjacent Western Avenue station and three-minutes for other trains. The project will also benefit a future O'Hare Express corridor and Midwest intercity passenger trains.

Project Status

Not yet started due to funding needs.

Kensington Interlocking Improvements

Cost Estimate

❖ \$10.4 million

Where Project Was Identified

❖ ILRNA

Project Description

South Shore Line trains moving to and from the Metra Electric District at Kensington Interlocking cross CN and Metra tracks at grade. The interlocking was redesigned in 2012 to improve operational efficiency. This project would make additional improvements by upgrading two #15 crossovers north of Kensington Station to #20 crossovers to increase the speed of NICTD trains through the interlocking north of the station. South of the station, the crossover carrying eastbound NICTD trains across the CN tracks would be replaced by a #10 crossover with a curved diamond across the first CN track to provide a consistent diverging speed of 15 mph.



Source: position-light.blogspot.com

Project Status

Unknown

Belt Junction and 80th St. Junction Replacements

CREATE Program EW2

Cost Estimate

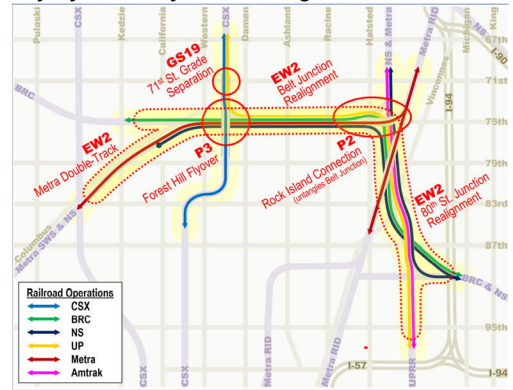
❖ Not Available

Where Project Was Identified

❖ ILRNA

Project Description

The EW2 project includes improvements to track, signals, bridges, retaining walls, and viaducts. Within the EW2 limits, the project will improve 36 viaducts to increase local mobility by roadway resurfacing or reconstruction, sidewalk replacement, ADA improvements, lighting upgrades, drainage improvements and bridge rehabilitations or replacements. In addition to viaduct improvements, the project also includes new bridges, retaining walls, and noise walls to accommodate the added NS Landers Main track and to accommodate the Metra P2 Flyover structure.



Source: CREATE program fact sheet

The EW2 project is a public-private partnership implementing a portion of the 75th Street Corridor Improvement Project (CIP) in Chicago that extends from the Ashburn Interlocking at the west end to the Dan Ryan Expressway at the east end. The intent of the EW2 Project is to improve mobility for rail passengers, freight, and roadway users by reducing rail-rail conflicts, reducing local mobility problems, and improving rail passenger transit service.

Project Status

Phase II is underway.

Metra Fleet Modernization

Cost Estimate

❖ \$2.1 billion

Where Project Was Identified

❖ ILRNA

[Project Description](#)

This project would replace and repair aging commuter rail cars and locomotives.

While Metra's rolling stock is maintained to a safe condition, 40 percent of Metra's fleet of 840 railcars receive ratings of marginal or poor condition. Many are over 40 years old, and many have an outdated gallery-style configuration with only one door per side for boarding and alighting.

Metra's recent order of 200 new railcars from Alstom will start to modernize its fleet to improve reliability, comfort, accessibility, and operating efficiency. This project would provide funding for Metra to place additional orders to fully renew and expand its passenger railcar fleet.

Additionally, most of Metra's diesel locomotives are over 30 years old and in need of replacement. Metra recently bought rebuilt 1998 vintage locomotives to "modernize" the fleet by replacing the oldest locomotives. This project would also replace aging locomotives at the end of their useful lives to meet the latest emissions standards, reduce operating costs, and improve reliability. Some of these new locomotives could be hybrid or zero-emission battery-powered.

[Project Status](#)

\$40.8 million is included in Metra's 2022 Capital Budget.

Metra Station Improvements

Cost Estimate

- ❖ \$853 million

Where Project Was Identified

- ❖ ILRNA

[Project Description and Background](#)

This project would rehabilitate and upgrade station roofs and structures, improve platforms, walkways and parking lots, and upgrade benches, shelters, lighting, and information signs systemwide to make Metra fully ADA compliant and improve the passenger experience.

The project includes improvements to Van Buren Station and Millennium Station entrances.

Thirty-eight stations on the Metra system are not ADA compliant. Most of these stations require elevators to become ADA compliant. Metra is working to make nine stations on the Metra Electric District ADA compliant but may need outside support to address other stations in a timely manner. Many station structures are also in need of rehabilitation.

[Project Status](#)

Metra's 2022 Capital Budget includes \$59.4 million for stations—primarily rehabilitations and replacements to existing stations, platforms, shelters, and elevators.

3.3.3. Capacity Projects

Capacity on the system will be enhanced with the projects included in this section. These projects will reduce congestion, improve safety, and add mainline tracks at key locations.

Metra UP North Improvements

Studies

- ❖ 2022 - Metra UP North Rebuild: Fullerton to Addison Phase I

Cost Estimate

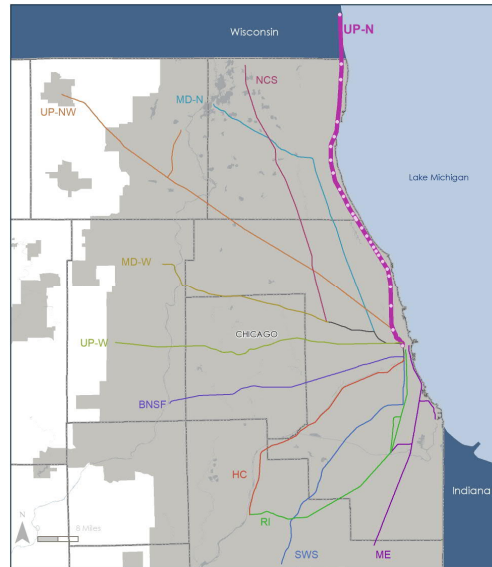
- ❖ \$980 million

Where Project Was Identified

❖ ILRNA

Project Description

This project will improve the capacity and reliability of the line through installation of crossovers and track improvements, while a new outlying coach yard will allow Metra to more efficiently service equipment and expand service in the future. Bridges will be reconstructed and brought to a state of good repair. This project will also upgrade existing stations and construct a new station at Peterson and Ridge Avenues. Several bridge replacements, the reconstruction of the Ravenswood Station, and the construction of the new Peterson Ridge Station have been completed or are under construction. However, the remainder of the project is not funded.

Project Status

- ❖ Ongoing.
- ❖ Ties and ballast project funded for construction in 2022 (\$6.8 million).
- ❖ Design and environmental analyses for the Rogers Park station rehabilitation included in 2022 capital budget.
- ❖ Ongoing construction funding included in 2022 Metra capital budget for repairs and rehabilitation at the Kenilworth Station.

Metra Milwaukee District West Improvements

Cost Estimate

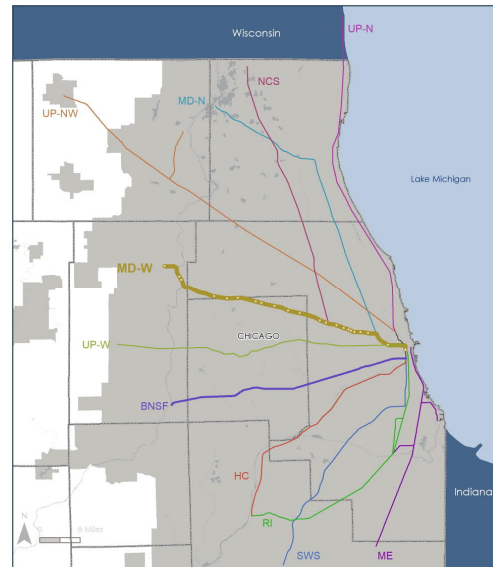
❖ \$640 million

Where Project Was Identified

❖ ILRNA

Project Description

This project would improve capacity and reliability for passenger and freight trains on the Milwaukee District West Line. Improvements include a storage yard and maintenance facility expansion and a new fourth main track from the A-5 junction to Randolph Street in Chicago. The bridge over the Fox River (Z-100) has been replaced and expanded, removing a capacity bottleneck. However, the remainder of the project is not funded.



Project Status

Metra has included tie and ballast replacement and upgrades in the 2022 Capital budget at a cost of \$10.1 million. Also included are seven signals to be replaced between Wood Dale and Alton at a cost of \$5 million.

Metra UP-West Improvements

Cost Estimate

- ❖ \$390 million

Where Project Was Identified

- ❖ ILRNA

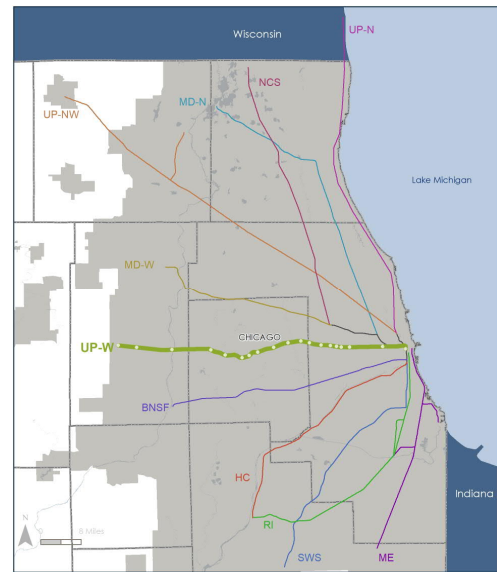
Project Description

The UP-West Improvements increase capacity and reliability for both freight and passenger trains while enabling the UP-West line to better serve as an alternative to the congested Metra BNSF. The scope includes upgrades to signal systems, new crossovers, pedestrian safety enhancements, and several new segments of a third mainline track. Some segments of the new third track have been completed or are under construction, but a funding gap remains for the rest of the project.

Project Status

Projects included in the 2022 Metra Capital budget:

- ❖ \$1 million to fund Metra's portion of a larger station renovation and expansion of the Elmhurst Station
- ❖ \$900,000 for design services and any environmental analyses required to rehabilitate the River Forest Station, associated retaining walls, and required modifications for ADA compliance



Metra Rock Island District Improvements

Cost Estimate

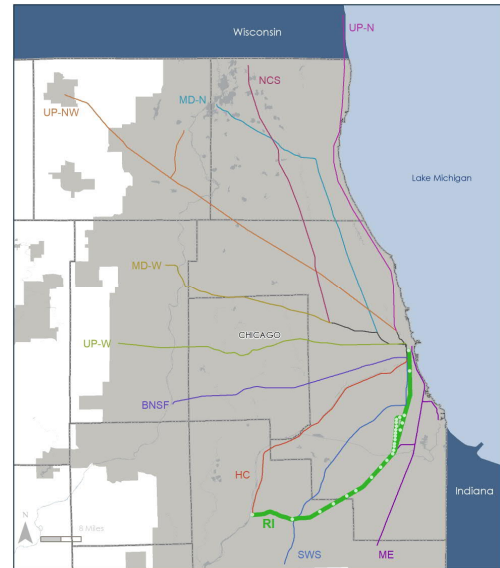
- ❖ \$570 million

Where Project Was Identified

- ❖ ILRNA

Project Description

Improvements to the Rock Island District Line will provide capacity for additional express service, reduce congestion, improve access at Union Station, enhance coordination between freight and passenger trains. Improvements include adding a third track between Gresham Junction and a point north of 16th Street Junction, new signals, and an expanded and modernized 47th Street Yard, which will have major efficiency benefits for Metra operations. The project will also facilitate the eventual rerouting of the Southwest Service from Union Station to LaSalle Street Station when the CREATE Program 75th Street Corridor Improvement Project is completed.



Project Status

Projects included in the 2022 Metra Capital budget:

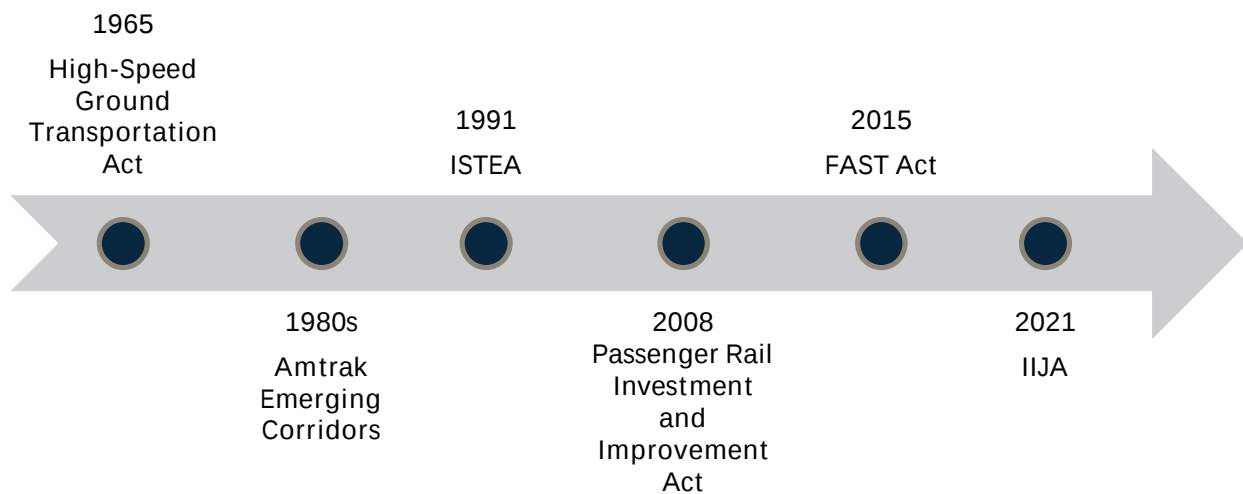
- ❖ \$2 million to finish funding of the replacement of the Morgan and Vincennes bridges in the Auburn Gresham neighborhood.
- ❖ \$1 million for the CREATE Program EW-2 bridge lift
- ❖ \$3 million to replace bridge 86 spanning 78th Street
- ❖ \$3.5 million to replace the 16th Street interlocking
- ❖ \$3 million construction funds for the replacement of the Western Avenue interlocking at Vermont and Grove streets in Blue Island
- ❖ \$3 million to pilot and test a set of "smart gates" to be installed at highway-rail grade crossings along the Rock Island Line in Blue Island
- ❖ \$4.3 million to fund a portion of the construction costs for a new station on the Rock Island Line in the Auburn Park neighborhood of Chicago
- ❖ \$1 million for design engineering for the 107th Street (Beverly Hills) Station
- ❖ \$870,000 for design engineering and any required environmental analyses for the 115th Street (Morgan Park) Station

The project will also facilitate the eventual rerouting of the Southwest Service from Union Station to LaSalle Street Station after completion of the CREATE Program 75th Street Corridor Improvement Project.

3.4. FRA Corridor Identification and Development (ID) Program

The Infrastructure Investment and Jobs Act, signed into law in November 2021, requires the Secretary of Transportation to establish an Intercity Passenger Rail Corridor ID Program. This program is relevant to this Rail Plan because it represents a new approach by FRA to evaluating intercity passenger rail corridor projects. A significant portion of investment will be directed through the program. Figure 3-1 illustrates major milestones in FRA's development of intercity passenger rail corridors.

FIGURE 3-1: FRA INTERCITY PASSENGER RAIL MILESTONES



The Corridor ID Program establishes a new planning framework to guide FRA's project development and capital investments in intercity passenger rail.

The FRA is mandated to establish a process for eligible entities to submit proposals for the development of corridors, a process to review and select proposals, and criteria for determining the level of readiness for federal investment. The purpose of the program is to develop a pipeline of projects for corridors selected by FRA. Routes eligible to participate in the program include the following:

- » A new route of less than 750 miles long
- » An enhancement of an existing route that is less than 750 miles long
- » Restoration of service of a route formerly operated by Amtrak
- » An increase in service frequency of a long-distance route

To be eligible for consideration, the route has to be included in the state's approved state rail plan, among other requirements. Illinois has identified the projects listed in Table 3-3 as candidates for the Passenger Rail Corridor ID Program. Table 3-3 provides basic information about each corridor. Appendix F includes a fact sheet for each corridor illustrating compliance with all 14 requirements of the program.⁴⁴ Because Chicago is the hub of the Midwest passenger rail network, other corridors will be

⁴⁴ Federal Register, Vol. 87, No. 93, Friday May 13, 2022, pp. 29432 – 29437.

sponsored by other agencies, even though they enter Illinois. This chapter describes projects on these other corridors, and Table 3-4 provides a list of these additional corridors.

