Chicago-Milwaukee Intercity Passenger Rail Program

DRAFT ENVIRONMENTAL ASSESSMENT

Prepared Pursuant to 4321 et seq, 40 CFR parts
1500-1508, 49 USC § 303, 64 FR
28545, and 78 FR 2713

by the

U. S. Department of Transportation
Federal Railroad Administration

and

Wisconsin Department of Transportation

and

Illinois Department of Transportation

This is a draft document that requires further environmental documentation for FRA and is subject to public comment through November 15, 2016. A Final Environmental Assessment will be forthcoming following the public comment period. Wisconsin DOT and Illinois DOT, in partnership with Amtrak, are proposing to increase passenger rail service between Chicago, Illinois and Milwaukee, Wisconsin on the existing *Hiawatha Service* and construction infrastructure improvements to support the increase in frequencies. The Federal Railroad Administration is the lead federal agency for the project. The 86-mile route would primarily use CP and Metra rights-of-way from Chicago to Milwaukee. The increased passenger rail service would provide a total of ten (10) round trips between Chicago and Milwaukee per day, providing an alternative travel mode that avoids and minimizes additional environmental impact. Intermediate stops would be provided at the following existing Amtrak stations: Glenview, IL, Sturtevant, WI, and Milwaukee Airport Rail Station, WI. Maximum operating speed in the corridor would be 79 MPH. As commuter rail and intercity passenger rail services and freight rail service already exist in the corridor, significant impacts are not anticipated.

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The following list of acronyms may be commonly used throughout this document:

AIS	Agricultural Impact Statement
Amtrak	National Railroad Passenger Corporation
ANSI	American National Standards Institute
APE	Area of Potential Effect
AQCR	Air Quality Control Region
ASM	Alternative Safety Measures
AST	Above Ground Storage Tank
BTU	British Thermal Unit
CAAA	Clean Air Act Amendments
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CP	Canadian Pacific Railway
CTC	Centralized Train Control
CTH	County Trunk Highway
CWT	Constant Warning Time
DB or dB(A)	Decibel or A-weighted Decibel
DM	Deep Marsh Wetlands
DMU	Diesel Multiple Unit
DOE	Determination of Eligibility
DOM	Days on Market
DPW	Department of Public Works
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ERW	Exceptional Resource Water
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
HSGT	High Speed Ground Transportation
HSR	High Speed Passenger Rail
IEPA	Illinois Environmental Protection Agency
IDOT	Illinois Department of Transportation
ITS	Intelligent Transportation Systems
km	Kilometers
kph	Kilometers Per Hour
LAWCA	Federal Land and Water Conservation Act
LUST	Leaking Underground Storage Tank
M	Meadow Wetlands
M(D)	Degraded Meadow Wetlands
Metra	Commuter Rail operator in northeastern Illinois
MMSD	Milwaukee Metropolitan Sewerage District
MOA	Memorandum of Agreement
MP	Milepost

MPH	Miles Per Hour
MPO	Metropolitan Planning Organization
MUTCD	Manual on Uniform Traffic Control Devices
MWRRI	Midwest Regional Rail Initiative
MWRRS	Midwest Regional Rail System
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
OCR	Wisconsin Office of the Commissioner of Railroads
OLI	Operation Lifesaver, Inc.
ppm	Parts Per Million
PTC	Positive Train Control
R/W	Right-of-Way or rights-of-way
rms	Root Mean Square
RPE	Riparian Emergent Wetlands
RPE(D)	Degraded Riparian Emergent Wetlands
RPF	Riparian Wooded Wetlands
RPF(D)	Degraded Riparian Wooded Wetlands
SHPO	State Historic Preservation Officer
SHS	State Historical Society of Illinois or Wisconsin
SM	Shallow Marsh Wetlands
SS	Shrub Swamp Wetlands
SS(D)	Degraded Shrub Swamp Wetlands
SSM	Supplementary Safety Measures
STH	State Trunk Highway
TEA-21	Transportation Equity Act for the 21st Century
UP or UPRR	Union Pacific Railroad
USACE	United States Army Corps of Engineers
USDOT	United States Department of Transportation
UST	Underground Storage Tank
UW	University of Wisconsin
USFWS	United States Fish and Wildlife Service
VMT	Vehicle Miles Traveled
WDNR	Wisconsin Department of Natural Resources
WEPA	Wisconsin Environmental Policy Act
WisDOT	Wisconsin Department of Transportation
WS	Wooded Swamp Wetlands
WS(D)	Degraded Wooded Swamp Wetlands

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1 Purpose and Need

1.1 Introduction

The Chicago to Milwaukee intercity passenger rail corridor is a federally-designated high-speed rail corridor and is one of several branches in the hub-and-spoke passenger rail system that terminates in Chicago, IL. Amtrak's state-supported *Hiawatha Service* operates 7 round trips per day Monday through Saturday and 6 round trips on Sunday between Chicago and Milwaukee. Figure 1-1 depicts the Amtrak *Hiawatha Service* route. The Proposed Action of the Chicago-Milwaukee Intercity Passenger Rail Program is to enhance the *Hiawatha Service* through operational improvements or increased frequencies to meet existing and future passenger rail demand. The Wisconsin Department Transportation (WisDOT) and the Illinois Department of Transportation (IDOT), in partnership with Amtrak, are studying the *Hiawatha Service* in this Environmental Assessment (EA). The Federal Railroad Administration (FRA), an operating administration within the U.S. Department of Transportation, serves as the lead federal agency for the Program. The FRA has primary responsibility for railroad programs at the federal level, including extensive railroad safety and highway-railroad grade crossing safety responsibilities.

This EA will provide the public with a description of the potential environmental impacts of the alternatives developed to meet the Program purpose and need. The EA serves as the primary document to facilitate the review of the proposed Program by federal, state, and local agencies and the public.