TABLE 3-3: FRA CORRIDOR ID PROGRAM CANDIDATES FOR ILLINOIS

Corridor	Length of Corridor (miles)	Urbanized Areas Connected (2020 Rank)		Description	Midwest Regional Rail Plan Service Tier	Other State Partners	Host Railroads
		Point A (Hub City)	Point B (Ultimate Destination)				
Corridors with Existing Intercity Passenger Rail Service							
Chicago – Milwaukee Extension (Hiawatha & Empire Builder)	86	Chicago (3)	Milwaukee (40)	Infrastructure upgrades to increase frequency of Amtrak trains from 7 to 10 round trips daily. WisDOT is interested in extending service to separate Twin Cities with a stop in Madison and (2) Green Bay.	Core Express	WisDOT	Amtrak, Metra, CPKC (for Chicago-Milwaukee)
Chicago – Detroit HSR (Wolverine)	304	Chicago (3)	Detroit (11)	Upgrade South of the Lake corridor to reduce passenger rail travel times between Chicago, northwest Indiana and Michigan. Improve both rail and freight operations between Chicago and Detroit.	Regional / Core Express	MDOT	MDOT, Amtrak
Chicago – St. Louis HSR Full Build Out (Lincoln Service & Texas Eagle)	287	Chicago (3)	St. Louis (20)	Double track the full corridor to increase frequency and improve schedule reliability	Regional / Core Express	MoDOT	Amtrak, CN, UP, TRRA
Chicago – Carbondale (Illini, Saluki, City of New Orleans)	309	Chicago (3)	Carbondale	Existing service; received funding for corridor improvements that include trip time improvements and additional frequency.	Emerging	-	Amtrak, CN (for Chicago-Carbondale)

Corridor	Length of Corridor (miles)	Urbanized Areas Connected (2020 Rank)		Description	Midwest Regional Rail Plan Service Tier	Other State Partners	Host Railroads
		Point A (Hub City)	Point B (Ultimate Destination)				
Corridors with Proposed New Intercity Passenger Rail Service							
Chicago – Quad Cities – Des Moines – Omaha	518	Chicago (3)	Omaha (82)	New service from Chicago to Quad Cities, connecting through Iowa to Des Moines and into Nebraska to connect to Omaha; anticipated two round trips/day.	Emerging	Iowa DOT, Nebraska DOT	Amtrak, BNSF, Iowa Interstate Railroad (for Chicago-Quad Cities)
Chicago – Rockford – Dubuque	180	Chicago (3)	Dubuque	New service from Chicago to Rockford, connecting to Dubuque; anticipated two round trips/day. Received funding for new service from Chicago to Rockford.	Emerging	Iowa DOT	Amtrak, Metra, UP (for Chicago-Rockford)
Chicago - Peoria		Chicago (3)	Peoria	New service from Chicago to Peoria; anticipated five round trips/day, connecting with Joliet and five new stations between Joliet and Peoria. A feasibility study for this corridor has been completed.		-	TBD

TABLE 3-4: FRA CORRIDOR ID PROGRAM CANDIDATES THAT ENTER ILLINOIS AND DESCRIBED IN CHAPTER, BUT SPONSORED BY OTHER AGENCIES

Corridor	Length of Corridor (miles)	Urbanized Areas Connected (2020 Rank)		Description	Midwest Regional Rail Plan Service Tier	Other State Leads	Host Railroads
		Point A (Hub City)	Point B (Ultimate Destination)				
Corridors with Existing Intercity Passenger Rail Service							
Chicago – Milwaukee - Twin Cities	411	Chicago (3)	St. Paul (16)	WisDOT and MnDOT are leading an effort to add a second daily round-trip passenger train on the 411-mile corridor between Chicago and the Twin Cities.		WisDOT and MnDOT	CPKC, Metra, Amtrak (Chicago Union Station)
Corridors with Proposed New Intercity Passenger Rail Service							
Hoosier State Service Reinstatement		Chicago (3)	Indianapolis (32)	The project would restore service between Chicago and Indianapolis. A series of infrastructure improvements would improve trip times and make the service more competitive with automobile travel.		InDOT	CSX, Amtrak, Metra, UP, CN, NICTD

4. FREIGHT-RAIL ISSUES, OPPORTUNITIES, IMPROVEMENTS, AND INVESTMENTS

4.1. Introduction

This section presents freight-rail issues, opportunities, recommended improvements, and investments, drawing heavily upon information gathered for the Illinois Rail Needs Assessment (ILRNA) that was completed in 2021. IDOT prepared the ILRNA to provide content for the Rail Plan. That effort gathered data and feedback from shippers, state and local agencies, the public, and existing long-range transportation plans. During the course of the ILRNA, stakeholders recommended 234 projects, of which 184 are relevant to freight rail, while the remaining 50 are more applicable to improving passenger rail services. Issues and opportunities, as well as proposed improvements and investments to address those issues and opportunities are categorized as follows:

- » Leveraging rail for economic development – rail projects, initiatives that support the growth and retention of jobs, investment in Illinois
- » Improving the nation's rail hub – efforts to retain the Chicago region as the nation's preeminent rail hub
- » Addressing rail network limitations – ensuring adequate capacity of the rail network to accommodate future levels of rail traffic, modern rail equipment and train sizes, upgrading infrastructure that has fallen into poor repair
- » Improving safety of the network – initiatives to improve safety at highway-rail grade crossings and at other points on railroad rights-of-way
- » Minimizing negative impacts of rail – initiatives to minimize negative impacts of rail on communities
- » Responding to changes in rail technology, rail markets – responding to changing needs, demands on the rail network, seizing opportunities presented by improvements in rail technology

4.2. Leveraging Rail for Economic Development

Rail supports economic development, inducing companies to remain, expand, or move to Illinois. New rail service, or improved rail service, can help existing shippers to be more competitive by reducing transportation costs, decreasing freight transit times, and improving service reliability. To benefit from railroad transportation, shippers must be able to access the railroad network. During the creation of the ILRNA, projects were recommended that would provide locations for rail-served employers and/or better connect shippers with the rail network.

4.2.1. Brownfield Remediation and Development

Two projects were proposed in the ILRNA that would provide environmental remediation to redevelop a brownfield site in Chicago. One project would install a cap⁴⁵ at the site of the former Acme Coke Plant in the Calumet area so that this superfund site could be used for above-ground rail-served industrial

⁴⁵ A cap involves placing a cover over contaminated soil so that the contaminated soil is isolated and the contaminate does not spread.

development. Another project would perform environmental remediation in the same area but to enable expansion of an existing intermodal terminal.

4.2.2. Improvement to Roadway Access to Rail-Served Industrial Sites

Two projects proposed in the ILRNA would not actually invest in rail infrastructure but would instead benefit railroad transportation by facilitating truck access to rail-served industrial sites. One would improve road access to the Dwight industrial “mega-site,” which covers 1,700 acres and is served by both eastern and western railroads. Another project would build a roadway connection between I-72 and a 400-acre industrial site in New Berlin.

4.2.3. New Multimodal Facilities or Repurpose Existing Multimodal Facilities

Three projects from the ILRNA involve building new transload facilities, while a fourth would be an expansion to an existing intermodal terminal. These facilities would handle a variety of commodities. One in Herrin would ship potable water to western states experiencing drought. Another project would increase the track and yard space of the Rochelle Transload Center to handle containers of agricultural products.

Three projects proposed by The DeLong Company would augment existing facilities or build new facilities to handle grain unit trains. Shipping grain by unit train is generally more efficient than shipping by individual carload or blocks of cars. Unit trains travel from origin to destination as a unit and do not require intermediate sorting (switching) of railcars. Another project in Rochelle would convert a facility that currently handles frac sand to handle grain.

4.2.4. Reconstruction or Construction of Sidings to Provide Rail Connections to Industrial Businesses

Eight projects from the ILRNA would build rail spurs or sidings to new and/or existing businesses. These projects vary significantly in size and scope. For example, the O'Hare Industrial Parks Rail Access Reinstatement would restore switches and track sidings at industrial locations near O'Hare International Airport for \$125,000 per siding. A far more ambitious project is the building of a new spur on six miles of an abandoned railbed at a location south of East St. Louis. Two projects in Granite City would add capacity to rail spurs rather than building new rail spurs to improve the efficiency of railcar interchange and unloading. Three projects in the St. Louis area would provide additional access to industrial sites, enabling shippers to be served by competing railroads.

4.2.5. Development of New Port Facilities to Enable Transfers between Rail and Barge

Five projects proposed in the ILRNA would build new rail infrastructure at port facilities to enable or improve transfer of freight between rail and barge. Two of these projects reflect changes in demand for commodities. One project in Randolph County would convert a coal transfer facility to handle other commodities, while another would rebuild docks that U.S. Steel in Granite City had used to handle other commodities. A fourth project would be the construction of a loop track at the Savanna Industrial Park (Figure 4-1), while another would add yard capacity to interchange port traffic with a Class I railroad in southwestern Illinois.

FIGURE 4-1: PORT OF SAVANNA, IL, AND SAVANNA INDUSTRIAL PARK



Source: Upper Mississippi River International Port District

4.3. Improving the Nation's Rail Hub

As pointed out in Chapter 2, approximately 25 percent of all freight trains and 50 percent of all intermodal trains in the United States pass through metropolitan Chicago, the nation's primary connection between eastern, western, and Canadian railroads. To maintain Chicago's status as the nation's rail hub requires investment.

4.3.1. Chicago Regional Environmental and Transportation Efficiency (CREATE) Program

The CREATE Program is a public-private partnership among freight railroads, passenger railroads, and local, state, and federal entities. With a current estimated budget from initiation to completion of \$4.6 billion, the CREATE Program is focused on implementing 70 projects consisting of new infrastructure, technology upgrades, and safety enhancements throughout the Chicago region.

Established in 2003, the program was the culmination of a series of developments affecting the rail system in the region: a massive weather-related service failure; steady rail (and highway) traffic growth; community concerns about infrastructure conditions and the impacts of train traffic; and a regional

consensus about the benefits of having a vital passenger and freight-rail system. The overarching purpose of the CREATE Program is to ensure and enhance these benefits into the future by improving the efficiency, effectiveness and safety of Chicago's rail system and mitigating community impacts.

A “rule of thumb” has frequently been cited regarding intermodal freight—that 48 hours are required for containers to travel from Los Angeles to Chicago, and then 30 hours to travel across the Chicago region.⁴⁶ One of every four U.S. freight trains passes through Chicago.⁴⁷ The complexity of the region's rail system is illustrated by the following statistics:

- » Estimated 3,865 track-miles of rail:
 - 1,400 track-miles are shared by both passenger and freight trains
- » 50 freight-rail yards
- » Freight-rail network handles 1,300 trains each day:
 - 500 freight trains
 - 760 passenger trains per day
 - Total of 37,500 railcars each day

The current CREATE Program public-private partnership consists of the U.S. DOT, IDOT, the City of Chicago, Cook County, all Class I railroads, Metra, and Amtrak. The program focuses on improving four primary corridors to better handle both passenger and freight traffic while reducing adverse community impacts. The following types of projects are included in the CREATE Program:

- » 25 new roadway overpasses or underpasses at locations where traffic (auto, pedestrian, bicycle, bus) currently crosses railroad tracks at grade level
- » 6 new rail overpasses or underpasses to separate train tracks
- » 36 freight-rail projects including extensive upgrades of tracks, switches and signal systems
- » Viaduct improvement projects (improvements to existing viaducts in Chicago)
- » Grade crossing safety enhancements (improvements to existing railroad grade crossings throughout the region)
- » Common Operational Picture (integration of information from dispatch systems of all major railroads in the region into a single display)

Of the 70 CREATE Program projects, 31 are complete, 20 are in progress, and 19 still require action. Table 4-1 shows the CREATE Program status as of November 2021. Because the nation relies on the Chicago metropolitan area as a rail hub, CREATE Program projects have not only regional but also national significance.

⁴⁶ <https://www.nytimes.com/2012/05/08/us/chicago-train-congestion-slows-whole-country.html>

⁴⁷ https://www.cmap.illinois.gov/updates/all/-/asset_publisher/UIMfSLnFfMB6/content/update-on-freight-rail-activity

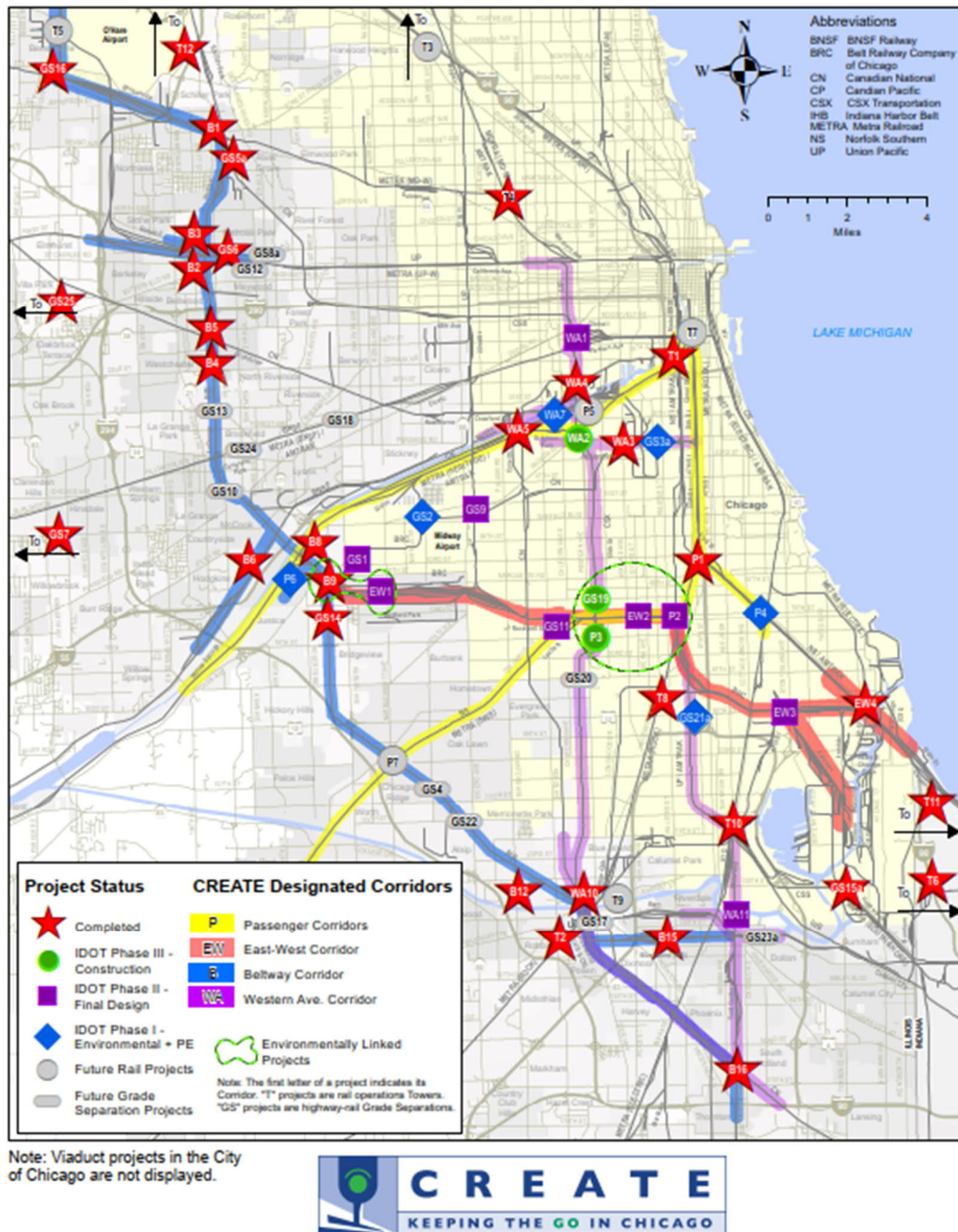
TABLE 4-1: CREATE PROGRAM STATUS

Current Program Status	Number of Project
Completed Projects	33
Under Construction	4
Final Design	9
Environmental Review	6
Remaining Projects	18
Total	70

Source: <https://www.createprogram.org/>

Figure 4-2 shows the location and status of the various CREATE Program projects as of November 2021. A detailed listing of projects is in Appendix I.

FIGURE 4-2: CREATE PROGRAM PROJECT LOCATIONS



The CMAP has anticipated that freight-rail trade (by value) within Chicago will more than double between 2012 and 2045.⁴⁸ This increase will put additional stress on the network. Improving the rail network within Chicago will need to be a continued effort if the region is to stay the premiere freight hub of North America. During the ILRNA, stakeholders noted a continuing need for CREATE Program

⁴⁸ https://3g3qvj4frs8o1sqgfs1qioxo-wpengine.netdna-ssl.com/wp-content/uploads/CREATE_Overview.pdf

projects that have not yet been completed. When asked to recommend projects, stakeholders mentioned 14 CREATE Program projects, which would improve capacity and 14 additional CREATE Program projects that would address highway-rail grade crossing issues. Some stakeholders suggested that the CREATE Program should be renewed to account for changes that have occurred in rail traffic and logistic trends over the past 20 years. This could be a “CREATE 2.0.” In 2015, Amtrak published the Report of the Amtrak Chicago Gateway Blue Ribbon Panel⁴⁹ in which Amtrak presented its own suggestions to reduce network congestion in the Chicago region. While the focus of this report was on Amtrak, it would also affect freight rail, because most of the affected infrastructure is used by both freight and passenger trains.

Beyond CREATE Program projects, stakeholders recommended additional projects to boost rail capacity in the Chicago area. One project would boost capacity by removing clearance restrictions at 18th Street, Canal Street, Calumet River bridge on an NS line, so that it could accommodate double stack intermodal trains and provide additional mainline capacity for intermodal trains in the Chicago region. Another project would provide a rail-rail grade separation in Des Plaines, just north of O’Hare International Airport. Two other projects would enable the NS 47th Street and Calumet intermodal terminals to expand: the project at the 47th Street terminal by extending a railroad bridge, and the project at the Calumet terminal by expanding a roadway bridge (103rd Street over the NS Calumet yard shown in Figure 4-3). Another project would replace a bridge over the Calumet River, while another would upgrade switches at Indiana Harbor Belt Railroad’s Blue Island Yard.

⁴⁹ <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/businessplanning/Chicago-Gateway-Amtrak-Blue-Ribbon-Panel-Final-Report.pdf>

FIGURE 4-3: 103RD STREET OVER THE NS CALUMET YARD



Source: Mid-America Freight Coalition

Several stakeholders have suggested alternatives for routing around Chicago. In 2017, Great Lake Transportation, Inc. proposed building a rail line to serve as a bypass around Chicago. STB rejected the application, stating in August 2017, “[Great Lakes’] current assets of \$151 are so clearly deficient for purposes of constructing a 261-mile rail line that the Board will not proceed with this application given the impacts on stakeholders and the demands upon Board resources...”⁵⁰ During the ILRNA, one stakeholder suggested reactivating an abandoned rail right-of-way between Rockford and the Illinois Valley area (LaSalle, Peru), plus using underutilized rail lines between the Illinois Valley area and the Indiana border to establish a bypass around Chicago.

⁵⁰ U.S. Surface Transportation Board, Finance Docket No. 35952, Great Lake Basin Transportation, Inc. – Rail Construction and Operation – in Rock County, Wisc., Winnebago, Ogle, Lee, LaSalle, Grundy, and Kankakee Counties, IL, and Lake, Porter, and LaPorte Counties, Ind., Decision August 30, 2017.