The EA was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code 4321 et seq.), FRA's Procedures for Considering Environmental Impacts (64 Fed. Reg. 28545, 1999), the Wisconsin Environmental Policy Act (Administrative Code Trans 400), and the Illinois Division of Public and Intermodal Transportation, Railroads Manual. This EA does not follow a tiered NEPA approach; it evaluates corridor-wide and project-specific environmental impacts.

Several terms describing the Chicago-Milwaukee Intercity Passenger Rail Program are used throughout this document and are defined below:

- Program – the Proposed Action to enhance the *Hiawatha Service* to meet existing and future passenger rail demand
- Program Study Area – the Chicago-Milwaukee region
- Corridor – the physical rail that connects Chicago and Milwaukee
- Project – relating to the specific proposed service and investment alternatives
- Project Study Area – the physical study area of a specific project

Figure 1-1
Existing Amtrak *Hiawatha Service* Route between Chicago and Milwaukee

1.2 Background

1.2.1 Planning Efforts

The Chicago-Milwaukee Intercity Passenger Rail Corridor is a federally-designated high speed rail corridor and is part of an overall vision for an improved and expanded intercity passenger rail system in the Midwest. The Midwest Regional Rail Initiative (MWRRI) was established by nine states across the Midwest, including Wisconsin and Illinois, to advance a series of service concepts to a regional transportation plan known as the Midwest Regional Rail System (MWRRS). The purpose of the proposed MWRRS is to "meet current and future regional travel needs through significant improvements to the level and quality of passenger rail service."[1] The 2004 MWRRI Business Plan evaluated service concepts, infrastructure improvements, and capital and operating costs required to implement the MWRRS for all corridors within the system. The long-term vision of the Chicago-Milwaukee corridor proposed 17 round trips per day operating at 110 MPH. However, the Business Plan acknowledged that incrementally building the MWRRS improvements was the most prudent path forward given the lack of large amounts of funding available. The Program would implement a first step in the overall vision of the corridor.

1.2.2 Improvements

In recent years WisDOT and IDOT have sponsored or supported a number of improvements to the *Hiawatha Service*. The major improvements are shown in Figure 1-2.

[1] Executive Summary of the MWRRI Business Plan, 2004

Figure 1-2
Major *Hiawatha Service* Improvements

Year	Major *Hiawatha Service* Improvement
1995	WisDOT and IDOT funded an increase in *Hiawatha Service* frequency from four to six daily round-trips (five on Sundays)
2002	WisDOT and IDOT funded an increase in *Hiawatha Service* frequency from six to seven daily round-trips (six on Sundays)
2005	WisDOT opened a new station, Milwaukee Airport Rail Station (MARS), at Milwaukee's General Mitchell International Airport. The additional *Hiawatha Service* stop serves the south Milwaukee metro region. MARS also facilitates train/air connections via a dedicated airport shuttle operating between the new station and the airport terminal.
2006	The Village of Sturtevant opened a new station to replace its previous facility.
2007	WisDOT and IDOT funded the addition of a fifth coach car to each *Hiawatha Service* train set to accommodate growing ridership. *Hiawatha Service* train capacity increased from approximately 277 seats to about 347 seats per train.
2007	WisDOT completed the renovation of downtown Milwaukee's Amtrak station. The new Milwaukee Intermodal Station (MIS) serves both Amtrak trains and intercity buses.
2009	WisDOT and IDOT funded the addition of a sixth coach car to each *Hiawatha Service* train to accommodate growing ridership. *Hiawatha Service* train capacity increased to approximately 416 seats per train.
2009	WisDOT secured a federal grant to improve *Hiawatha Service* on-time performance and ride quality by replacing the last segment of old, jointed rail in the corridor with new continuous welded rail.
2012	Using federal funding secured in 2010, WisDOT is extending the MARS platform to accommodate growing use of the station.
2012	Using federal funding secured in 2010, WisDOT is enhancing *Hiawatha Service* on-time performance through track and signal improvements (including new crossovers near Truesdell, WI) in Kenosha and Racine counties.
2012	Using federal funding secured in 2010, IDOT is enhancing *Hiawatha Service* on-time performance through the replacement of two bridge decks near Wadsworth, IL
2014	Amtrak, with funding support from WisDOT and IDOT, implemented complementary on-board 4G Amtrak Connect Wi-Fi service in February 2014

Source: WisDOT

Additionally, WisDOT and IDOT are procuring two PRIIA 305 diesel locomotives for the *Hiawatha Service* as part of the Midwest Next Generation Equipment Program. The new Next Generation locomotives will replace the old Amtrak-owned P42s that are currently in use. The locomotives are anticipated to be put into service in 2017.

1.2.3 Operations

WisDOT and IDOT have jointly contracted with Amtrak to operate the *Hiawatha Service* since 1989. The intercity passenger rail service currently operates between Union Station in Chicago, IL and Milwaukee Intermodal Station (MIS) in Milwaukee, WI with intermediate stops 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. *Hiawatha Service* trains operate with a maximum speed of 79 miles per hour (MPH) and make the 86-mile trip between Chicago and Milwaukee in about 1 hour 29 minutes. Passengers using the *Hiawatha Service* include those making occasional trips using standard single-ride tickets and those making frequent trips (e.g., for commuting to work) using ten-ride or monthly passes. *Hiawatha Service* seats are unreserved.

Amtrak also currently operates its long-distance *Empire Builder* service in the Chicago-Milwaukee corridor. The *Empire Builder* operates between Chicago, IL, Milwaukee, WI, Minneapolis-St. Paul, MN and Seattle, WA/Portland, OR. In the Chicago-Milwaukee corridor, the *Empire Builder* makes an intermediate stop in Glenview, IL. The *Empire Builder* operates once per day in each direction. The train operates with a maximum speed of 79 MPH. Because the *Empire Builder* caters to long-distance travelers, north-bound trains within Illinois and Wisconsin stop in Glenview and Milwaukee only to receive passengers. Southbound trains within Illinois and Wisconsin stop in Milwaukee and Glenview only to discharge passengers. Amtrak operates the *Empire Builder* as a component of its National Network—no states contract with Amtrak to provide the service.