4.4. Addressing Rail Network Limitations

4.4.1. Capacity Bottlenecks Outside Chicago

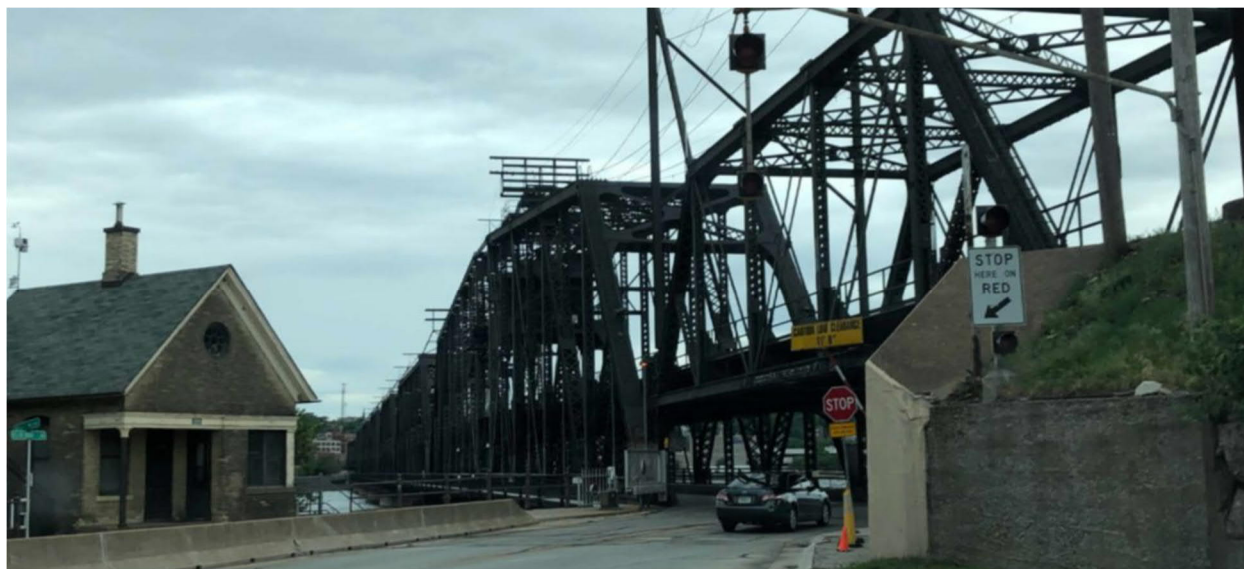
Many but not all capacity projects recommended by stakeholders for the ILRNA were in the Chicago area. The following capacity issues were identified outside of the Chicago metropolitan area as well:

- » **Connections.** Stakeholders for the ILRNA assessment identified projects that would improve the connections between rail lines. Two projects would improve connections between railroads, specifically between the City of Rochelle Railroad and BNSF, UP. A project on the NS would establish a connection where two tracks cross, while a project on the Vermilion Valley Railroad would construct a crossover between two tracks. Another project would improve an interlocking at Wood River along with its signal system used by both passenger and freight trains.
- » **Yards.** Two projects would expand rail yards so that they can process trains more efficiently—one on the TRRA and another on the PIR.
- » **Flyover and Additional Track.** One project would add an additional mainline track on the TRRA between Madison Yard and Willows Tower while another would increase capacity by constructing a flyover in Springfield.

4.4.2. State of Repair of the Illinois Rail System

Not all of the Illinois rail network—comprising track, bridges, rail yards, and highway-rail grade crossing surfaces—is in a state of good repair. As mentioned in Chapter 2, significant rail mileage in the state is rated FRA Track Class I or Excepted. These rail lines are not maintained to a high standard. Railroads and several other respondents to a questionnaire for the 2022 ILRNA recommended 26 projects or combinations of projects to bring Illinois rail assets to a state of good repair. Some projects would include improvements to multiple types of assets. Eleven projects would include improvements to bridges. These projects vary widely in scope from improvements to smaller timber structures to major bridges carrying multiple railroads over the Mississippi River (e.g., the replacement of the Crescent Bridge in Figure 4-4, and the Government Bridge with a high-level fixed span). Six projects would include improvements to track. Most would upgrade lightweight, jointed rail to heavier continuously welded rail. Three projects are for yard improvements, including replacement of switches and tracks. Two projects would upgrade or renew highway-rail grade crossing surfaces. Two would address drainage, resiliency, and flood risk. One project would regrade and repave roadway access to the Blue Island intermodal yard.

FIGURE 4-4: CRESCENT BRIDGE OVER THE MISSISSIPPI RIVER BETWEEN ROCK ISLAND AND DAVENPORT, IA



Source: Bi-State Regional Commission

4.4.3. Rail Infrastructure Built to Modern Standards

Another set of Illinois rail needs arises from the fact that not all the Illinois rail network is built to modern standards, including the ability of the infrastructure to accommodate modern railcars. As rail infrastructure improved over the years, railcars have increased in capacity due to the efficiencies inherent in being able to ship more payload in each railcar. In the 1970s, the railroad industry switched from 70-ton capacity railcars to operating railcars with a capacity of 100 tons, or 263,000-pound gross weight on rail. In the 1990s, the railroad industry again shifted to heavier railcars, those with 286,000-pound gross weight. This remains the industry standard railcar weight, but it continues to create challenges. Not all rail infrastructure can accommodate these railcars, particularly on smaller railroads with limited resources to upgrade their infrastructure. When railroads are not able to accommodate heavier railcars, it places these railroads and their customers on the rail lines at a competitive disadvantage. In many cases, customers pay the same railroad transportation rates whether they use 263,000- or 286,000-pound railcars, but those that can use 286,000-pound railcars can ship 10 to 11 percent more per railcar.⁵¹ Because it is prohibitively expensive to transfer freight from a larger railcar to another, smaller car, a segment that cannot accommodate 286,000-pound railcars is an economic bottleneck to a rail shipment, which could otherwise operate over hundreds of miles that can accommodate 286,000-pound railcars. The problem is exacerbated by railroads phasing out the smaller railcars. Railroads can carry a smaller load in the larger cars, but doing so is inefficient and increases the cost to the shipper.

In Illinois, 738 route miles cannot accommodate 286,000-pound railcars with track and bridges needing to be upgraded. As an example, the Crescent Bridge in the Quad Cities Area, which spans the

⁵¹ Although the ratio of 286,000 pounds and 263,000 pounds is 108.7 percent, 286,000-pound railcars have a better payload to tare ratio, meaning that the railcars can accommodate more freight per weight of railcar relative to 263,000-pound railcars. Therefore, the additional freight than can be hauled per railcar is 10 – 11 percent instead of 8.7 percent.

Mississippi River between Davenport, IA, and Rock Island, cannot accommodate railcars over 268,000 pounds (Figure 4-4). The ILRNA included an additional project that would bring the Bloomer Line to the 286,000-pound standard, and another that would bring the mainline of the Keokuk Junction Railroad to the 286,000-pound standard.

The typical Class I freight train is between 5,000 and 10,000 feet long. For example, the average train on the BNSF Railway is 8,000 feet.⁵² However, Class I railroads have been experimenting with even longer trains between 10,000 and 16,000 feet. Longer trains are used more often on high-volume intermodal routes, such as between Chicago and Los Angeles. Not all Class I railroads have embraced longer trains equally, so longer trains appear more frequently on some railroad systems than on others. Long trains are more efficient due to economies of scale, where the cost of train crews, locomotives, and fuel is spread across more freight per train.

However, longer trains also create diseconomies. Railroads must have sufficient space at rail yards, on sidings, and on double-track sections to accommodate large trains. Infrastructure to support larger trains was identified as a rail need in Illinois. It is more difficult to find locations to park long trains where they do not block highway-rail crossings, so operating these trains can also create a need for grade crossing separation and elimination. For the ILRNA, NS proposed closing a crossing northeast of Springfield in Riverton so that the company can extend a siding and accommodate longer trains (Figure 4-5). UP proposes extending sidings on the Chicago-St. Louis corridor to 16,000 feet to accommodate longer freight trains, which would presumably benefit not only UP, but also Amtrak trains for which UP trains cause interference.

FIGURE 4-5: PETAL ROAD CROSSING IN RIVERTON



Source: Google Maps

Vertical clearances above the state's rail lines are another issue that relates to modern standards. When Illinois rail lines were built, railcars were generally no taller than 15 feet 6 inches above rails. However,

⁵² Daniel Machalaba, "Why Are Railroads Making Freight Trains Longer and Longer", Wall Street Journal, June 15, 2015.

intermodal railcars and auto racks can be as high as 20 feet 3 inches above rails. Hi cube boxcars can be 17 feet above rails. The ILRNA identified several projects to eliminate overhead obstructions that restrict rail operations. For example, the IAIS Putnam Bridge Clearance Project would extend a county road, removing the existing road bridge, which inhibits overhead clearance on the IAIS rail line near Putnam. In Chicago, a key route that could be used as an intermodal main line is limited by restrictive vertical clearances under the 18th Street and Canal Street Bridges. The superstructure of a bridge on the UP line that crosses the Mississippi River between East Clinton and Clinton, IA, limits the height of trains that can use that line.

4.5. Improving Safety of the Rail Network

As identified in Chapter 2, the two largest sources of rail-related fatalities in Illinois are collisions between trains and roadway users at highway-rail grade crossings and train strikes of trespassers on railroad rights-of-way. Between 2012 and 2021, crashes at highway-rail grade crossings caused 185 fatalities, while 191 fatalities were associated with trespasser strikes.⁵³

Many of the fatalities on the Illinois rail network are pedestrians, including not only trespasser strikes, but also pedestrian fatalities at crossings. Between 2016 and 2020, pedestrians comprised 53 percent of the fatalities at highway-rail crossings and nearly all the trespasser fatalities.

The ICC authorized nearly \$42 million from the GCPF for crossing safety improvements. In addition, IDOT administers the Highway Safety Improvement Program using on average \$11.4 million from the federal Railway-Highway Crossing (Section 130) Program. Crossing improvements typically include the following:

- » Warning device upgrades: installation of gates, lights, signal circuitry improvements
- » Grade separations: construction, reconstruction, or repair of roadway, railroad bridges that separate rail and roadway rights-of-way
- » Underpass clearances: lowering roadway underpasses to improve clearances for trucks under railroad bridges
- » Pedestrian-grade separations: constructing bridges for pedestrians over or under railroad tracks
- » Preemption/interconnects: upgrading circuitry so that crossing warning signals are better synchronized with adjacent highway signals
- » Highway approaches: improving the safety of roadway geometry, design at the approaches to crossings
- » Remote monitoring devices: sensors to warn of any failures of crossing warning devices
- » Crossing closure, consolidation, connecting roads: incentive payments to local agencies to close public highway-rail grade crossings, connecting roads between closed crossings and adjacent improved crossings to maintain mobility
- » Passive warning device improvements: improvements to signage, pavement marking at crossings

⁵³ The ICC and IDOT in the State of Illinois 2021 Grade Crossing Safety and Trespass Prevention Action Plan note that suicides are also a major cause of death on the railroad network. A total of 126 suicide incidents occurred on the Illinois rail network between 2016 and 2020, of which 16 percent were at highway-rail crossings while 84 percent were elsewhere on railroad rights-of-way.

According to the ICC Crossing Safety Improvement Program FY 2023 – 2027 Plan, 36 percent of GCPF funding between state fiscal year (FY) 2012 and 2021 went to warning device upgrade projects, while 46 percent was spent on grade-separation construction or reconstructions. The remaining 18 percent was applied to additional project types listed above. According to the ICC Crossing Safety Improvement Program, FY 2023 – 2027 Plan, 43 percent of the forecast cost of projects with GCPF assistance will be grade-separation construction or reconstruction projects, while 41 percent will be crossing improvement projects. The remaining 16 percent of project costs will be for passive-crossing improvements, closures, crossing-surface improvements, pedestrian-grade separations, and other types of projects.

The ICC's Grade Crossing Safety and Trespass Prevention Action Plan listed 36 strategies to address safety at highway-rail grade crossings in Illinois, plus 17 strategies to address trespasser risks. In addition to infrastructure improvements, they also included efforts to bolster education and enforcement activities. The enforcement strategies mainly involve state support/coordination with local law enforcement officials to enforce laws at highway-rail grade crossings, laws against trespassing. One of the enforcement strategies is the employment of “automated enforcement” technologies such as remote cameras that catch motorists running through flashing lights or driving around gates (the crossing in Figure 4-6 has automatic enforcement via camera). The education strategies are related to public awareness campaigns such as through Operation Lifesaver or driver education materials.

FIGURE 4-6: PHOTO ENFORCED CROSSING



Source: U.S. DOT, Effect of Photo Enforcement-Based Education on Vehicle Driver Behavior at Highway-Rail Grade Crossing

The following are some highlights of strategies to address trespasser risks:

- » Gather data and conduct analyses to understand where and why trespasser strikes occur.
- » Develop grade separated pedestrian crossings at location where pedestrians frequently cross railroad tracks.
- » If grade separating pedestrian paths and railroad tracks is not currently feasible, determine whether worn pedestrian paths (desire paths) across railroad tracks can be converted to legally authorized crossings with appropriate signage, warning devices, fencing, etc.

- » Ensure that sight lines are adequate for train crews to see trespassers.
- » Clear any vegetation, increase illumination to remove any hiding spots for trespassers.
- » Promote transfer of trespass monitoring technology used by the security industry to railroad applications.

For the ILRNA, stakeholders recommended 80 crossing and safety projects. Of these, 73 are grade separations (Central Avenue/ Belt Railway Company of Chicago crossing in Chicago from Figure 4-7 is one of them), two would improve pedestrian crossings at highway-rail grade crossings, three would upgrade the ICC's ability to collect data and analyze crossings, and two would make improvements to crossings.

FIGURE 4-7: CENTRAL AVENUE/BELT RAILWAY COMPANY OF CHICAGO CROSSING



Source: Central Avenue at Belt Railway Company of Chicago Study

Of the 80 crossing/safety projects recommended in the ILRNA, 21 were from the CMAP Northeast Illinois Priority Grade Crossings list, 14 were recommended by IDOT or the ICC, 13 were from the CREATE Program, 10 were from local/regional plans, eight were recommended by railroads, and the remaining 14 were from multiple sources.

4.6. Mitigating Additional Negative Impacts of Rail

Given the density of the Illinois rail network by mileage and volume of freight as well as passenger rail traffic, it is important that the rail network not conflict unduly with adjacent land uses. During the ILRNA, stakeholder comments addressed the following negative community impacts of rail:

- » Blocked Crossings. Crossings occupied by stationary trains for extended periods of time are not only inconvenient to roadway users but also create safety hazards if they prohibit first responders from responding to emergencies or if impatient pedestrians crawl through trains to cross the tracks.

Stakeholders complained about crossings that are frequently blocked in Braceville, Braidwood, Godley, Chicago generally, East Dubuque, Evergreen Park, Ottawa, and Rochelle. A variety of improvements can address blocked crossings, including grade separations, roadway connections to preexisting grade separated crossings, and new sidings/extended sidings so that trains can park elsewhere. Temporarily, changeable message boards and other information-based solutions can inform motorists when crossings are blocked.

- » **Low Clearance or Poor Condition Rail Overpasses.** In some locations, rail overpasses do not provide sufficient clearance for trucks to pass underneath. The typical truck is no more than 13 feet 6 inches high, but bridges should generally be 14 feet or higher to allow for variation in the pavement and for trucks to jostle up and down. Some rail overpasses have less clearance and limit vehicle movements in these areas. Several stakeholders complained about overpasses in poor condition. In 2021, the City of Danville closed a street due to hazards of falling debris from a railroad overpass. Stakeholders had concerns about low clearance or poor condition overpasses in Danville, Chicago, DeKalb, and Naperville.

FIGURE 4-8: CLOSED ROADWAY UNDERPASS WHILE RAIL BRIDGE REPAIRS ARE COMPLETED



Source: VermillionCountyFirst.com

- » **Train Noise.** Stakeholders in Colona, Moline, and Carbondale recommended quiet zones for communities within these areas. Under the Train Horn Rule, locomotives are required to sound train horns when approaching public highway-rail grade crossings. Localities can mitigate the impacts of train horn noise by establishing “quiet zones,” where railroads are directed to cease the routine sounding of their horns when approaching public highway-rail grade crossings. Train horns can still be sounded in emergency situations. Localities that would like to establish quiet zones must first compensate for any safety loss of trains no longer sounding their horns, usually by

installing additional safety measures at crossings. Several stakeholders suggested that sound barriers be installed between rail rights-of-way and adjacent residential areas.

- » **Hazardous Materials.** Several stakeholders were concerned about movements of hazardous materials by rail through their communities. The ICC oversees railroad hazardous materials shipments through Illinois. Railroad hazardous material shipments are also subject to oversight by FRA, the Pipeline and Hazardous Materials Safety Administration, and the Department of Homeland Security. The Illinois Emergency Management Agency coordinates efforts to prepare for hazardous material incidents.

4.7. Reacting to Changes in Rail Technology, Rail Markets

4.7.1. Energy Markets

Chapter 2 of this Rail Plan includes an analysis of rail market trends and forecasts of usage by rail line. One of the more striking commodity trends is the decline in rail shipments of coal, both forecast and over the past several years. Many of the state's coal-fired power plants are either closing or switching to other fuels. Table 4-2 lists the plants and expected closure dates. Coal-fired power plants are major users of the rail network, and the closure of a plant significantly reduces the level of rail traffic on serving railroad lines.

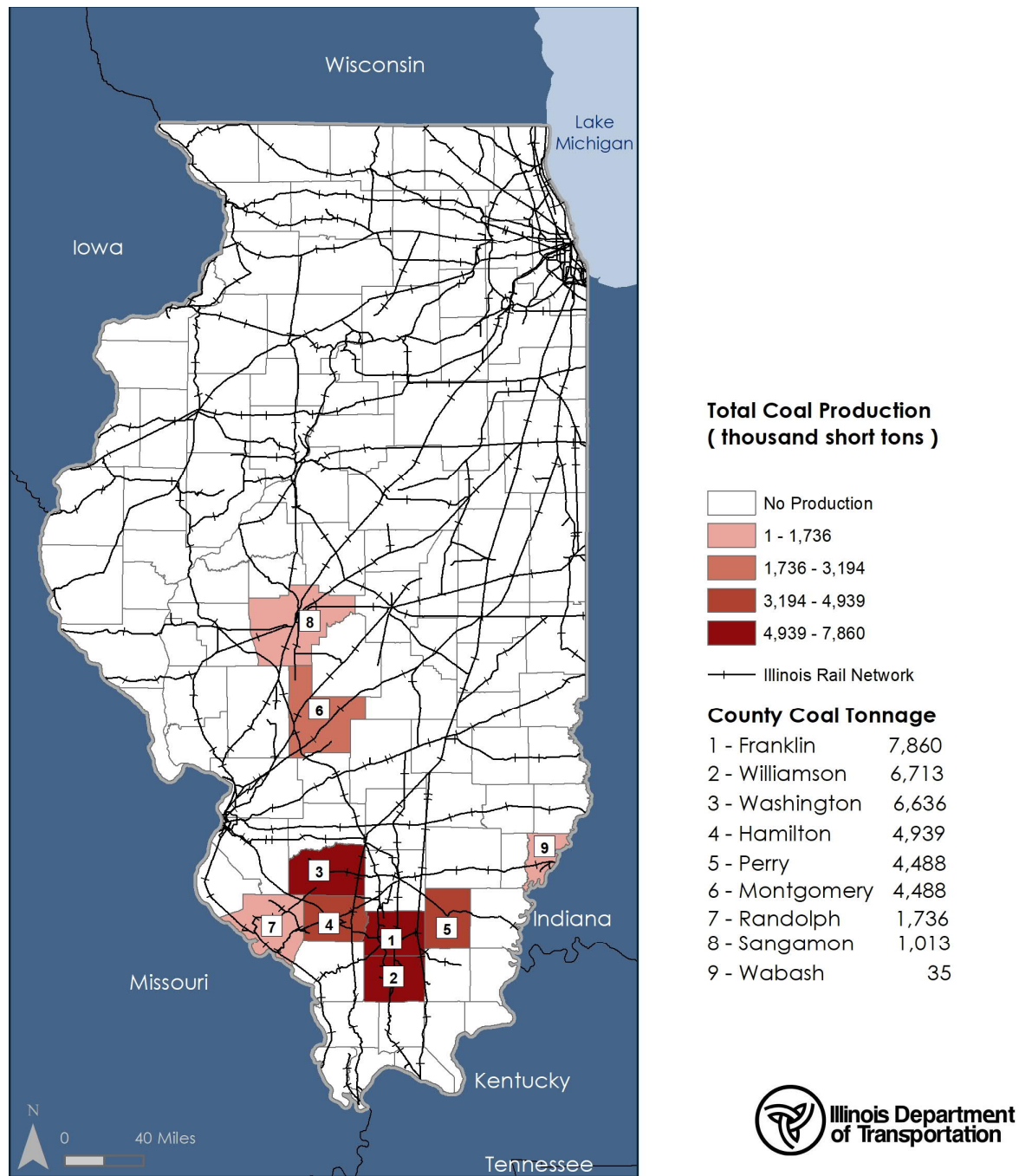
TABLE 4-2: ILLINOIS COAL-FIRED POWER PLANTS SCHEDULED FOR CLOSURE

Power Plant	Expected Closure Year
E.D. Edwards Power Plant	2022
Joppa Power Plant	2022
Marion Power Plant	2022
Dallman Station	2023
Kincaid Generating Station	2027
Newton Power Station	2027
NRG Powerton Generating Station	2028

Source: Illinois Freight Plan

Illinois is also the nation's fourth largest coal producing state. Figure 4-9 displays Illinois coal production by county per the U.S. Energy Information Administration. Not all coal is shipped from Illinois by rail, and not all coal that is shipped by rail from Illinois origins was mined in Illinois. Some mines in Illinois rely on trucks to ship coal. Also within Illinois are port facilities where coal is transferred from barge to rail, and Illinois serves as the rail origin although the coal that arrives at the facility by barge that was not necessarily mined in Illinois.

FIGURE 4-9: ILLINOIS COAL PRODUCTION BY COUNTY (2021)



Forecasts by S&P Global estimate that coal shipments to and from Illinois will decline significantly over the next 20 years. The decline of coal will have significant impacts on affected parts of the Illinois rail network. Rail lines that provide “last-mile” connections to coal consumption, production, and transfer locations may lose much of their traffic. Without revenues from coal traffic to fund ongoing maintenance, continued service on these corridors may not be viable, or at least the same level of service may not be viable. Stakeholders may also want to repurpose transfer facilities. The project

proposed in the ILRNA to convert the Kellogg Dock coal transload facility to handle other commodities is one example (Figure 4-10).

FIGURE 4-10: KELLOGG DOCK COAL TRANSLOAD



Source: Inland Rivers Ports & Terminals

While coal is an example where Illinois will need to adjust to a commodity in decline on the rail network, other commodities may increase rapidly, requiring support to provide adequate capacity.

4.7.2. Rail Technology

Appendix E of the Rail Plan describes several areas of technological improvement that could impact the rail industry including:

- » Technologies to reduce rail emissions and help the industry to address climate change such as alternate/low-emissions locomotives, anti-idling systems, low emissions, and intermodal terminal equipment
- » Rail Pulse technology for real-time railcar tracking
- » Usage of PTC to improve railroad operations
- » Automated track inspection technologies that improve the efficiency of monitoring railroad track and structures

As a key state for the nation's rail system, Illinois has an opportunity to promote and support the adoption of new freight-rail technologies. Given that many of the nation's most important rail terminals are located in Illinois, rail technologies that impact rail terminal operations are particularly relevant to the state. Relevant projects include those that reduce emissions of rail yards, including:

- » Low-emissions hybrid or alternate power switch locomotives
- » Anti-idling systems that allow diesel engines to be turned off when not in use during sub-freezing temperatures, for auxiliary systems to remain operational with the diesel powered down, and for the locomotive to be easy to restart
- » Zero/low-emissions yard vehicles, cranes

FIGURE 4-11: LOW-EMISSIONS HYBRID YARD SWITCHER LOCOMOTIVE



Source: Bryan Flint, CC BY-SA 3.0 <http://creativecommons.org/licenses/by-sa/3.0/>, via Wikimedia Commons

The adoption of other technologies can be uniquely beneficial to Illinois as well, particularly those that impact how intermodal containers are transferred from one railroad to another. For railroads, a tradeoff exists between “steel wheel” and “rubber tire” intermodal interchanges in Chicago. For non-intermodal traffic, interchanging freight traffic between two railroads can be accomplished by one railroad physically transferring railcars to another. The movement of steel wheeled railcars between railroads is used for intermodal traffic as well. However, railroads have another option for transferring intermodal containers. A railroad can unload containers from a train at its intermodal terminal and load them onto trucks that haul the containers across town to the other railroad’s terminal (hence the term “rubber tire interchange”) where they are loaded onto the second railroad’s train.

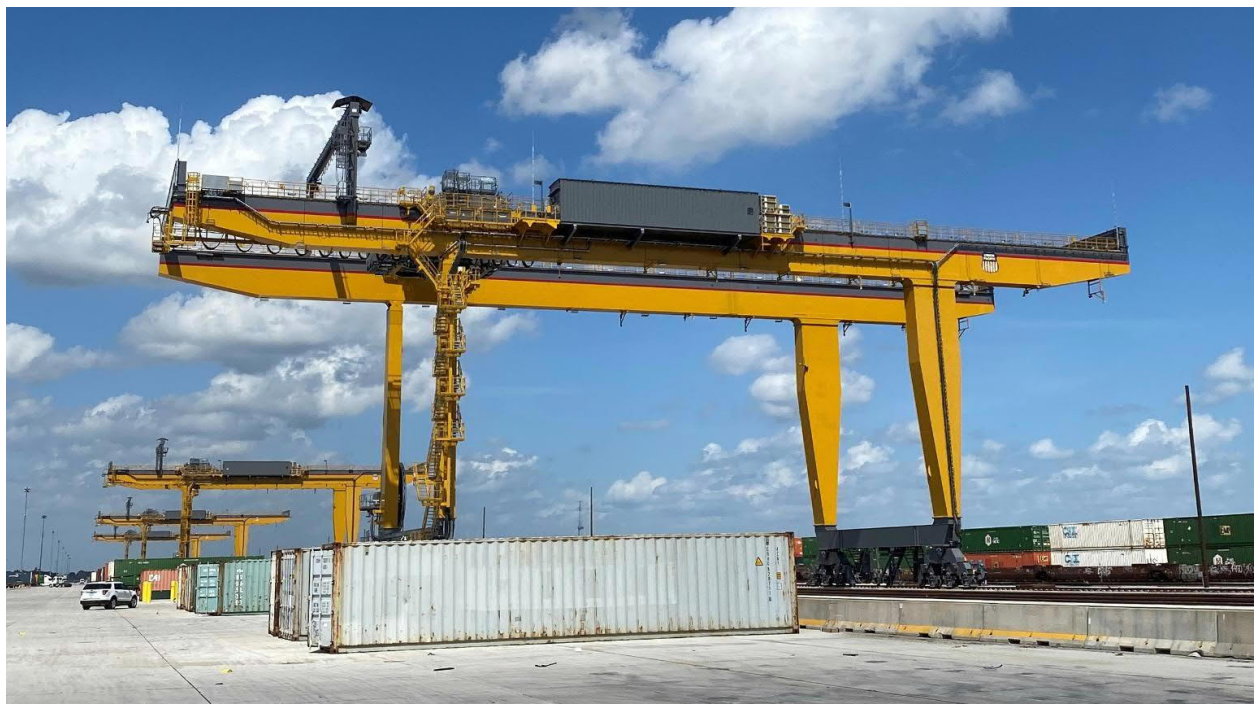
Typically, steel wheel interchange is preferable when railroads are transferring a significant number of intermodal railcars at a time, and the intermodal railcars arrive at the second railroad pre-sorted (pre blocked). If railcars are not pre blocked and arrive in small batches, the cost of switching railcars undoes any savings from using rail rather than truck to transfer containers. In Chicago, railroads must also navigate an extremely busy rail network, often with commuter train windows that limit when freight trains can move. Rubber-tire interchange can add cost, due to the additional container handling and trucking, but provides railroads with more flexibility and can be faster.

Given that Chicago is the location in the United States where the most containers are transferred between railroads, these transfers are important to Illinois. Railroads use both steel wheel and rubber-tire interchanges in Chicago. From the perspective of public benefits, steel wheel interchange is clearly preferable to rubber-tire interchange. Keeping containers on rail reduces truck congestion, reduces emissions, and improves highway safety. Public benefits create an incentive to encourage steel wheel interchange as long as it does not create congestion in the rail network.

The adoption of precision scheduled railroading facilitates and encourages steel wheel interchanges, given the emphasis on serving fewer, larger intermodal markets and handling large blocks of cars. Technology can help as well. As railroads adopt technology like Rail Pulse that helps them monitor movements on each other's networks, they can better plan steel wheel interchanges. Ideally, systems enable better interline planning across railroads. Illinois has an incentive to support technology and research that will improve interchanges between railroads and encourage steel wheel interchanges.

Illinois also has an incentive to support additional technologies that can maintain the cutting-edge status of intermodal terminals within the state. Railroads have been exploring opportunities to automate intermodal terminals. Examples of equipment where automation is being applied include wide-span rail-mounted gantry cranes, rubber-tire gantry cranes, terminal vehicles such as hostlers, and straddle carriers. Both equipment and process automation can eliminate labor-intensive tasks and result in cost savings as well as reduce emissions. In 2020, BNSF initiated a pilot project involving automated straddle carriers in Kansas City, MO. These automated straddle carriers move containers between container storage and truck pickup areas. They also “groom” containers in the storage areas to sort containers, ensuring that they are properly stacked for movements to/from truck pickup and the train loading areas. UP has announced plans to test semiautonomous cranes at its terminal in Joliet.

FIGURE 4-12: UNION PACIFIC CRANE IN JOLIET



Source: Union Pacific website

5. ILLINOIS' RAIL SERVICE AND INVESTMENT PROGRAM

This chapter describes the State of Illinois' long-term vision for rail, goals, objectives, and strategies that can promote that vision. The chapter recommends projects that would support rail-related objectives. The chapter also compares project funding and financing requirements to estimated funding and financing that may be available for project implementation. The primary source of the Rail Service and Investment Program is the ILRNA, an effort that was prepared to provide content for the Rail Plan.

5.1. Vision, Goals, and Objectives

The 2017 Illinois State Rail Plan Update was prepared concurrently with the Illinois multimodal LRTP. IDOT ensured that the 2017 Illinois State Rail Plan Update vision, goals, and objectives were consistent with those of the LRTP. Chapter 1 of this Rail Plan summarizes the LRTP goals and objectives. The passenger and freight-rail visions that IDOT developed for the 2017 Illinois State Rail Plan Update are as follows.

LRTP VISION

For transportation in Illinois is to provide innovative, sustainable and multimodal transportation solutions that support local goals and grow Illinois' economy.

5.1.1. Passenger Rail Vision

Develop and maintain a passenger rail system that provides the traveling public with a safe, attractive, energy-efficient, cost-effective, sustainable, and reliable personal transportation alternative that promotes mobility and enhances quality of life.

5.1.2. Freight-Rail Vision

To foster an economically competitive and sustainable freight-rail system that moves goods safely, efficiently, and expeditiously across and within Illinois.

These are retained in the Rail Plan.

The goals, objectives, strategies, and performance measures are adopted and updated from the 2017 Illinois State Rail Plan. These also consider subsequent planning work, including that performed for the Illinois 2023 State Freight Plan, which provided a new framework by which to consider goals, objectives, and strategies. The framework specifies three areas:

1. System Infrastructure: goals and objectives to improve freight system physical resources, such as physical condition or reliability
2. System Impacts: goals and objectives to improve the outcomes of use of the system, such as safety and sustainability
3. Agency Resources: goals and objectives to improve the ability of IDOT and other agencies within the state to accomplish their missions and take action on items 1 and 2.

The Rail Plan adopts the framework and applies these categories to the Rail Plan goals, objectives, and strategies. Many of the objectives in the Rail Plan are similar to those in the Illinois 2023 State Freight

Plan, but these have been modified for emphasis areas specific to freight and passenger rail, rather than freight generally. The goals, objectives, and strategies that appear in this Rail Plan also reflect the project selection criteria as described in Notice of Funding Opportunities for programs relevant to rail under the IIJA.

Table 4-1 presents updated goals, objectives, strategies, and performance measures for this Rail Plan. Goals break down the vision into manageable pieces, while objectives signal actions or policies to achieve the goals. Strategies add specificity to activities that could achieve the objective. Performance measures can be used to monitor progress toward achieving the goals and objectives. In Table 4-1, not all goals, objectives, and strategies are associated with performance measures, because some are more suited to quantifiable measurement than others. It is neither necessary nor necessarily desirable to assign a performance measurement to each of the goals, objectives, and strategies.

TABLE 5-1: ILLINOIS STATE RAIL PLAN GOALS, OBJECTIVES, STRATEGIES, AND PERFORMANCE MEASURES

Goal	Objective	Strategies	Performance Measure
SYSTEM IMPACT GOALS			
Economic Development	Identify and support freight projects that improve shipper access to the rail network	Support industrial access projects such as new/improved siding and spurs	
	Identify and support passenger rail projects that provide economic development benefits to Illinois communities	Look for opportunities for rail-related economic development	
Sustainability	Reduce the environmental impacts of rail transportation within Illinois	Support competitive grant applications demonstrating environmental benefits with areas such as low-emission locomotives, hot start technology, low-emission terminal equipment	Estimated emissions savings
	Promote rail's role in reducing greenhouse gas emissions	Continue to study gaps and needs limiting mode shift from highway to rail where applicable, develop mitigating strategies	
Resiliency	Reduce impacts of natural, human-made, and technology disasters/disruption on rail infrastructure	Consider resiliency when deciding which rail projects to support, perform a study to assess vulnerabilities of the rail network and develop mitigating strategies in partnership with the industry	
	Support projects that enable rail to serve as an alternative to improve transportation resiliency, or projects that improve the resiliency of the rail system	Continue to include resiliency as a scoring criterion for future Competitive Freight Programs	
Community	Provide intercity passenger rail and commuter services that improve the mobility for Illinois communities	Support infrastructure, operating improvements that will enable train schedules that are more desirable to current and prospective passengers	Ridership on state-supported routes
	Provide transportation options to Illinois communities	Strategically consider extensions to commuter and intercity passenger rail networks	Number of projects completed through FRA Corridor ID Program

Goal	Objective	Strategies	Performance Measure
	Increase accessibility to low-income, elderly and special needs groups that have limited access to other modes of transportation	Support funding for ADA station and equipment improvements; build coalitions; identify specific issues of the existing transportation system to meet the needs of the transportation disadvantaged; support special discount programs (e.g., Reduced Fare Program)	Decline in the number of inaccessible commuter and intercity passenger rail stations, establishment of discount program
	Ensure equitable development of the rail system	Continue to measure and consider the distribution of benefits and burdens on communities when making freight investments, support federal grant applications demonstrating equitable benefits	
	Improve community livability in areas impacted by rail uses	Facilitate and support improved communications between rail stakeholders and community representatives	
Safety	Eliminate highway/rail grade crossings where feasible	Complete the remaining CREATE Program grade separations	Reduction in highway-rail grade crossing crashes
		Close crossings where feasible	Number of highway-rail grade crossings eliminated through IDOT and ICC programs
		Complete additional grade-separation projects consistent with priorities outlined in the ICC Crossing Safety Improvement Program	
	Promote rail and highway safety by identifying and improving hazardous highway grade crossings	Continue ICC/IDOT efforts to improve the identification of crossing hazards through data and analysis	
		Improve countermeasures at crossings	
		Perform other engineering solutions, like signal preemption, approach and sight line improvements, crossing surfaces	
	Continue efforts to educate the public on rail hazards	Support public education and awareness programs such as through the Operation Lifesaver program, managed by the ICC	Presentations, number of people reached
	Continue efforts to support the enforcement of crossing laws	Support local jurisdictions, support automated enforcement measures	Reduction in highway-rail grade crossing crashes
	Reduce the risks of trespasser strikes	Perform education, enforcement, and engineering strategies to reduce trespasser strikes	Number of trespasser strikes

Goal	Objective	Strategies	Performance Measure
	Promote efforts to provide secure passenger and freight railroad operations	Support efforts to obtain funding for security improvements; perform risk assessments; develop security plans; implement emergency response training	
	Minimize hazmat risks	Continue activities of the ICC hazardous materials safety program	
INFRASTRUCTURE CHARACTERISTIC GOALS			
Reliability	Mitigate freight and passenger rail bottlenecks and non-recurring congestion	Partner with host railroads/Amtrak to install railroad infrastructure for greater capacity, more operational flexibility	
		Support efforts by Amtrak and other passenger rail stakeholders to separate freight and passenger rail operations	
	Track, plan and build infrastructure for growing volumes and vehicle size	Support projects to upgrade freight lines to 286,000-pound standard, consideration is also given to projects that increase to 315,000-pound standard	
		Ensure that rail lines have adequate vertical and horizontal clearances for potential users	
Accessibility	Support the efficiency of rail-served freight multimodal facilities, including intermodal, transload, and port facilities	Build improved access to rail-served multimodal facilities Support partnerships to improve multimodal facilities	
	Improve efficiency of transfers of passengers between modes	Improve signage; optimize schedules; improve bike services (roll-on bikes); offer new/improved transfer facilities; offer information kiosks; improve access for facility users; improve physical attributes (access, connections and reliability, information, amenities, security/safety)	
Efficiency	Ensure capacity of the rail network to handle current and future demand	Support CREATE Program projects that add capacity and improve the fluidity of the Chicago-area rail network	

Goal	Objective	Strategies	Performance Measure
		Support projects outside of the Chicago metropolitan area that improve the efficiency of the railroad network	
	Promote technological advances for the Illinois rail network	Promote, sponsor pilot studies for new rail technologies, including new rail terminal technologies	Number of pilot studies
System Condition	Ensure preservation of abandoned rail corridors	Study public ownership of abandoned rail lines, identify strategies to ensure continued maintenance and operation, and facilitate stakeholder involvement in solutions	Average mileage of track abandoned compared to previous years
	Preserve existing rail corridors	Support operators of low-density rail corridors, such as short line and regional railroads	
Passenger System Extent	Invest in long-term "mega projects" such as the CREATE Program, passenger rail initiatives	Identify projects that will improve existing infrastructure; determine funding alternatives to implement "mega projects"	Number of projects completed through CREATE and FRA Corridor ID Program
	Work with adjacent states to achieve a regional transportation solution	Support CREATE; Mid-America Freight Coalition (MAFC); Midwest Regional Rail Initiative: MWIPRC	
AGENCY RESOURCE GOALS			
Funding	Document outcomes of IDOT rail freight program(s) that support economic development, corridor preservation	Study and document outcomes of Rail Freight Loan Program(s) and other IDOT investments in rail freight infrastructure, communicate results, catalog requests for support and include performance measures consistent with the ICFP	
		Study freight-rail grant programs in other states, identify best practices, and develop a conceptual program that is not limited by the requirements of the existing Rail Freight Loan Program	
		Encourage P3 projects, and make investments, as warranted and if possible	Number of P3 projects in the state
	Maximize and leverage federal and private investment	Develop investment strategy to align investments with federal competitive grant programs	Number of P3 projects in the state

Goal	Objective	Strategies	Performance Measure
Technology		Support joint P3s and P3 initiatives to provide facilities and services that help reduce public expenditures and maintain the quality, quantity and long-term stability of transportation facilities and services	
		Support joint use of transportation facilities for compatible activities	
	Monitor emerging rail technologies	Continue to work with the Illinois Center of Transportation and other research institutions to identify transportation innovations and emerging technologies, methods and materials related to freight (UA, EV, terminal automation, first mile/last mile, data use/management, RR Information and location system modernization, train control systems, Advanced Air Mobility Integration, etc.)	
		Work with an office of transportation technologies, which focuses on emerging technologies	
		Support railroad adoption of supply chain visibility solutions	

5.2. Program Coordination

This Rail Plan vision has been coordinated with the 2017 Illinois LRTP and with the Illinois 2023 State Freight Plan. It has also considered the project evaluation criteria from the Illinois Rail Needs Assessment, and FRA and DOT multimodal grant programs that are part of the IJJA.