1.3 Program Study Area

The 86-mile rail corridor connects the major metropolitan regions of Chicago and Milwaukee. *Hiawatha Service* operates on Metra (Chicago commuter rail)-owned track between Chicago and Rondout, IL (MP 32.3) and on Canadian Pacific (CP)-owned track from Rondout to Milwaukee, WI. A majority of the proposed intercity passenger rail improvements would be constructed within existing rail right-of-way.

1.4 Purpose

The purpose of the Project is to:

- Address existing and future passenger rail demand;
- Expand modal options to provide an alternative to traffic delay, reliability issues, and long travel times related to existing and future highway congestion in the corridor;
- Strengthen transportation connections to other transportation modes such as air, intercity bus, local transit, bicycle facilities, and ride sharing options; and
- Enhance and improve the reliability of a successful, existing intercity passenger rail service and utilize the significant investments made in the *Hiawatha Service* over the past twenty years.

1.5 Need

The project need is derived from the following elements:

- Near-capacity and over-capacity conditions aboard peak *Hiawatha Service* trains;
- Limited passenger train schedule options to meet existing and future passenger demand and to

optimize existing multimodal connections;

- Existing and future highway congestion resulting in increased travel times for autos and buses in the corridor may result in additional demand for alternative modes of travel;
- Inadequate service reliability due to conflicts with freight and other passenger traffic in the corridor; and
- Demand to enhance mobility and transportation choice as identified in state and regional planning documents.

The following sections describe the facility deficiencies that will be addressed by the Project.

1.5.1 Hiawatha Service Capacity Issues

The total population of the five counties in the corridor (Cook and Lake counties in Illinois and Kenosha, Racine, and Milwaukee counties in Wisconsin) has grown from 6,880,000 in 1990 to 7,210,000 in 2010—an increase of 4.8%.[2] Similarly, *Hiawatha Service* ridership in the Chicago-Milwaukee corridor has nearly doubled between 2001 and 2013, growing by an average of 5.9% per year.

Figure 1-3 shows *Hiawatha Service* ridership from calendar years 2001 through 2014. Ridership measures the number of passengers using the *Hiawatha Service*.

[2] U.S. Census

Figure 1-3
***Hiawatha Service* Annual Ridership**

Calendar Year (CY)	*Hiawatha Service* Annual Ridership
2001	423,500
2002	397,500
2003	433,200
2004	470,200
2005	544,400
2006	588,000
2007	617,800
2008	766,200
2009	741,800
2010	792,800
2011	823,400
2012	832,500
2013	819,125 (778,469)*
2014	804,861*
2001-13 Change	395,625
2001-13 % Change	93%
2001-13 Avg. Annual % Change	5.9%

Source: WisDOT analysis of Amtrak data

*Starting in 2014, Amtrak changed their methodology for calculating ridership, which resulted in reduced *Hiawatha Service* ridership in 2014. Amtrak provided 2013 ridership for the *Hiawatha Service* using the new methodology. When comparing the 2013 to 2014 ridership computed using the new methodology, it can be seen that ridership actually increased from 2013 to 2014. The percentage change in ridership is provided for 2001 through 2013 using the previous methodology.

The overall growth in *Hiawatha Service* ridership between 2001 and 2014 has resulted in increasing occurrences of near-capacity (when seats are 90 percent or more filled) and over-capacity conditions (when the number of on-board riders exceeds the number of seats), especially on trains 330, 332, 337 and 339, which operate during peak travel time periods. Peak travel time periods are generally considered to be between 6 and 9 a.m. and 4 and 7 p.m. Near-capacity and over-capacity conditions are most likely to occur between Glenview and Sturtevant, which Amtrak ridership data shows is the route segment that typically has the largest number of on-board passengers.

From 2008 to 2014[3], *Hiawatha Service* trains typically operated with six coach cars and approximately 416 seats (the number of seats can vary slightly as the train sets can be configured with different coach cars depending on availability and maintenance schedules). Figure 1-4 presents the number of instances of near-capacity and over-capacity conditions aboard Trains 330, 332, 337, and 339 between 2008 and 2014.

[3] Year begins in January and ends in December, whereas Amtrak's fiscal year begins in July and ends the following June

Figure 1-4
***Hiawatha Service* On-Board Ridership between Glenview and Sturtevant by Train (2008-2014)**

Milwaukee → Chicago Train #	Departure Time	Calendar Year	Number of Trains with Ridership > 374	Percent of Trains Operated with Ridership > 374	Number of Trains with Ridership > 416	Percent of Trains Operated with Ridership > 416
330	6:15 AM	2008	1	0.3%	0	0%
		2009	0	0%	0	0%
		2010	1	0.3%	0	0%
		2011	1	0.3%	0	0%
		2012	2	0.6%	0	0%
		2013	4	1.3%	0	0%
		2014*	12	3.8%	4	1.3%
332	8:05 AM	2008	20	5.5%	10	2.7%
		2009	25	6.9%	14	3.8%
		2010	29	8.0%	14	3.8%
		2011	34	9.3%	14	3.8%
		2012	49	13.3%	19	5.2%
		2013	36	9.8%	13	3.6%
		2014*	8	2.2%	4	1.1%
Chicago → Milwaukee Train #	**Departure Time**	**Calendar Year**	**Number of Trains with Ridership > 374**	**Percent of Trains Operated with Ridership > 374**	**Number of Trains with Ridership > 416**	**Percent of Trains Operated with Ridership > 416**
337	3:15 PM	2008	11	3.0%	3	0.8%
		2009	4	1.1%	1	0.3%
		2010	17	4.7%	7	1.9%
		2011	26	7.2%	3	0.8%
		2012	22	6.1%	6	1.6%
		2013	17	4.7%	6	1.6%
		2014*	7	1.9%	4	1.1%
339	5:08 PM	2008	33	9.0%	14	3.8%
		2009	29	7.9%	12	3.3%
		2010	47	12.9%	19	5.2%
		2011	54	14.8%	24	6.6%
		2012	63	17.5%	35	9.8%
		2013	52	14.4%	23	6.4%
		2014*	50	13.7%	18	4.9%

Data Source: Amtrak

Note: *Hiawatha Service* trains typically operated in 2008-2014 with 416 seats. *Hiawatha Service* seats were more than 90 percent occupied when on-board ridership exceeded 374 riders.