5.3. Rail Agencies

The most significant rail agency change since the 2017 Illinois State Rail Plan is the creation of the Illinois High-Speed Rail Commission, which was created per the High-Speed Commission Act of 2021. The commission is charged with creating a statewide plan for a high-speed rail line and feeder network connecting St. Louis, MO, and Chicago, IL. According to the act, the feeder network should include the current Amtrak and Metra services, as well as new connections to Rockford, Moline, Peoria, and Decatur. Intercity bus connections should coordinate with the rail service. The commission is to conduct a ridership study, and provide recommendations regarding governance structure, frequency of service, and implementation of the plan. The commission is to be dissolved on January 1, 2027.

IDOT has also updated the Illinois Competitive Freight Program. In addition, the 2022 Illinois Competitive Freight Program (ICFP), which seeks to improve freight efficiency and mobility throughout Illinois by advancing the vision and goals of the draft 2023 Illinois State Freight Plan, awarded projects in March 2023; nearly \$200 million will be awarded, with approximately 24.9 percent (\$49.8 million) focused on multimodal projects.

5.4. Program Effects

As the nation's rail hub, improvements to the Illinois rail network affect not only Illinois but also the national rail network. Appendix G describes the impacts of individual projects. General impacts of the Rail Service and Investment Program are described below.

5.4.1. Impact of Freight Transload/Shipper Access

Freight transload/shipper access projects help to divert freight from roadways to rail by providing shippers with more/better locations to access the rail network. By decreasing road traffic, these projects reduce highway emissions, safety risks, congestion, and pavement damage. Freight transload/shipper access projects also support economic development. Since shippers have new and better transportation options, freight transload/shipper access projects support economic development by boosting the economic competitiveness of establishments in Illinois. Some types of multimodal facilities, such as intermodal terminals, attract employment to the areas surrounding these transportation hubs.

5.4.2. Impact of State of Good Repair Projects

Similar to freight transload/shipper access projects, state of good repair projects help divert freight from roadways to rail. These projects maintain rail's status as a compelling transportation option, maintain levels of service, and guard against future degradation of service. These projects help to preserve the rail network and services, so that rail is available into the future. State of good repair projects can also have safety and resiliency implications. Rail assets in a state of good repair are generally more efficient to operate than those in a poor state of repair and have better resiliency to events such as flooding.

5.4.3. Impact of Capacity Projects

Capacity projects also maintain rail service as a compelling transportation option. Capacity projects improve/maintain the reliability of the rail network and enable the network to accommodate future growth. Through capacity projects, rail service providers avoid delays and maintain competitive, reliable travel time for freight and passenger rail services.

5.4.4. Impact of Intercity Passenger Rail Improvements

Within this Rail Plan are projects/initiatives that either improve existing passenger rail services or add new passenger rail services. Improvements to existing services enhance customer experience, reduce travel times, and improve reliability. Many projects provide passengers with greater flexibility for using passenger rail services. New services provide Illinois residents with additional options and enhance mobility for Illinois communities. Because they divert passengers from roadway travel, passenger rail projects reduce highway emissions, congestion, and the risk of traffic accidents. Passenger rail aids economic development by tying together areas of the Illinois economy. Passenger rail stations can serve as a focus for development.

5.4.5. Impact of Safety/Grade Crossing Projects

Projects listed in this Rail Plan improve safety and reduce the risk of crashes at highway/rail grade crossings. Many of these projects are grade separations that improve the mobility of motorists and pedestrians because they are no longer delayed waiting at crossings. Projects also reduce the risk that emergency vehicles will be delayed in responding to calls.

5.5. Passenger and Freight Elements – Funding Plan

As explained in Chapter 2, the largest sources of state funding for transportation projects in Illinois are the Road Fund and State Construction Account Fund, which are primarily supported by state motor fuel taxes, motor vehicle and operator license fees, reimbursements from local agencies, and federal reimbursements from FHWA. While traditionally, the funds have been dedicated to roadway projects, starting in the 2010s Amtrak operating subsidies have also been funded out of the Road Fund, and the 2019 Rebuild Illinois capital program directed additional funding from increased motor fuel taxes and motor vehicle fees to CREATE Program projects, to Metra, and to intercity passenger rail improvements. These state sources will help to fund the Rail Service and Investment Program included in this Rail Plan. Other state funding sources include the Economic Development Program, which can fund roadway access to rail-served sites, and the GCPF, which funds improvements at highway-rail grade crossings on the local roadway system.

From the State of Illinois' perspective, it is useful to consider the projects that would be most appropriate to federal discretionary grant projects. The IJA has dramatically increased federal funding available for rail projects and therefore the potential importance of federal discretionary grants to fund rail projects. It is useful to consider which federal discretionary grant programs would be appropriate for which projects. Table 2-9 of Chapter 2 describe federal discretionary grant programs. These programs were further assessed for their applicability to the 50 projects that were featured in the ILRNA, which fall into the categories shown in Figure 2-26.

FIGURE 5-1: ILLINOIS RAIL NEEDS ASSESSMENT PROJECT CATEGORIES

Project Category	Projects in this Category	Typical Scope
 Freight Transload/Shipper Access	Expand or improve shipper access to the freight rail network.	• New or expanded rail-truck transload yards • Expanded railcar loading and unloading facilities • Competitive rail access spurs • Direct industrial spurs to a shipper's property
 Rail Capacity	Increase capacity, reduce train delays, and/or improve the operational fluidity of the rail network.	• New or expanded sidings • Rail-rail flyovers • Modernized signal and interlocking systems • Additional mainline tracks
 State of Good Repair	Ensure the long-term reliability, maintainability, safety, and viability of the rail network.	• Bridge rehabilitations and replacements • Mainline, siding, or yard track renewal • Flood mitigation • Station or locomotive rehabilitation
 Passenger Improvement	Expand or improve the commuter or intercity passenger rail network.	• Service extensions to new communities • Rolling stock or locomotive purchases • Capacity projects primarily improving passenger train frequency, reliability, and/or travel time
 Safety/Grade Crossings	Address safety and operational issues at highway-rail grade crossings.	• Highway-rail grade separations • Warning device upgrades • Crossing closures

Source: ILRNA

The Notice of Funding Opportunities of the following federal discretionary grant programs was reviewed to determine the most suitable program for the ILRNA featured projects:

- » Federal-State Partnership for Intercity Passenger Rail Grant Program – This program is appropriate for a broad range of projects that benefit intercity passenger rail, including a range of funding levels. The program can be used for projects on corridors used by commuter and freight-rail services too, but FRA requires applicants to identify the specific benefits to intercity passenger rail. This program has \$2.3 billion in available funding for FY2022 alone.
- » Nationally Significant Multimodal Freight & Highway Projects (INFRA) Grant Program – Eighty-five percent of the INFRA Program funding is reserved for projects over \$100 million in value, and 70 percent is reserved for highway projects. Rail projects can be competitive for the INFRA Program, but they are most competitive if multimodal, such as for ports or other multimodal transfer facilities, and over \$100 million in value. Large rail projects may also be competitive if an argument can be made that they have a significant impact on the national freight network, such as major CREATE Program projects in Chicago.
- » National Infrastructure Project Assistance Program (MEGA) – This program is for large, complex projects with over \$100 million in value. Fifty percent of MEGA Program funds are to go to projects over \$500 million in value and the other 50 percent to projects between \$100 million and \$500 million in value. All modes are eligible, including commuter rail projects.
- » Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program – The RAISE Program has a maximum award of \$25 million for projects in urban areas and a maximum federal match of 80 percent, so a project cannot be more than \$125 million in urban areas. There is a minimum award of \$5 million in urban areas, so projects in urban areas have to be \$6.25 million or more. All RAISE Program awards in FY2022 were \$25 million or less, regardless of whether they were urban or rural. For the RAISE Program, rail projects compete with all modes, which increases the level of competition. However, 50 percent of the RAISE Program funding is

required to be spent in rural areas. Rail projects in rural areas and/or locations of persistent poverty can be more competitive. Commuter rail projects can be funded.

- » Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program – The CRISI Program focuses specifically on intercity passenger and freight rail (Class II, Class III), and excludes commuter rail. Because the program is specific to rail and is funded at nearly the same level as the RAISE Program, the funding available for the rail mode is higher. Among the eligible expenditures, CRISI Program grants can be used for safety research, safety programs and planning. The CRISI Program does not specify a maximum award, but most awards during previous rounds of the CRISI Program have been less than \$25 million.
- » Railroad Crossing Elimination Grant (RCE) Program – The RCE Program is dedicated to projects that grade separate, close, move, or improve the safety of rail crossings. The program has a rural or tribal land set aside, so projects in rural areas or on tribal lands are particularly competitive.
- » Economic Development Administration (EDA) – EDA grants can fund rail projects in economically distressed areas. The awards are usually in the range of several hundred thousand dollars, so are more appropriate for smaller projects.

The determination also considered the amount of funding under each program and the likely level of competition for the program's funds. Two other considerations are project readiness and project location. Several projects featured in the ILRNA do not include cost estimates. This suggests that the projects are still conceptual and not entirely defined. They may be appropriate for a planning grant, which is possible under some of the federal discretionary grant programs listed above, but they are not ready for discretionary grant applications as construction projects. Projects for which no cost estimate was provided in the ILRNA have been excluded.

Freight-rail projects may also be ineligible or at least less competitive for federal discretionary grants if they only provide access to a specific shipper or a defined set of shippers. Projects proposed in the ILRNA that serve specific shippers or industrial parks have been excluded from the federal grant matching. Project improvements would be eligible if they are available to a broad set of shippers, such as a port, intermodal, or transload facility, and these have been included.

Several connections between federal discretionary grant programs and ILRNA projects are apparent:

- » Because the featured rail capacity projects are large, they tend to be more appropriate for grant programs that can fund projects over \$100 million, such as MEGA, INFRA, or Federal-State Partnership for Intercity Passenger Rail.
- » Rail access, safety, and state of good repair projects particularly for short line railroads, are often most appropriate for the CRISI Program, but can also be appropriate for the RAISE Program if they are located in a rural area.
- » Grade-crossing safety projects tend to be relevant to the RCE Program
- » Passenger rail projects are often relevant to the Federal-State Partnership for Intercity Passenger Rail Program, but they can also be relevant to the CRISI Program. If they relate exclusively to commuter rail, the RAISE Program is more relevant.

Table 5-2 lists a matching of federal grant programs and relevant featured projects from the ILRNA.

5.6. Studies and Reports

Several reports are anticipated:

- » The Chicago Terminal Planning Study is a \$6 million planning effort that is expected to begin late 2023.
- » IDOT and other stakeholders have submitted applications for funding for development efforts under the FRA's Corridor Identification and Development Program (Corridor ID Program). If funded, these applications will initiate the process for completing a series of Service Development Plans. IDOT submitted applications for the following corridors:
 - Chicago to Carbondale Corridor for intercity passenger rail improvements
 - Chicago to Quad Cities Corridor for intercity passenger rail expansion
 - Chicago to Rockford Corridor for intercity passenger rail expansion
 - Chicago to St. Louis Corridor for intercity passenger rail high-speed rail improvements

These four corridors reflect applications that IDOT submitted. Other states and other agencies within Illinois have submitted additional applications for corridors that are partially or entirely within Illinois. If successful, these other applications will initiate the process of generating Service Development Plans.

Beyond those corridors that have been proposed for additional planning under the Corridor ID Program, other passenger rail projects and initiatives that are described in Chapter 3 will require additional study before they can proceed to construction and/or service implementation. As such, there will likely be additional studies and reports resulting from those projects/initiatives continuing to advance.

TABLE 5-2: ILLINOIS STATE RAIL PLAN PROPOSED FUNDING BY FEDERAL PROGRAM

Federal-State Partnership	Federal Program				
	MEGA/INFRA	RAISE	CRISI	RCE	EDA
Chicago Union Station Improvements, Chicago, IL	A-2 Flyover, Chicago, IL	Rochelle Transload Center Expansion, Rochelle, IL	Rochelle Transload Center Expansion, Rochelle, IL	Grand Ave Grade Separation, Elmwood Park, IL	I-57 Logistics Center Track Connection, Marion, IL
Chicago-St. Louis HSR Full Build, Chicago, IL to St. Louis, MO Corridor	CPKC Canal Flyover (CREATE Program Project P6), Summit, IL	KJRY Mainline Rehabilitation, Hamilton to Mapleton, IL Corridor	New Calumet River Lift Span, Chicago, IL	Harlem Ave Grade Separation (CREATE Program Project GS18), Berwyn and Riverside, IL	
Chicago-Detroit HSR Improvements, Chicago, IL to Porter, IN Corridor	Belt and 80th St. Junction Realignment (CREATE Program Project EW2), Chicago, IL	Metra Rock Island Improvements, Chicago to Joliet, IL Corridor	Ogden Junction (CREATE Program Project WA1), Chicago, IL	La Grange Rd Grade Separation, La Grange, IL	
Hiawatha Service Expansion Project, Chicago, IL to Milwaukee, WI Corridor	Rock Island Connection (CREATE Program Project P2), Chicago, IL	Metra UP North Improvements, Chicago, IL to Kenosha, WI Corridor	Springfield Flyover, Springfield, IL		
Metra BNSF Improvements, Chicago to Aurora, IL Corridor	Springfield Rail Improvements Project, Springfield, IL	Metra UP-West Improvements, Chicago to Elburn, IL Corridor	Wood River Interlocking Reconstruction, Wood River, IL		
Metra Milwaukee District West Improvements, Chicago to Elgin, IL Corridor		Millennium Station to 11th Place Improvements, Chicago, IL	KJRY Mainline Rehabilitation, Hamilton to Mapleton, IL Corridor		

Federal-State Partnership	Federal Program				
	MEGA/INFRA	RAISE	CRISI	RCE	EDA
St. Charles Air Line Connection, Chicago, IL			KJRY Mississippi River Bridge Rehabilitation, Keokuk, IA to Hamilton, IL		
			COER Bridge and Track Rehabilitation, Marion, IL		
			Grade Crossing Inventory Update, Statewide		
			Railroad Information and Location System Modernization, Statewide		
			Greenleaf Transload Yard, Elk Grove Village, IL		
			Rochelle Agricultural Transload Facility Conversion, Rochelle, IL		
			Kensington Interlocking Improvements, Chicago, IL		

Source: WSP Analysis

5.7. Freight and Passenger Elements

The ILRNA evaluated 234 projects without full funding. Through a systematic scoring process, 50 of these projects were selected as “featured projects.” This Rail Plan identifies an additional six projects as having characteristics that are consistent with federal discretionary grant criteria and therefore representing promising projects for potential federal grant funding. This section summarizes projects in each of these categories: 1) featured projects, 2) all other projects. In addition, six projects from the “all other” category were selected as consistent with federal discretionary grant programs,

The ILRNA used a three-tiered process for scoring projects where:

- » Tier 1 assigned quantitative scores based on indicators of the economic impact of projects, their impacts on travel time, resiliency, environmental impacts, and project support.
- » Tier 2 also assigned quantitative scores but considered environmental justice for projects other than crossing/safety and additional ICC-identified considerations for crossing/safety projects.
- » Tier 3 was a qualitative scoring approach that evaluated projects by their consistency with Illinois policies, plans, programs, and priorities.

Figure 5-2 summarizes the methodology.

Table 5-3 and Table 5-4 summarize the criteria used for Tier 1 and Tier 2 scoring, respectively. For Tier 1 criteria, projects could receive a score of 0 – 1, 0 – 2, 0 – 3, or 0 – 4. For Tier 2 scoring, projects could receive a score between -1 and 1. The scoring methodology is described in more detail in the ILRNA report ([Illinois Rail Needs Assessment Final Report](#)).

Appendix G lists all projects. The next several sections summarize ILRNA featured projects as well as the timing of both featured and not featured projects.

FIGURE 5-2: ILLINOIS RAIL NEEDS ASSESSMENT SCORING METHODOLOGY



Source: Illinois Rail Needs Assessment

TABLE 5-3: ILLINOIS RAIL NEEDS ASSESSMENT TIER 1 CRITERIA

Freight/ Transload Shipper Access	Rail Capacity	State of Good Repair	Passenger Rail Improvement	Safety / Grade Crossings
» New railroad connection	» Freight-rail volume	» Freight-rail volume	» Passenger rail volumes	» Freight-rail volume
» Existing multimodal connection	» Improves passenger rail service	» Improves passenger rail service	» Improves freight-rail service	» Passenger rail use
» Truck traffic reduction	» Number of railroads benefited	» Number of railroads benefited	» Travel time improvement	» AADT
» Job creation	» Regional or national significance	» Resiliency	» Frequency increase	» Truck traffic
» Job retention	» Air quality benefits	» Urgency	» Air quality benefits	» Pedestrian use
» Project readiness	» Project readiness	» Project readiness	» Project readiness	» Recent accident history
» Supports key industry			» Introduces rail service to new community	
» Community or shipper support			» Community support	

Source: ILRNA

TABLE 5-4: ILLINOIS RAIL NEEDS ASSESSMENT TIER 2 CRITERIA

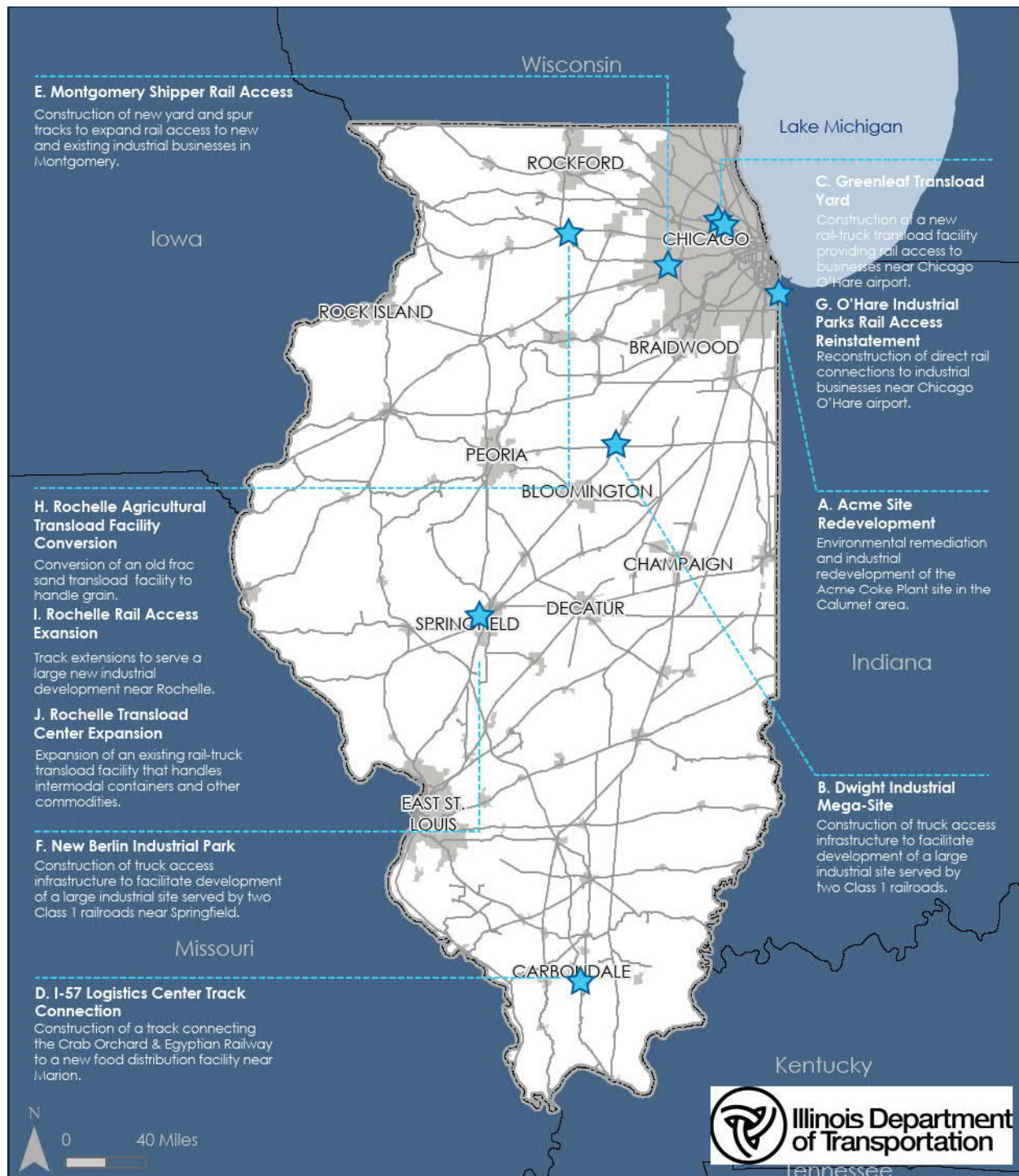
Non-Grade Crossing Projects	Safety/Grade Crossing Projects			
» Effect on Low-Income Community	» Safety	» Emergency Response & Communication	» Local Community Support	
» Effect on Community with High Proportion of People with Color	» Mobility	» Number of Railroads Benefiting	» Project Readiness	
	» Pedestrian Safety	» Railroad Support	» Projects of Regional or National Significance	
	» Passenger Rail Safety			

Source: ILRNA

5.7.1. Freight/Transload Shipper Access Projects

The ILRNA features 10 freight/transload shipper access projects. As shown in Table 4-1, these are distributed throughout the state.

FIGURE 5-3: FEATURED FREIGHT/TRANSLOAD SHIPPER ACCESS PROJECTS



Source: ILRNA

Most projects were identified as short range (0 – 4 years) or long range (5 – 20 years) by project sponsors in the ILRNA. Other projects have been characterized as short range or long range based on the likely complexity of the project and the evaluation of project readiness from the ILRNA. As shown in Table 5-5, Freight/Transload Shipper Access projects from the ILRNA were classified as both short range and long range. The short-range projects tended to be small improvements, such as lengthening sidings, modifying existing facilities, and/or adding smaller connections. Longer-term projects would often involve a new spur or more extensive rail improvements.

TABLE 5-5: FREIGHT/TRANSLOAD SHIPPER ACCESS PROJECTS BY TIMING

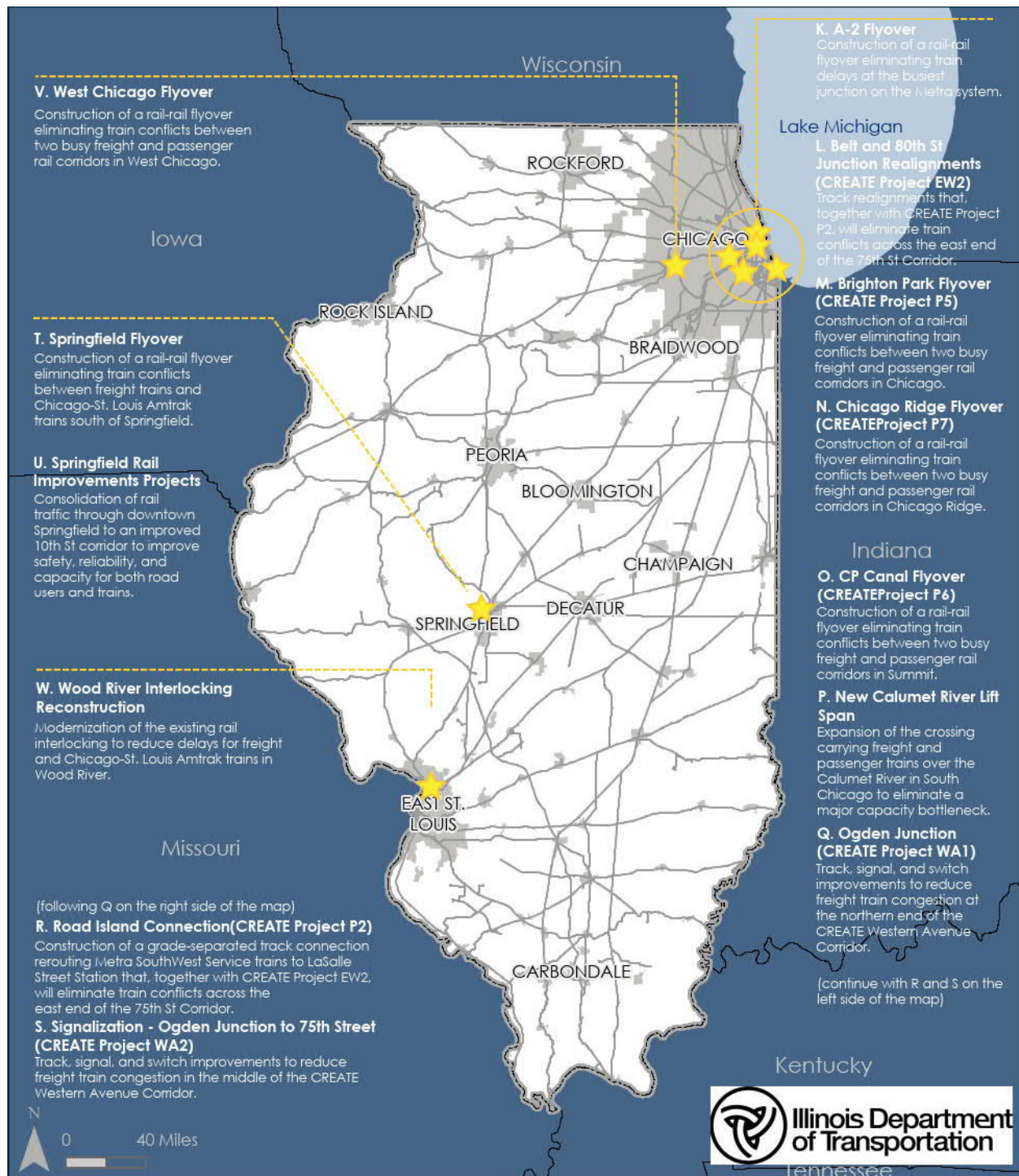
Project Title	Time Period
Montgomery Shipper Rail Access	0 to 4 years
Rochelle Agricultural Transload Facility Conversion	0 to 4 years
Rochelle Rail Access Expansion	0 to 4 years
Rochelle Transload Center Expansion	0 to 4 years
Greenleaf Transload Yard	0 to 4 years
I-57 Logistics Center Track Connection	0 to 4 years
O'Hare Industrial Parks Rail Access Reinstatement	0 to 4 years
Dwight Industrial Mega-Site	5 to 20 years
New Berlin Industrial Park	5 to 20 years
Acme Site Redevelopment	5 to 20 years
11 Projects that were not Featured (proposed by stakeholders but not among the 50 selected per process in Figure 5-2)	0 to 4 years
12 Projects that were not Featured (proposed by stakeholders but not among the 50 selected per process in Figure 5-2)	5 to 20 years

Source: ILRNA, WSP Analysis

5.7.2. Rail Capacity Projects

The ILRNA features 13 rail capacity projects. Because Chicago is the nation's busiest rail hub, many of the capacity projects are located in the Chicago metropolitan area. Several were identified among CREATE Program projects that have not yet been completed.

FIGURE 5-4: FEATURED RAIL CAPACITY PROJECTS



Source: ILRNA

Most of the featured capacity projects are larger, more complex projects such as rail-rail grade separations (flyovers) that were categorized as long-range because they are complex and require agreement between affected parties. These will be completed in the 5- to 20-year time span. More of the projects that were not featured are smaller improvements that would be less complex and were classified as short range (0 to 4 years).

TABLE 5-6: RAIL CAPACITY PROJECTS BY TIMING

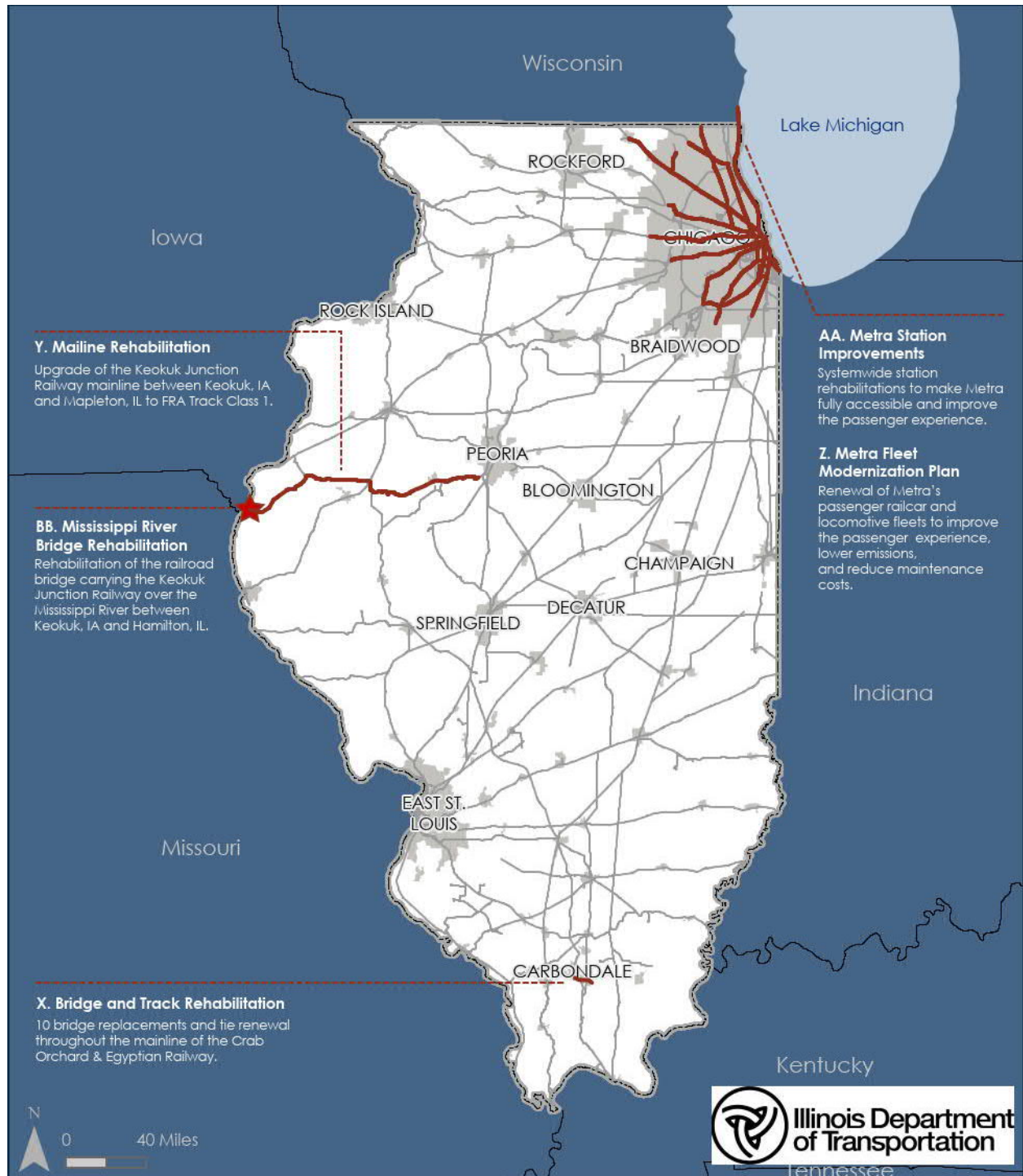
Project Title	Time Period
Signalization - Ogden Junction to 75th Street (CREATE Program Project WA2)	0 to 4 years
Wood River Interlocking Reconstruction	0 to 4 years
Springfield Rail Improvements Project	0 to 4 years
Belt and 80th St. Junction Realignment (CREATE Program Project EW2)	5 to 20 years
Brighton Park Flyover (CREATE Program Project P5)	5 to 20 years
Chicago Ridge Flyover (CREATE Program Project P7)	5 to 20 years
CPKC Canal Flyover (CREATE Program Project P6)	5 to 20 years
Ogden Junction (CREATE Program Project WA1)	5 to 20 years
Rock Island Connection (CREATE Program Project P2)	5 to 20 years
A-2 Flyover	5 to 20 years
New Calumet River Lift Span	5 to 20 years
West Chicago Flyover	5 to 20 years
Springfield Flyover	5 to 20 years
23 Projects that were not Featured (proposed by stakeholders but not among the 50 selected per process in Figure 5-2)	0 to 4 years
10 Projects that were not Featured (proposed by stakeholders but not among the 50 selected per process in Figure 5-2)	5 to 20 years

Source: ILRNA, WSP Analysis

5.7.3. State of Good Repair Projects

The ILRNA featured five state of good repair projects. As shown in Figure 5-5, these are spread throughout the state. Those in Chicago related to Metra improvements, while those in other parts of the state were improvements to short line railroads.

FIGURE 5-5: FEATURED STATE OF GOOD REPAIR PROJECTS



Source: ILRNA

State of good repair projects are for the most part short range. These are projects that are immediate needs by railroads to catch up with deferred maintenance. Many are on low-density freight lines where freight revenues do not cover the costs of needed repairs and upgrades.