*Starting in 2014, Amtrak changed their methodology for calculating ridership, which resulted in reduced *Hiawatha Service* ridership in 2014.

**Average number of standees is not provided for 2014.

In 2013, with the introduction of E-ticketing, Amtrak changed its methodology to more accurately count and report ridership (i.e., trips). Previously, Amtrak could only estimate the trips generated from passengers who used non-standard tickets (e.g., unlimited monthly passes and 10-ride tickets). E-ticketing has enabled Amtrak to count the actual trips taken by riders using such passes. The new methodology for counting and reporting ridership also impacted the tracking of instances of overcapacity. This is evident when comparing instances of overcapacity for Trains 330 and 332. The new method of tracking passengers essentially split ridership between Trains 330 and 332, whereas prior to 2014, a majority of the ridership was assigned to Train 332. Although instances of overcapacity decreased in 2014 for Trains 330, 332, 337, and 339, there is still a high number of overcapacity trains in the corridor.

In 2013, *Hiawatha Service* Train 332 hosted more than 374 riders between Glenview and Sturtevant 9.8% of the days it operated and more than 416 riders 3.6% of the days it operated. In 2013, Train 337 hosted more than 374 riders between Glenview and Sturtevant 4.7% of the days it operated and more than 416 riders 1.6% of the days it operated. Finally, in 2013, Train 339 hosted more than 374 riders between Glenview and Sturtevant 14.4% of the days it operated and more than 416 riders 6.4% of the days it operated. In 2013, Trains 332, 337, and 339 averaged between 40 and 52 standees with on-board ridership between Glenview and Sturtevant greater than 416. Analysis of *Hiawatha Service* ridership data indicates that near-capacity and over-capacity conditions between Glenview and Sturtevant were infrequent on other *Hiawatha Service* trains in 2008-2013.

Hiawatha Service ridership is expected to continue growing in the future, as evidenced by the nearly-consistent increase in ridership since 2001. As ridership grows, near-capacity and over-capacity conditions (especially on trains 330, 332, 337 and 339) are expected to occur more frequently if no improvements are made to the service.

1.5.2 Limited Passenger Train Schedule Options

1.5.2.1 Existing and Future Passenger Demand

An on-board survey of existing *Hiawatha Service* passengers was conducted by the WisDOT and the University Transportation Center for Mobility at the Texas Transportation Institute (TTI) in 2011 to examine the impacts that the multimodal *Hiawatha Service* has on mobility. The resulting report, *Intercity Passenger Rail: Implications for Urban, Regional, and National Mobility*[4], found that, on average, passengers "strongly agreed" that they would be encouraged to ride the *Hiawatha Service* more often if additional daily departures and arrivals were provided. Specifically, passengers agreed that additional early and late evening departures from Chicago and an additional morning departure from Milwaukee were attractive schedule additions.

Amtrak's current schedule provides 5:08 p.m. and 8:05 p.m. departures from Chicago Union Station. The

[4] Intercity Passenger Rail: Implications for Urban, Regional, and National Mobility. B. Sperry and C. Morgan. University Transportation Center for Mobility. December 2011.

survey responses indicate that passengers desire a departure time between the existing evening departures to accommodate later working schedules and a departure after 8:05 p.m. to allow for participation in evening activities in Chicago. Amtrak's morning departures from Milwaukee Intermodal Station are scheduled at 6:15 a.m. and 8:05 a.m. arriving in Chicago at 7:57 a.m. and 9:34 a.m., respectively. Again, the survey responses suggest that passengers desire additional frequencies in the peak hours. As will be discussed further in Section 1.5.4, over capacity and near-capacity conditions are experienced on the 8:05 a.m. departure from Milwaukee and the 5:08 p.m. departure from Chicago, further supporting the argument that additional frequencies are needed to accommodate passenger demand.

1.5.2.2 Multimodal Connections

Train schedule options are critical to providing flexibility for passengers traveling within the corridor, as well as flexibility of transferring to modes that service destinations outside the corridor. The Chicago-Milwaukee corridor offers multimodal connections to intercity and local bus service, air service, and other intercity passenger rail routes:

- Intercity bus connections can be made at Chicago Union Station for destinations to the south, east, and west, and at Milwaukee Intermodal Station for destinations to the north and northwest.
- *Hiawatha Service* passengers have direct access to Milwaukee's General Mitchell International Airport from the Milwaukee Airport Rail Station. The airport has non-stop flights to 39 domestic cities and one-stop connections to 160+ cities worldwide.[5]
- Chicago Union Station is the Midwest hub for intercity passenger rail and provides connections to twelve Amtrak routes that serve all parts of the U.S.

If more schedule options are provided to passengers, travel within the corridor would be more robust and connections to modes that travel outside the corridor would be more accessible.

1.5.3 Highway Congestion

Major highways connecting Chicago and Milwaukee include Interstate 94 (I-94), U.S. Highway 41, and U.S. Highway 45. A number of state and county highways also provide north-south connectivity in the corridor. I-94 serves as the main intercity route for automobiles and trucks traveling between Chicago and Milwaukee. The route parallels Amtrak's existing Chicago-Milwaukee route for most of the travel corridor.

I-94 currently is undergoing reconstruction and expansion between Chicago and Milwaukee. Some of this work, including the addition of a fourth lane in each direction along segments of I-94, already has been completed in Illinois. Reconstruction and the addition of a fourth lane in each direction—the I-94 North-South Freeway Project—is ongoing in Wisconsin.