TABLE 5-7: STATE OF GOOD REPAIR PROJECTS BY TIMING

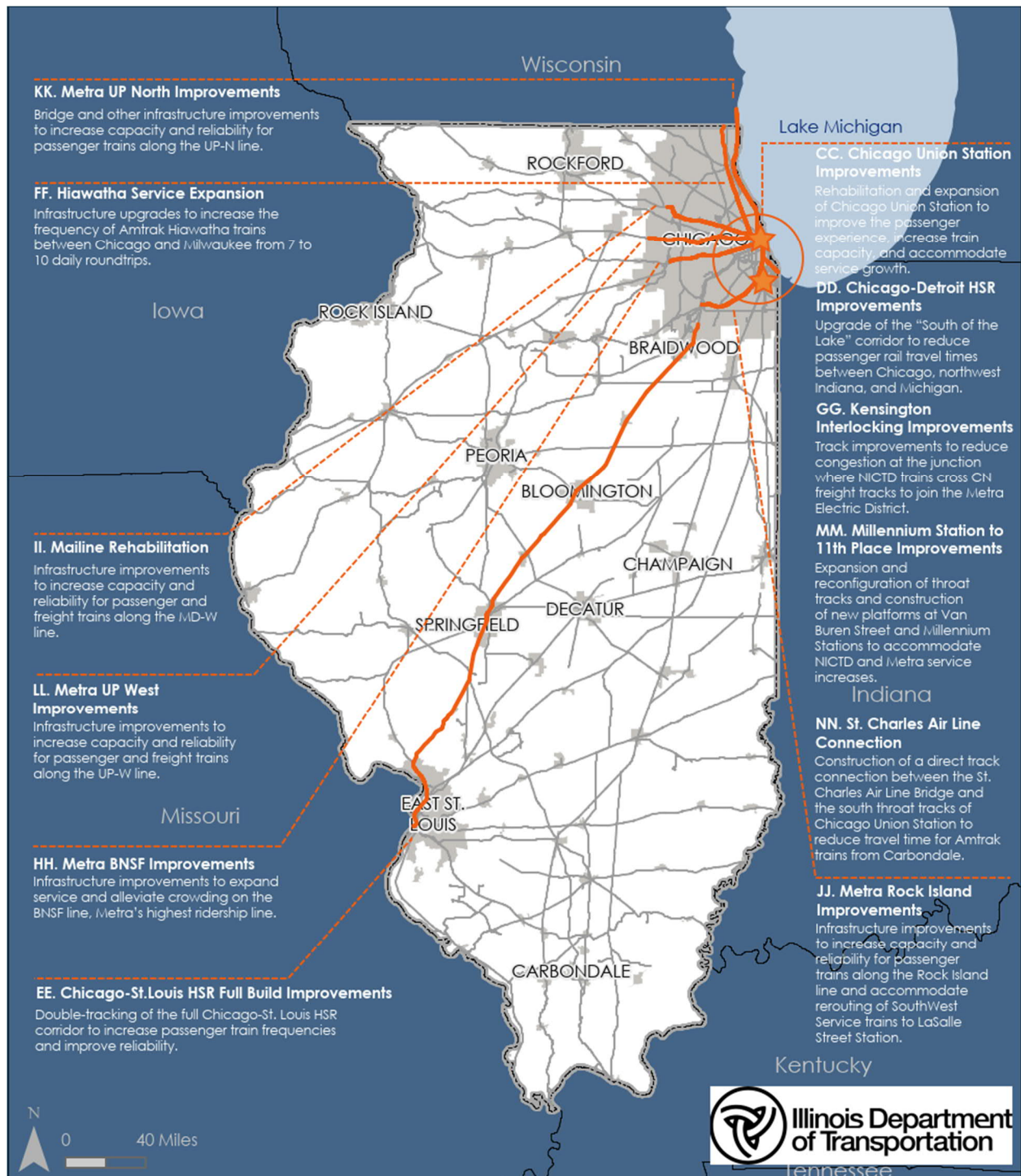
Project Title	Time Period
Metra Station Improvements	0-4 years
KJRY Mainline Rehabilitation	0-4 years
KJRY Mississippi River Bridge Rehabilitation	0-4 years
COER Bridge and Track Rehabilitation	0-4 years
Metra Fleet Modernization Plan	5-20 years
19 Projects that were not Featured (proposed by stakeholders but not among the 50 selected per process in Figure 5-2)	0-4 years
1 Project that was not Featured (proposed by stakeholders but not among the 50 selected per process in Figure 5-2)	5-20 years

Source: ILRNA, WSP Analysis

5.7.4. Passenger Rail Improvement Projects

The ILRNA featured 12 passenger rail projects. These included commuter and intercity passenger rail projects within the Chicago area, as well as intercity passenger rail projects on key corridors in other areas of the state.

FIGURE 5-6: FEATURED PASSENGER RAIL IMPROVEMENT PROJECTS



Source: ILRRA

Some passenger rail projects are short range and reflect specific enhancements to stations or rail lines used by passenger trains. These are short-range improvements. Other projects are programmatic improvements to corridors or new passenger services that are longer term in nature. These have been classified as long-range as shown in Table 5-8.

TABLE 5-8: PASSENGER RAIL IMPROVEMENT PROJECTS BY TIMING

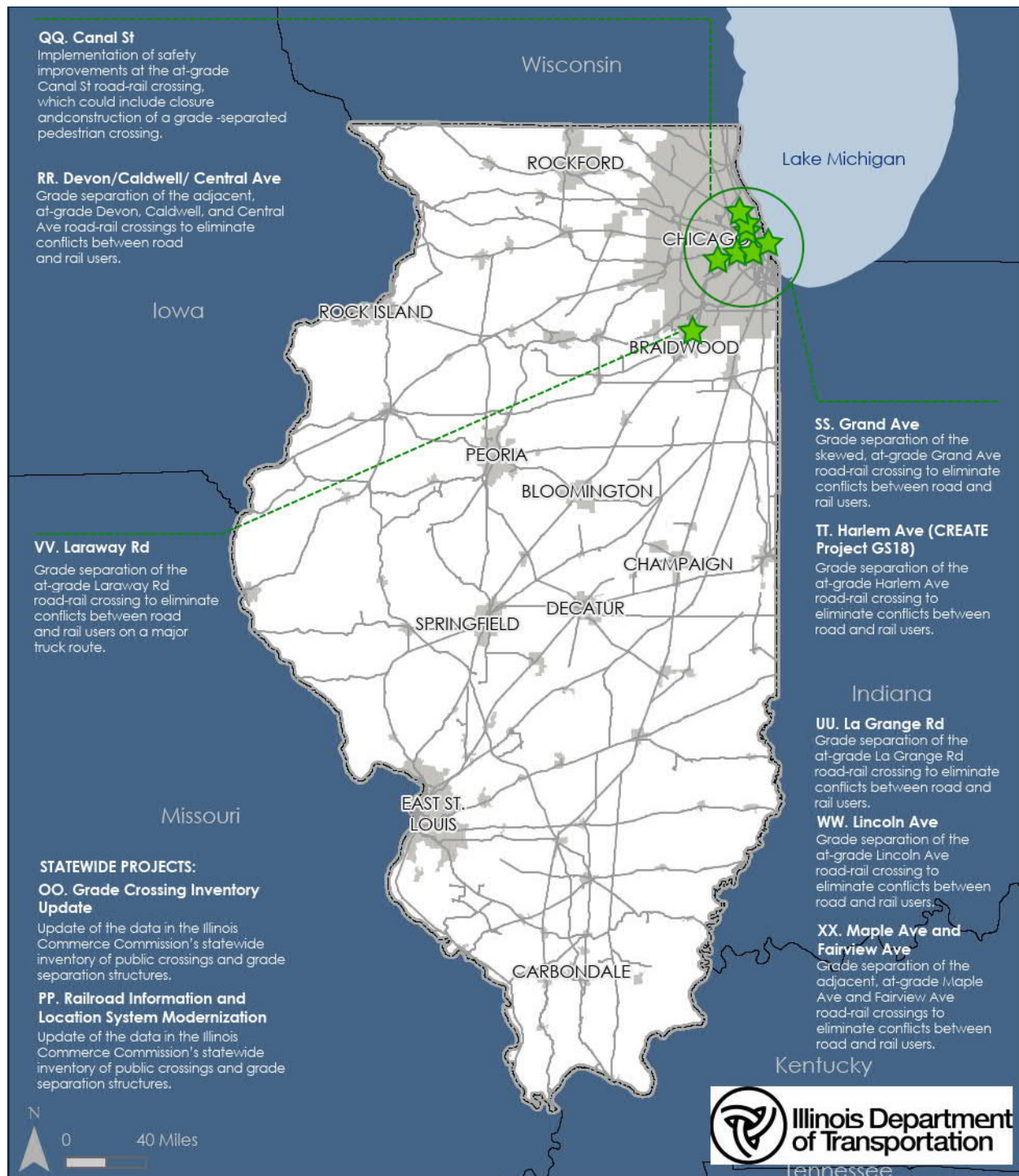
Project Title	Time Period
St. Charles Air Line Connection	0 to 4 years
Kensington Interlocking Improvements	0 to 4 years
Millennium Station to 11th Place Improvements	0 to 4 years
Chicago Union Station Improvements	5 to 20 years
Metra BNSF Improvements	5 to 20 years
Metra Milwaukee District West Improvements	5 to 20 years
Metra Rock Island Improvements	5 to 20 years
Metra UP North Improvements	5 to 20 years
Metra UP-West Improvements	5 to 20 years
Chicago- Detroit HSR Improvements	5 to 20 years
Chicago-St. Louis HSR Full Build	5 to 20 years
Hiawatha Service Expansion Project	5 to 20 years
12 Projects that were not Featured (proposed by stakeholders but not among the 50 selected per process in Figure 5-2)	0 to 4 years
26 Projects that were not Featured (proposed by stakeholders but not among the 50 selected per process in Figure 5-2)	5 to 20 years

Source: ILRNA, WSP Analysis

5.7.5. Safety/Grade Crossings

The ILRNA featured 10 safety/grade crossing improvements out of 80 that were proposed. Because Chicago has the highest density of highway/rail grade crossings, the most rail lines, people, and vehicles, the featured projects tended to cluster around the Chicago metropolitan area (Figure 5-7).

FIGURE 5-7: FEATURED SAFETY/GRADE CROSSING PROJECTS



Source: ILRNA

Most, but not all, of the safety/grade crossing projects are grade separations where roadways are vertically separated from rail lines. Several pedestrian-grade separations were proposed as well, which include pedestrian over- or underpasses that allow pedestrians to transit a rail line without walking over

the tracks. Some projects were less well defined and provided generally as “safety improvements” that could be a range of solutions to enhance safety.

Safety projects are among the few rail project types that are programmed years into the future. Unlike other project types, rail crossing projects receive consistent, dedicated sources of funding, such as through the federal Railway-Highway Crossing (Section 130) Program or the Illinois GCPF. This consistent funding situation enables multiyear programming. If a project appeared on the ICC Fiscal Year 2024 to 2028 Crossing Safety Improvement Program, or the IDOT 2023 – 2028 Proposed Highway Improvement Plan, it was considered short range. Otherwise, it was considered long range in Table 5-9.

TABLE 5-9: SAFETY/GRADE CROSSING PROJECTS BY TIMING

Project Title	Time Period
Laraway Road Grade Separation	0 to 4 years
Railroad Information and Location System Modernization	0 to 4 years
Canal Street Safety Improvements	5 to 20 years
Devon / Caldwell / Central Avenue Grade Separation	5 to 20 years
Maple Avenue and Fairview Avenue Grade Separation	5 to 20 years
Grand Avenue Grade Separation	5 to 20 years
Harlem Avenue Grade Separation (CREATE Program Project GS18)	5 to 20 years
Grade Crossing Inventory Update	5 to 20 years
La Grange Road Grade Separation	5 to 20 years
Lincoln Avenue Grade Separation	5 to 20 years
7 Projects that were not Featured (proposed by stakeholders but not among the 50 selected per process in Figure 5-2)	0 to 4 years
63 Projects that were not Featured (proposed by stakeholders but not among the 50 selected per process in Figure 5-2)	5 to 20 years

Source: ILRNA, WSP Analysis

5.7.6. Federal Infrastructure Priorities

With the passage of the IIJA in 2021, over 39 new federal competitive transportation grant programs were extended or created. Many of the new programs focus on various aspects of transportation including, but not limited to, freight movement, technology deployment, multimodal use, safety, and system condition. Competitive grants directly related to rail transportation, both freight and passenger, include RAISE, CRISI, INFRA, RCE, and Federal-State Partnership for Intercity Passenger Rail

Implementation of funding, both discretionary grants and formula funds, under the IIJA is governed by the following authorizing statutes and Executive Orders issued by the Biden administration:

- » E.O. 13985, Advancing Racial Equity and Support for Underserved Communities through the federal government includes provisions related to engaging historically underserved communities and increasing coordination, communication, and engagement with community-based organizations and civil rights organizations.
- » E.O. 14008, Tackling the Climate Crisis at Home and Abroad targets at least 40 percent of resources and benefits toward low-income, disadvantaged, overburdened or transportation underserved communities.

- » E.O. 14052, Implementation of the IJJA priorities are to invest efficiently and equitably, promote the competitiveness of the U.S. economy, improve job opportunities by focusing on high labor standards, strengthen infrastructure resilience to all hazards, including climate change, and to effectively coordinate with state, local, tribal and territorial government partners.

The following primary focus areas are outlined in the Notice of Funding Opportunities for competitive federal grant programs based on statutory provisions, the executive orders mentioned previously, and policies:

- » Safety
- » State of good repair
- » Reducing greenhouse gas emissions and addressing climate change
- » Equity and reducing barriers to opportunity
- » Good-paying jobs with strong labor standards and workforce programs (e.g., registered apprenticeships)
- » Resiliency to withstand, respond, recover and rebuild from natural or manmade disasters, cybersecurity breaches, and supply chain disruptions
- » Reliability
- » Mobility and community connectivity
- » Multimodal options
- » Innovative technologies deployment, in project delivery and in project funding/financing
- » Rural Opportunities to Use Transportation for Economic Success (ROUTES)

To account for current federal funding priorities, this Rail Plan provides an overlay onto the ILRNA scoring methodology, which provided additional points for adhering to priorities of the current administration. Points were awarded based on project support for the following:

- » Resiliency
- » Sustainability
- » Equity
- » Innovation
- » Rural benefits

This scoring was provided on top of the ILRNA scoring. Each project received its original ILRNA score plus additional points for consistency with federal priorities. Appendix H describes the scoring methodology in further detail. Of the original 50 featured projects, most retained their top ranking under the new scoring system, so that:

- » 7 of 10 freight transload/shipper access projects remained the highest ranked.
- » The ranking for capacity projects remained the same
- » 4 of 5 state of good repair projects remained highest ranked.
- » The ranking of passenger rail projects remained the same.
- » 8 of 10 safety/grade crossing projects remained the highest ranked.

Under the new scoring system, six projects were elevated to the top 50. Because these projects have been identified as being consistent with federal priorities, they represent promising projects to put forward for federal discretionary grants. Table 5-10 provides the updated list, including those that were identified as “Featured” in the ILRNA and those that were also identified as part of this Rail Plan as consistent with federal grant criteria. The six projects that were identified under the new scoring system are identified in Table 5-10 as “new”.

TABLE 5-10: UPDATED FEATURED PROJECTS

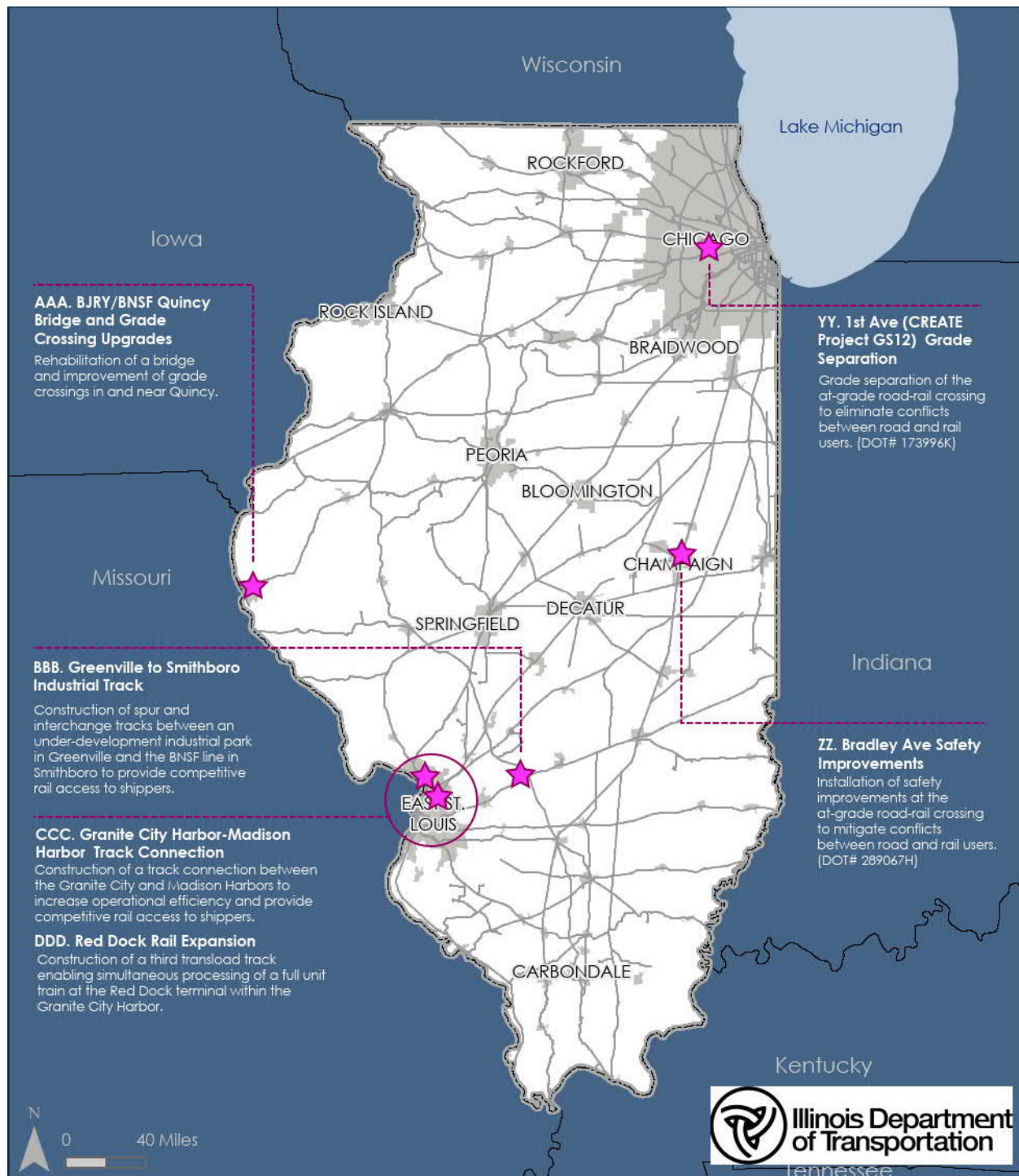
Type of Project	Project Name	ILRNA or New
Transload/Shipper Access	Rochelle Rail Access Expansion	ILRNA
Transload/Shipper Access	Rochelle Agricultural Transload Facility Conversion	ILRNA
Transload/Shipper Access	Rochelle Transload Center Expansion	ILRNA
Transload/Shipper Access	Montgomery Shipper Rail Access	ILRNA
Transload/Shipper Access	Dwight Industrial Mega-Site	ILRNA
Transload/Shipper Access	Granite City Harbor-Madison Harbor Track Connection	New
Transload/Shipper Access	Greenville to Smithboro Industrial Track	New
Transload/Shipper Access	New Berlin Industrial Park	ILRNA
Transload/Shipper Access	Red Dock Rail Expansion	New
Transload/Shipper Access	Acme Site Redevelopment	ILRNA
Transload/Shipper Access	I-57 Logistics Track Connection	ILRNA
Transload/Shipper Access	Greenleaf Transload Yard	ILRNA
Transload/Shipper Access	O'Hare Industrial Parks Rail Access Reinstatement	ILRNA
Rail Capacity	Rock Island Connection (CREATE Program Project P2)	ILRNA
Rail Capacity	Belt and 80th St. Junction Realignment (CREATE Program Project EW2)	ILRNA
Rail Capacity	Brighton Park Flyover (CREATE Program Project P5)	ILRNA
Rail Capacity	CPKC Canal Flyover (CREATE Program Project P6)	ILRNA
Rail Capacity	Ogden Junction (CREATE Program Project WA1)	ILRNA
Rail Capacity	Signalization - Ogden Junction to 75th Street (CREATE Program Project WA2)	ILRNA
Rail Capacity	Springfield Flyover	ILRNA
Rail Capacity	Wood River Interlocking Reconstruction	ILRNA
Rail Capacity	A-2 Flyover	ILRNA
Rail Capacity	Chicago Ridge Flyover (CREATE Program Project P7)	ILRNA
Rail Capacity	New Calumet River Lift Span	ILRNA
Rail Capacity	Springfield Rail Improvements Project	ILRNA
Rail Capacity	West Chicago Flyover	ILRNA
State of Good Repair	Metra Fleet Modernization Plan	ILRNA
State of Good Repair	BJRY/BNSF Quincy Bridge and Grade Crossing Upgrades	New
State of Good Repair	Metra Station Improvements	ILRNA
State of Good Repair	COER Bridge and Track Rehabilitation	ILRNA
State of Good Repair	KJRY Mississippi River Bridge Rehabilitation	ILRNA
State of Good Repair	KJRY Mainline Rehabilitation	ILRNA