[5] www.mitchellairport.com, accessed October 1, 2015

According to the 2008 Final Environmental Impact Statement (EIS) for the I-94 reconstruction and expansion project in Wisconsin, traffic volumes on I-94 are projected to continue to increase through 2035.[6] Traffic volumes in Kenosha County are expected to increase by 41% (an increase from 78,000 to 110,000 vehicles per day in 2035 near the Kenosha County-Racine County border) to 49% (an increase from 85,000 to 127,000 vehicles per day in 2035 in central Kenosha County). Traffic volumes in Racine County are expected to increase by 38% (an increase from 88,000 vehicles per day to 121,000 vehicles per day near the Racine County-Milwaukee County border). Traffic volumes are projected to increase 10% (an increase from 156,000 to 171,000 vehicles per day north of the General Mitchell International Airport Spur) in Milwaukee County.

The projected increases in traffic volumes assumed a significant increase in public transit in the region, including implementation of the proposed Kenosha-Racine-Milwaukee commuter rail project—which no longer is an active project. As a result, projected increases in I-94 traffic volumes could be higher if assumed transit projects do not get implemented. In addition, the projected traffic volume growth rates do not include increased traffic attracted to the higher-capacity freeway. The I-94 EIS indicated that the induced demand is forecast to add an additional 2% to 12% to the expected future traffic volumes.

The I-94 North-South Freeway Project will reduce congestion by increasing the capacity of the freeway; however, highway congestion will be a concern in the future. Public transportation options will continue to be needed as travel alternatives. The 2011 on-board survey of Amtrak *Hiawatha Service* passengers indicated that nearly 70% of the passengers would have travelled by auto if the train were not available for their trip. An additional 14% of the passengers indicated they would not have made the trip if the train were not available. Avoiding highway congestion was a primary reason survey respondents provided for taking the train.[7]

1.5.4 Service Reliability

On-Time Performance (OTP) is a measurement that Amtrak and other agencies use to monitor train performance. It is calculated by taking the total number of trains arriving "on-time" at the end-point of a route divided by the total number of trains operated on the route. A train is considered "on-time" if it arrives at the final destination within 10 minutes of its scheduled arrival time.

Hiawatha Service has a history of very good on-time performance; however, the OTP of the *Hiawatha Service* gradually decreased between 2004 and early 2016. OTP has shown an improvement in the first half of 2016, with values in the low- to mid-90% range. Figure 1-5 shows the average annual OTP for August 2004 through August 2015.

[6] Interstate 94 North-South Freeway Project Final Environmental Impact Statement. Wisconsin Department of Transportation. March 2008.
[7] Intercity Passenger Rail: Implications for Urban, Regional, and National Mobility. B. Sperry and C. Morgan. University Transportation Center for Mobility. December 2011.

Figure 1-5
***Hiawatha Service* Average Annual On-Time Performance**

Time Period	*Hiawatha Service* Average Annual OTP
August 2004-July 2005	91.9%
August 2005-July 2006	89.5%
August 2006-July 2007	88.9%
August 2007-July 2008	88.1%
August 2008-July 2009	87.8%
August 2009-July 2010	88.7%
August 2010-July 2011	88.3%
August 2011-July 2012	90.8%
August 2012-July 2013	89.2%
August 2013-July 2014	86.8%
August 2014-July 2015	86.5%
Decrease in OTP from 2004-2015	6%

Source: Amtrak

In addition to tracking the on-time performance, Amtrak also records the primary cause(s) of delay experienced by a train. Amtrak provided the primary causes of delays for the period of October 2004 through September 2015. During that time period, the top three causes of delay for *Hiawatha Service* trains were as follows:

- Commuter train interference (21.3% of all delay minutes)
- Freight train interference (9.9%)
- Communications & Signaling work due to defect (9.8%)

Approximately 40% of the causes of delays to Amtrak trains over the past eleven years are related to other trains and infrastructure issues, indicating that there are significant reliability issues in the corridor. In addition to Amtrak's delays, CP and Metra, Chicago's commuter rail service, have both observed significant delays and reduced reliability in the corridor due to disparate service types operating on shared track and inadequate infrastructure to accommodate modern day train lengths and speeds. Adding further Amtrak *Hiawatha Service* without improving infrastructure and adding capacity would exacerbate existing problems because additional trains would be inserted into an already-congested railroad corridor. Infrastructure, signaling, and operational improvements must be made to decrease delays and increase service reliability.

1.5.5 Provide Mobility and Transportation Choice

According to Wisconsin's *Connections 2030*, providing mobility and transportation choice "creates the foundation of an efficient, balanced and safe transportation system – which is critical to Wisconsin's

economic vitality and quality of life".[8] Mobility and transportation choice are especially important for persons with disabilities, those who cannot or choose not to drive, and those who live in areas traditionally underserved by public transportation.

The Southeastern Wisconsin Regional Planning Commission (SEWRPC) echoes the desire to promote mobility in the region with "a balanced, integrated, well-connected transportation system that provides choices among transportation modes". SEWRPC identifies six objectives related to mobility in their Preliminary Draft of the *Vision 2050* planning effort.[9] The six objectives are as follows:

- A balanced, integrated, well-connected transportation system that provides choices among transportation modes.
- Reliable, efficient, and universal access to employment centers, educational opportunities, services, and other important places.
- Well-maintained transportation infrastructure.
- An acceptable level of service on the transportation system.
- Fast, frequent, and reliable public transit services that maximize the people and jobs served.
- Convenient, efficient, and reliable movement of goods and people.

The purpose and need of the project supports SEWRPC's objectives for mobility.

Connections 2030 states that between the years 2000 and 2030, Wisconsin's population of people 65 years and older is predicted to increase by 90.2 percent, compared to a 20 percent increase in the total population. The document also cites that the state's demand for workers will continue to outpace supply as the "baby boom" generation retires. This is especially important to Wisconsin because of the dramatic increase in population of people over 65 years old by 2030. A way to offset the unmet demand is by attracting young, educated workers to the state. According to American Public Transportation Association's "Millennials & Mobility: Understanding the Millennial Mindset", communities that attract Millennials (those born between 1982 and 2003) have multimodal transportation choices that are reliable, connect the user with their communities, and fully leverage technology. It is clear from the planning documents of Wisconsin and SEWRPC that providing multimodality and choice in transportation is a priority.

[8] *Connections 2030 Statewide Long-Range Transportation Plan, Chapter 8, October 2009*
[9] http://vision2050sewis.org/SEWRPCFiles/Vision2050/VISION2050-DraftPlanObjectives.pdf, accessed September 23, 2015

1.6 Midwest, Statewide, and Regional Planning Context

1.6.1 Midwest Regional Rail Initiative

The MWRRI was described in Section 1.2.1. Increased frequencies proposed as part of this Program are consistent with MWRRS plans for the Chicago-Milwaukee corridor.

1.6.2 Statewide Planning Context

1.6.2.1 Wisconsin

Increased *Hiawatha Service* frequencies are consistent with Wisconsin's long-range, multimodal state transportation plan, *Connections 2030*. In 2014, WisDOT completed and adopted its state rail plan, *Wisconsin Rail Plan 2030*, which builds off of *Connections 2030*. Both *Connections 2030* and the *Wisconsin Rail Plan 2030* recommend increasing train frequencies and reducing train travel times in the Chicago-Milwaukee corridor. The plans also recommend improving passenger rail service in the region as part of the proposed MWRRS.

Connections 2030 notes that improving intercity passenger rail service in the Chicago-Milwaukee corridor would provide the following benefits:

- Creation of more trip choices for passengers;
- Reduction in travel time for travelers;
- Improvement to an alternative travel mode used by those who cannot or choose not to travel by auto; and
- Improved transportation synergies with other travel modes (e.g., intercity bus, commercial air service, etc.).

Wisconsin Rail Plan 2030 identified the following additional benefits of improving the *Hiawatha Service*:

- Mobility Benefits
    - Provides an alternative that is capable of operating in inclement weather when roads; are closed and airline flights are delayed or cancelled;
    - Offers a safe travel option that can be cost- and time-competitive with driving and flying; and
    - Provides mobility and economic development to smaller communities with little or no access to any other public transportation.
- Economic benefits
    - Reduces businesses' transportation costs;
    - Allows business travelers to work productively while en route to their destination;
    - Facilitates an increase in tourism travel; and
    - Improves Wisconsin's economic competitiveness and supports the growth of high-tech and service sector jobs by helping to attract new businesses and skilled young

professionals

- Environmental and livability benefits
  - Promotes livable communities by expanding transportation options and encouraging economic development in communities, especially near stations;
  - Provides an opportunity to change land use and travel patterns that help improve air and water quality and community aesthetics;
  - Provides a transportation option that is environmentally friendly and has fewer carbon dioxide emissions per passenger-mile than private auto or airlines;
  - Improves energy-efficiency of personal travel;
  - Contributes to efforts to improve air quality and reduce greenhouse gas emissions through diversion of some auto and air traffic; and
  - Helps reduce negative impacts to individuals and the economy of disruptions in energy supply or fuel price increases.
- Safety and security benefits
  - Provides a safer travel option.

1.6.2.2 Illinois

In 2012 IDOT completed its *Illinois State Transportation Plan* (2012 IL Transportation Plan). This plan provides the strategic direction for realizing the "Transforming Transportation for Tomorrow" vision, which represents IDOT's commitment to a safe, sustainable, and integrated multi-modal transportation system. This plan presents the policies and goals guiding IDOT's investment decisions for Illinois' transportation system over the next 20 years. The plan's recommended policies included:

- Develop a sustainable Illinois Transportation System;
- Improve transportation safely;
- Provide a transportation system that offers a high degree of mobility, accessibility, reliability, and options;
- Provide efficient freight movement;
- Incorporate human capital into department planning, programs, and policies;
- Preserve and manage the existing transportation system;
- Address congestion and maximize efficiency and effectiveness through transportation operations;
- Follow a comprehensive transportation planning process and promote coordination among public and private sector transportation systems;
- Promote stable funding for the public component of the transportation system;
- Target transportation investments to support business and employment growth and enhance the Illinois economy;
- Ensure a compatible interface of the transportation system with environmental, social, energy, and land use; and

- Provide a secure transportation infrastructure in conjunction with the Office of Homeland Security – Illinois Terrorism Task Force.

While the plan does not make specific recommendations to improve intercity passenger rail service in Illinois, the 2012 *Illinois State Transportation Plan* references IDOT's continued commitment to intercity passenger rail service.

1.6.3 Regional Planning Context

1.6.3.1 Southeast Wisconsin

Improvements to the *Hiawatha Service* are also consistent with regional plans, including SEWRPCs *Vision 2050.* SEWRPC's Vision 2050 Plan recommends improving intercity passenger rail services and expanding the destinations served. The Plan recommends two new intercity rail lines "one connecting Chicago to Minneapolis and St. Paul via Milwaukee and Madison, and another connecting Chicago to Green Bay via Milwaukee and the Fox Valley." The Plan also recommends construction of the Muskego Yard bypass (proposed Muskego Yard Signalization Project) to allow freight trains traveling through downtown Milwaukee to bypass the station. The project would "benefit the station's ability to accommodate additional commuter rail and intercity passenger rail service, and it would improve safety and reduce delays to both freight and passenger trains traveling through Milwaukee."[10]

1.6.3.2 Chicago Metropolitan Area

The Chicago Metropolitan Agency for Planning (CMAP) developed and now guides the implementation of *GO TO 2040*, metropolitan Chicago's comprehensive regional plan. The *GO TO 2040* plan places a high priority on maintaining and modernizing the existing transportation system, including transit. Strengthening the transit system by bringing transit infrastructure to a 'state of good repair' is expected to promote transit usage by increasing service reliability, efficient utilization of existing infrastructure and the comfort and convenience of the transit experience. A strong transit system also is expected to improve mobility by allowing travelers to avoid congested roadways, and improving travel times both for people who use transit and for those who drive.