Type of Project	Project Name	ILRNA or New
Passenger Rail	Hiawatha Service Expansion Project	ILRNA
Passenger Rail	Metra BNSF Improvements	ILRNA
Passenger Rail	Metra UP-West Improvements	ILRNA
Passenger Rail	Chicago-Detroit HSR Improvements	ILRNA
Passenger Rail	Chicago-St. Louis HSR Full Build	ILRNA
Passenger Rail	Metra Rock Island Improvements	ILRNA
Passenger Rail	Chicago Union Station Improvements	ILRNA
Passenger Rail	Metra Milwaukee District West Improvements	ILRNA
Passenger Rail	Metra UP North Improvements	ILRNA
Passenger Rail	Millennium Station to 11th Place Improvements	ILRNA
Passenger Rail	St. Charles Air Line Connection	ILRNA
Passenger Rail	Kensington Interlocking Improvements	ILRNA
Safety/Grade Crossing	Harlem Avenue (CREATE Program Project GS18)	ILRNA
Safety/Grade Crossing	1st Avenue (CREATE Program Project GS12) Grade Separation	New
Safety/Grade Crossing	Devon / Caldwell / Central Avenue Grade Separation	ILRNA
Safety/Grade Crossing	Bradley Avenue Safety Improvements	New
Safety/Grade Crossing	Laraway Road Grade Crossing	ILRNA
Safety/Grade Crossing	Lincoln Avenue Grade Crossing	ILRNA
Safety/Grade Crossing	Canal Street Safety Improvements	ILRNA
Safety/Grade Crossing	Maple Avenue and Fairview Avenue Grade Crossings	ILRNA
Safety/Grade Crossing	Railroad Information and Location System Modernization	ILRNA
Safety/Grade Crossing	Grade Crossing Inventory Update	ILRNA
Safety/Grade Crossing	Grand Avenue	ILRNA
Safety/Grade Crossing	La Grange Road Grade Crossing	ILRNA

Source: ILRNA, Ann Schneider & Associates, WSP Analysis

Figure 5-8 shows the six projects that were elevated as a result of the rescoring.

FIGURE 5-8: ADDITIONAL PROJECTS TO CONSIDER FOR A FEDERAL GRANT



Source: ILRNA, Ann Schneider & Associates, WSP Analysis

6. COORDINATION AND REVIEW

6.1. Public and Agency Participation

In 2022, IDOT released the ILRNA, which is the precursor of this Rail Plan and a component of IDOT's long-range transportation planning process. The ILRNA is a critical part of this Rail Plan development.

The ILRNA incorporated a comprehensive outreach effort consistent with FRA State Rail Plan Guidance to be used as input to this Rail Plan. This chapter outlines the outreach that was conducted with both stakeholders and the general public to inform the development of the ILRNA and this Rail Plan.

6.1.1. Railroad Involvement

To understand the needs of railroads in Illinois, the Rail Plan team (with input from IDOT) assembled a list of contacts at active railroads. A request for meetings was sent to each via phone and email. Individual meetings were arranged with railroads that responded to inquiries and expressed interest in participating in the planning process. A total of 44 meetings were held between May and September 2021 with five of the six Class 1 railroads, all three passenger railroads, all four regional railroads, and 31 short line, terminal, and switching railroads. Railroad interviews were held individually in one-on-one sessions to avoid any anti-trust concerns and facilitate candid conversations between the Rail Plan team and railroad. The goal of the meetings was to understand the condition of the railroad, infrastructure needs, and policy concerns. Records were kept of all meetings, interviews, and conference calls.

6.1.2. Agency and Shipper Involvement

Outreach was conducted to private- and public-sector entities that rely on or affect the Illinois railroad network.

These organizations included state and local agencies, municipalities, metropolitan and regional planning organizations, economic development groups, shippers, trucking companies, and logistic providers. For this outreach, the team held five group listening sessions between June and July 2021. A total of 79 participants from both the private and public sectors participated in these sessions.

6.1.3. Public Involvement

Two virtual public meetings were held to obtain input on the ILRNA. The first meeting was held in June 2021 with the goal to introduce the ILRNA and receive feedback on rail needs in the state. The second meeting was held in January 2022, which provided an overview of the preliminary ILRNA findings and allowed members of the public to comment on those findings. With the assistance of a third-party advertising service, events were advertised by 13 newspaper ads, e-blast invitations (3,462 persons for the first meeting, 4,166 persons for the second meeting), and press releases. Additionally, the team made a request to 267 organizations to share information regarding the meetings with their stakeholders. The virtual public meetings were designed to be consistent with traditional in-person public meetings.

First Public Meeting (June 2021)

A 10-minute recorded presentation provided an overview of the study. Following the presentation, attendees could review several online displays on the following topics:

- » Map of all rail lines in the state
- » Study purpose
- » Study goals
- » Study schedule
- » Types of improvements to be identified
- » Statistics on existing rail service and Illinois ranking among all states
- » Multimodal and intermodal information
- » CREATE Program highlights
- » Requirements for federal funding
- » Ways to participate

At the end of the meeting, participants were provided an opportunity to comment and take an online survey, results of which are summarized as part of issued raised section below.

Second Public Meeting (January 2022)

A second public meeting was held to facilitate further public input and share with the public what was learned from the first public meeting. An 8-minute recorded presentation provided an overview of the study that included what IDOT learned through stakeholder outreach. Following the presentation, several online displays were available to be viewed on the following topics:

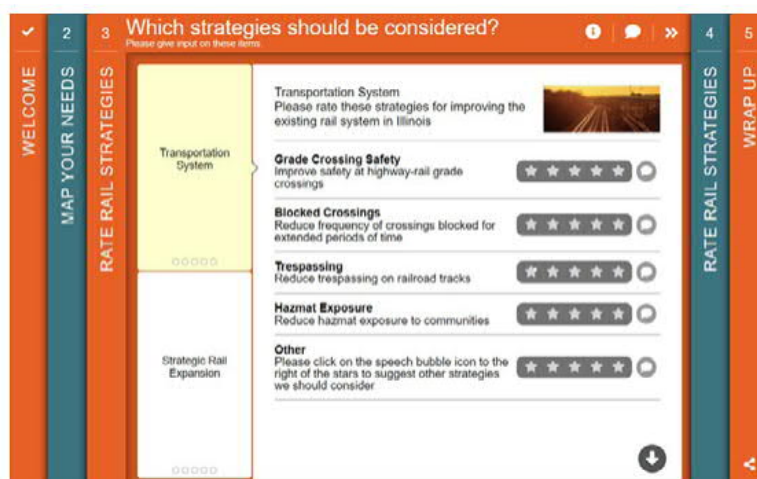
- » Map of active rail lines
- » Study purpose
- » Study goals
- » Indemnified high-importance rail needs
- » Railroad outreach meeting highlights
- » Statistics from the first public meeting
- » MetroQuest survey results
- » Listening session participants
- » Proposed projects by type
- » Number of proposed projects by IDOT region
- » Number of proposed projects by source
- » Projects identification process and criteria
- » Project schedule
- » State Rail Plan components
- » What's next including information on the Final Report release

Stakeholders were invited to submit comments on the ILRNA preliminary findings. Survey results and comments were incorporated into the themes summarized in Table 6.1.:

Public Online Survey

A public online survey was made available via the interactive survey platform MetroQuest. The survey allowed participants to locate rail needs on an interactive statewide rail map, rank strategies, and provide open ended comments. In total, 230 survey responses were received. Figure 6-1 illustrates a sample screenshot of the MetroQuest survey.

FIGURE 6-1: SCREEN SHOT OF METROQUEST SURVEY



6.2. Coordination with Other States

The Illinois position at the confluence of all Class I railroads, passenger operations, and short lines requires thorough planning coordination with states bordering Illinois and beyond. Illinois conducts ongoing coordination with neighboring states that affect the projects and initiatives presented in this Rail Plan. IDOT regularly coordinates with neighboring states one-on-one as needed, including Wisconsin, Iowa, Missouri, Indiana and Michigan. IDOT coordinates with other states through the following multistate agencies, some of which are focused on specific multistate passenger rail corridors:

- » Mid-America Freight Coalition
- » Midwest Interstate Passenger Rail Commission
- » States for Passenger Rail Coalition (SPRC)
- » State-Amtrak Intercity Passenger Rail Committee
- » Midwest States Consortium
- » Chicago – Detroit/Pontiac Passenger Rail Corridor Program
- » Chicago-Milwaukee Intercity Passenger Rail Program
- » ASHTO Council on Rail Transportation (CORT)

Others coordinate efforts across a broader set of topic areas.

6.3. Issues Raised

Stakeholders and members of the public were invited to provide feedback throughout development of the ILRNA, which provided input to this State Rail Plan. Many of the issues, concerns, and potential strategies that stakeholders and the public commented on are discussed in Chapters 3 and 4, which focus on rail improvements and investments, as well as Chapter 5, which focuses on the Rail Service and Investment Program. Table 6.1: and Table 6.2 present the results of this exercise for freight and passenger rail issues, respectively.

TABLE 6.1: FREIGHT RAIL ISSUES AND HOW ADDRESSED

	Comment	How Addressed
Issues identified by railroads	Provide public funding to leverage private investment, particularly to short line railroads	Among the strategies identified in the Rail Plan are creating new funding sources for rail projects
	Improve road access to industrial parks and other rail-served facilities	Rail Plan includes projects that would improve roadway access
	Progress on environmental remediation of contaminated sites to put land to productive use	Rail Plan includes environmental remediation projects
	Create a single point of contact for railroads and ports needing state support	Acknowledged, but if a new freight-rail funding source were implemented, that staff could serve as point of contact
	Streamline grant application and administrative processes	Acknowledged
Issues identified by Class I railroads	Increase regulatory flexibility to adopt new technologies	Among the action items is to support the promotion of new technologies
	Evaluate railroad network ability to accommodate longer trains	Rail Plan includes projects that would enable Class I railroads to operate longer trains
Trends	Continued growth in e-commerce	Rail Plan discusses impacts of e-commerce growth
	Energy market growth	Rail Plan discusses energy market trends
Funding		Rail Plan discusses funding
Condition of railroad overpasses		Rail Plan discusses issue
Labor shortage		Rail Plan includes recommended actions regarding labor
Rail noise and vibration		Acknowledged
Vegetation trimming harms adjoining property owners		Acknowledged
Hazardous materials	Concern over hazmat cars in residential communities	Rail Plan discusses hazardous material transportation
	Ethelene Oxide	Rail Plan discusses hazardous material transportation
	Near schools	Rail Plan discusses hazardous material transportation
Railroad stakeholder communication		Acknowledged
Grade crossing	Blocked Crossings	Rail Plan includes projects such as grade separations that would unblock crossings
	Crossing Safety	Rail Plan includes projects that increase crossing safety
	Crossing Safety in Rural Areas	Rail Plan includes crossing safety projects in rural areas
	Crossings Without Gates	Rail Plan includes projects that would add gates, lights to unprotected crossings
	Quiet zones	Rail Plan discusses quiet zones

	Comment	How Addressed
Rail Capacity	Better visibility	Rail Plan includes projects that improve visibility
	Rough Crossings	Acknowledged
	Humped crossings cause vehicle to bottom out	Issue is described in the Rail Plan
	Clearance	Rail Plan includes projects to increase clearance over rails
Freight congestion	Rail Choke Points	Rail Plan includes projects to address choke points
	Bottlenecks In Chicago Area	Rail Plan includes projects to address rail choke points
Technology	CREATE Program Projects to Separate Passenger and Freight Rail	Rail Plan includes relevant CREATE Program projects
	Grade Crossings	Acknowledged
	GPS	Rail Plan discusses Rail Pulse technology which is GPS-related
	General	Rail Plan includes recommendations to support adoption of new technologies
Intermodal and transload	Zero-emission locomotive manufacturing	The Rail Plan discusses zero-emission locomotives
	Rochelle Facility Availability	Rail Plan includes projects to make use of Rochelle facilities
	Underutilized Rail Yards in Quad Cities and City of Silva	Acknowledged
	Grain Such as In Danville and Decatur	Rail Plan includes projects to improve elevators and other grain handling facilities
	Congested Intermodal Terminals	Rail Plan includes projects to expand intermodal terminals and reduce congestion
	Transload facilities	Rail Plan includes projects to improve or establish transload facilities
Precision scheduled railroading	Longer train lengths	Rail Plan includes projects to address blocked crossings and other issues associated with longer train lengths
Rail to Water	Impacts to customers	Described
	Mississippi River ports of eastern Iowa and Western Illinois statistical area	Rail Plan includes projects to improve rail access to Mississippi River ports
	River ports in St. Louis area	Rail Plan includes projects that would improve rail access to St. Louis area river ports

TABLE 6.2: PASSENGER RAIL ISSUES AND HOW ADDRESSED

Comment		How Addressed
Double track on Chicago to St. Louis corridor	Double track	Rail Plan includes upgrade of Chicago to St. Louis corridor
	Bring to 110 MPH	Rail Plan includes upgrade of Chicago to St. Louis corridor
Employment mobility		Rail Plan discusses passenger rail impact on employment mobility
Rail improvements	Additional stations, additional stops in rural areas	Rail Plan includes projects that would add stations
	On-time performance, reliability	Rail Plan includes projects that would improve on-time performance, reliability
	Reverse commute	Rail Plan includes projects that could enable off peak service on Metra and NICTD to reverse commute
	Schedules and frequency	Rail Plan includes projects that could enable off peak service on Metra and NICTD to reverse commute
Support for high-speed rail		Rail Plan includes high-speed rail projects
Tourism		Acknowledged
Transit-oriented developments (TOD)		Rail Plan discusses TOD
Connectivity	Better connectivity to other locations in the Midwest	Rail Plan includes projects that improve Midwest connectivity
	Connection to intercity bus service	Need for local transit connections is discussed in the Rail Plan
	Interconnectivity between Chicago-area transit modes	Rail Plan includes projects that would improve connectivity between transportation modes
	Connectivity to airports	Rail Plan includes projects that would improve connectivity between airports and rail.
Station Improvements	Accessibility, particularly for people with disabilities	Rail Plan includes projects that improve station accessibility and ADA compliance
	Shelters	Rail Plan includes projects that will improve structures and shelters at stations
	Park and Ride Lots	Rail Plan includes projects that will expand, improve park and ride lots
	Improve Chicago Union Station	Rail Plan includes Union Station improvement program
Modernization	System	Rail Plan projects would modernize passenger rail system
	Railcar fleet	Rail Plan includes projects that would modernize intercity and Metra railcar fleets
Metra	Interconnected commuter rail loop around Chicago	Acknowledged
	Electrification	Acknowledged
	Safety improvements	There are Rail Plan projects that would improve safety of the passenger rail system

Comment		How Addressed
	Comfort improvement	There is a Rail Plan project that will improve comfort for Metra users
	Additional rush-hour service	There are projects within the Rail Plan which will expand service
	Service to Gurnee	Acknowledged
	Service to Oswego	Acknowledged
	Service to Plainfield	Acknowledged
	Service to Warrenville	Acknowledged
	Service to Beach Park	Acknowledged
	Upgrades to Winthrop Harbor Metra stop	There is a project within the plan to improve Metra Stations systemwide
	Upgrades to Zion station	There is a project within the plan to improve Metra Stations systemwide
	Increases service to Oak Park	Acknowledged
	Flag stop to railway museum	Acknowledged
New passenger rail service	Chicago to Peoria	There is a project within Rail Plan exploring this service
	Chicago to Quad Cities	There is a project within the Rail Plan exploring this service
	Chicago to Dubuque	There is a project within the Rail Plan exploring this service
	Chicago to Indianapolis	There is a project within the Rail Plan exploring this service
	Chicago to Ft. Wayne	Acknowledged
	Chicago to Des Moines	There is a project within the Rail Plan exploring this service
	Chicago to Rockford	There is a project within the Rail Plan exploring this service
	Chicago to Galena	There is a project within the Rail Plan exploring this service
	Chicago to Sterling	Acknowledged
	Chicago to Dixon	Acknowledged
	Chicago to Rochelle	Acknowledged
	Chicago to Merrillville	Acknowledged
	Dubuque to Rockford	There is a project within the Rail Plan exploring this service
	Connection to DeKalb	Acknowledged
	St. Louis to Decatur	Acknowledged
	St. Louis to Belleville	Acknowledged
	St. Louis to Carbondale	Acknowledged
	St. Louis to Champaign-Urbana	Acknowledged

6.4. Coordination with Other Planning Efforts

This Rail Plan was prepared concurrently with the Illinois Freight Plan. Investments that appear in this Rail Plan are included in the Freight Plan, while the Freight Plan's vision, goals, objectives, and strategies were considered when developing those for this Rail Plan. This Rail Plan was also coordinated with the ICC's State of Illinois 2021 Grade Crossing Safety and Trespass Prevention Action Plan.

This Rail Plan and the ILRNA were developed as part of one extended planning effort, so that the ILRNA was developed to provide input into this Rail Plan. The ILRNA considered numerous statewide and regional planning efforts, including the following:

- » St. Louis Regional Freightway 2022
- » CMAP ON TO 2050 Plan
- » CREATE Program
- » Bi-State Regional Commission Mississippi River Rail Crossing Study
- » CMAP Transportation Improvement Program
- » DeKalb-Sycamore Area Transportation Study 2045 Metropolitan Transportation Plan
- » Stateline Area Transportation Study Passenger Rail Study
- » CMAP Northeastern Illinois Priority Grade Crossings
- » Cook County Freight Program
- » ICC Crossing Safety Improvement Program 2022-2026
- » Springfield Area Transportation Study (SATS) 2045 Long Range Transportation Plan
- » Decatur Urbanized Area Transportation Study (DUATS) 2045 Long Range Transportation Plan
- » Southern Illinois MPO 2045 Long Range Transportation Plan