Increasing passenger rail service between Chicago and Milwaukee supports the goals of the *GO TO 2040* Plan because implementation of the Hiawatha Project would:

- Focus transportation investment on existing infrastructure;
- Increase the availability of passenger services; and
- Provide an alternative to using heavily congested freeway corridors.

[10] SEWRPC Vision 2050 Revised Draft, July 2016

1.7 Decisions to be Made

The NEPA process is "intended to help public officials make decisions that are based on understanding of environmental consequences and take actions that protect, restore, and enhance the environment."[11] WisDOT, IDOT, and FRA must comply with NEPA and evaluate the proposed project alternatives to inform the decision makers and to determine if impacts on the environment would be significant. In addition, "NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken."[12] If it is determined through the EA that no significant impacts would result from the proposed action (the project), then a Finding of No Significant Impact (FONSI) is issued by FRA.

[11] 40 CFR 1500.1
[12] 40 CFR 1500.1

2 Definition of Alternatives

2.1 Introduction

This chapter describes the alternative actions considered for implementing the Proposed Action described in Chapter 1. Alternatives were identified and evaluated to assess their ability to meet the purpose and need of the project, meet engineering design criteria, and avoid or minimize adverse environmental impacts.

NEPA requires that agencies shall "rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated".[13] In following NEPA requirements, this document identifies and evaluates a range of alternatives for reasonableness, and eliminates alternatives from further analysis that are not found to be reasonable.

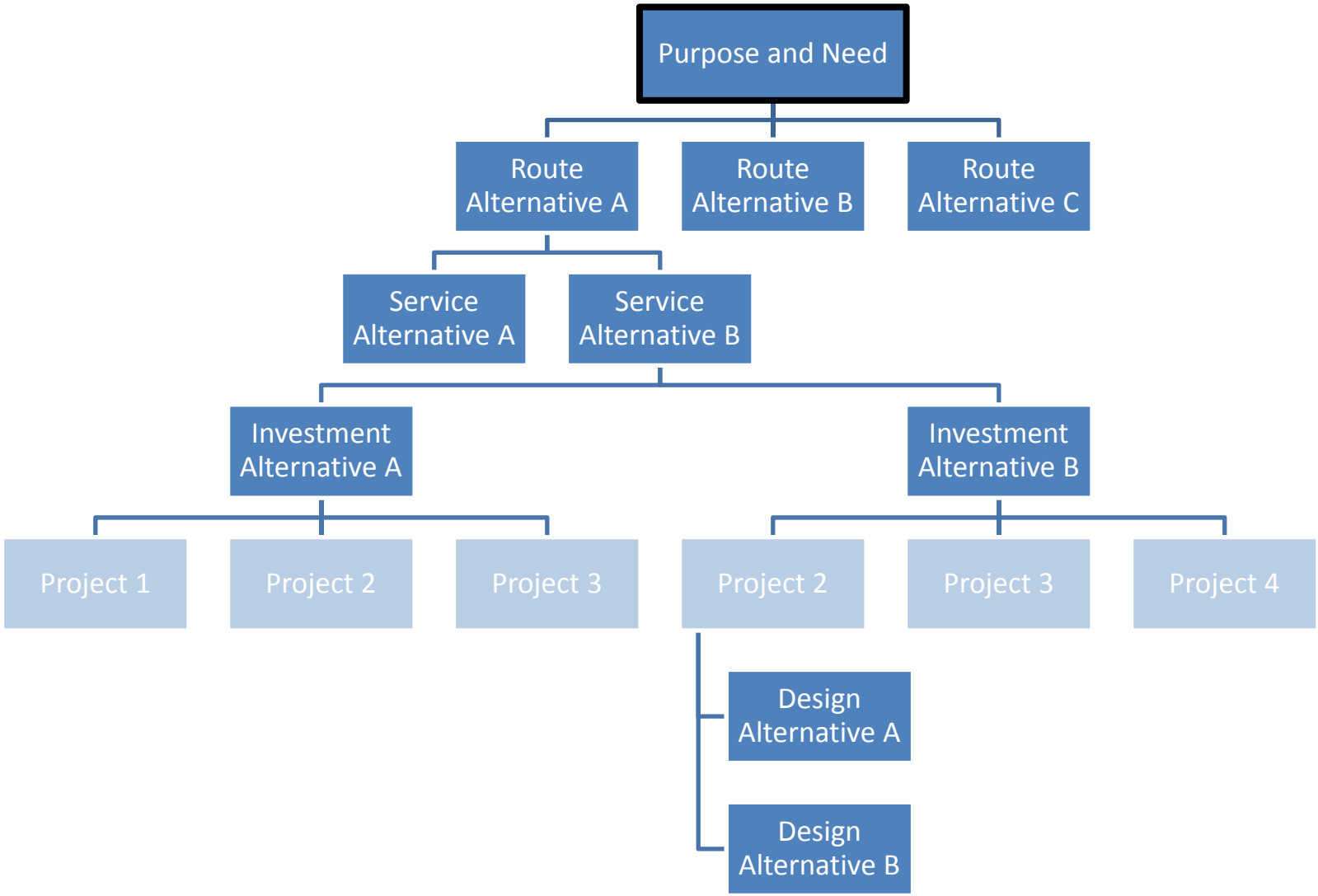
In intercity passenger rail corridor planning, the range of alternatives to be considered consists of a hierarchical array of Route, Service, Investment, and Design Alternatives, which is developed with the goal of examining a complete range of alternative means of fulfilling the purpose and need of the project.

Within a particular corridor and with a given purpose and need established for a proposed intercity passenger rail service, there may be multiple physical routes (e.g., parallel existing rail lines that traverse the corridor) over which the service may be operated. Similarly, any one of these available "Route Alternatives" may be capable of supporting intercity passenger rail service with a range of basic service characteristics such as frequency levels, travel times, stopping patterns, train consist[14], and fare structures. For a particular combination of possible service characteristics (with each combination referred to as a "Service Alternative"), there may likewise be multiple options for the package of physical investments needed to support the operation of the service with those service characteristics. For each of the improvement projects that make up a particular "Investment Alternative" package, there may be multiple potential Design Alternatives for actually implementing the given project. Design Alternatives are the physical improvement alternatives that can be constructed for a particular project that achieve the same operational benefit as the overall project.

Figure 2-1 illustrates the conceptual hierarchy of alternatives for intercity passenger rail corridor planning that will be evaluated as part of the NEPA process.

[13] 40 CFR 1502.14(a).
[14] The coupled vehicles making up a train (for example, a passenger train consist typically contains coaches, a cab car, and a locomotive)

Figure 2-1
Conceptual Hierarchy of Alternatives for Intercity Passenger Rail Corridor Planning



2.2 Alternatives Analysis

2.2.1 Methodology

In the alternatives analysis for the Program, Route, Service, Investment, and Design Alternatives were examined in sequence to identify the reasonable build alternatives (in addition to the No-Build) to be included in the EA. At each level of the alternatives hierarchy, a preliminary range of alternatives was first identified and then screened to eliminate alternatives that would not fulfill the purpose and need of the program, or which were determined not to be a reasonable means of meeting the purpose and need based on consideration of specific criteria related to engineering and operational requirements, safety, potential environmental impacts, and cost. The factors considered in this screening are summarized in Figure 2-2.

Figure 2-2
Criteria for Preliminary Range of Alternatives Screening

Purpose and Need	Reasonableness
• Address existing and future passenger rail demand • Expand modal options to provide an alternative to traffic delay, reliability issues, and long travel times related to existing and future highway congestion in the corridor • Strengthen transportation connections to other transportation modes such as air, intercity bus, local transit, bicycle facilities, and ride sharing options • Enhance and improve the reliability of a successful, existing intercity passenger rail service and utilize the significant investments made in the *Hiawatha Service* over the past twenty years	• Meets safety requirements • Construction feasibility • Ability to meet railroad operational requirements • Potential impacts to environmental resources o 4(f)/historic properties o Wetlands o Critical habitat/endangered species o Noise and vibration o Environmental Justice/ community cohesion • Order of magnitude capital costs

To adequately assess the range of alternatives against these criteria, the Route, Service, Investment, and Design Alternatives under consideration were subjected to varying degrees of analysis related to service planning, conceptual engineering, and environmental impacts. In general, this assessment required that the analysis of alternatives at the more detailed levels of the hierarchy (e.g. Investment and Design Alternatives) be more complex and examine a greater level of detail than at the higher levels of the hierarchy (e.g. Route and Service Alternatives).

2.2.2 Alternatives Considered

The sub-sections below identify the range of Route, Service, Investment, and Design Alternatives considered and summarize the results of the alternatives analysis conducted for each set of alternatives. A more detailed analysis of alternatives is located in Appendix A.

2.2.2.1 Route Alternatives

Three Route Alternatives were identified and evaluated for each alternative's ability to meet the purpose and need and reasonableness criteria. Figure 2-3 illustrates the three Route Alternatives: Route Alternative A (Existing Amtrak Route), Route Alternative B (Union Pacific (UP) Kenosha Route), and Route Alternative C (UP Milwaukee Subdivision Route).

Figure 2-3
Route Alternatives

Route Alternative B and Route Alternative C were eliminated from further consideration because each proposes moving the well-established *Hiawatha Service* to a new rail corridor, thereby reducing modal options by eliminating important intermodal connections at existing mid-corridor stations. In addition, Route Alternative C would require the construction of a new rail connection through a golf course. A detailed Route Alternatives analysis is included in Appendix A. The No-Build Alternative and Build Alternative (Route Alternative A) were retained for further study.

2.2.2.2 Service Alternatives

Following the completion of the Route Alternatives analysis, five Service Alternatives for Route Alternative A were identified and evaluated for each alternative's ability to meet the purpose and need and reasonableness criteria. The five Service Alternatives include:

- Service Alternative A (No-Build Alternative) - Passenger service operating at a maximum of 79 MPH throughout the corridor at a frequency of 7 round-trips per day
- Service Alternative B – Passenger service operating at maximum of 79 MPH from Chicago Union Station to Rondout (Lake Forest, IL), at 90 MPH from Rondout to the Milwaukee Airport Rail Station (Milwaukee, WI), and at a maximum of 79 MPH from the airport station to Milwaukee Intermodal Station at a frequency of 10 round-trips per day
- Service Alternative C – Passenger service operating at a maximum of 79 MPH throughout the corridor and increasing the frequency of the *Hiawatha Service* from existing service levels of 7 round trips per day to 10 round trips per day
- Service Alternative D – Adding an additional coach car to each existing *Hiawatha Service* train set
- Service Alternative E – Changing *Hiawatha Service* ticketing procedures from unreserved to reserved

Although Service Alternative B would provide a travel time reduction of 2 minutes between the Glenview, IL station and the Milwaukee Airport Rail Station, it would not meet the purpose and need as it would not address existing and future passenger rail demand because an increase in speed would not alleviate demand for the service. It also would not be reasonable because it would require the expenditure of capital costs to construct additional track improvements and would pose significant increases in annual operating and maintenance costs. Service Alternative D would not meet the purpose and need as it would not improve reliability or expand modal options, and it would not be reasonable because it would require the expenditure of capital funds to purchase additional equipment and the expenditure of additional annual funds to operate and maintain the equipment. Service Alternative E would not meet the purpose and need as it would not address existing and future demand, would restrict ridership growth, would not strengthen connections to other modes, and would not enhance and improve the reliability of the existing service. As such, Service Alternative C was the sole Service Alternative (in addition to the No-Build Alternative, Service Alternative A) to be carried forward. The detailed Service Alternatives analysis is included in Appendix A.

2.2.2.3 Investment Alternatives

2.2.2.3.1 Infrastructure Investments

As a starting point for identifying the range of Investment Alternatives needed to support the increase in passenger rail frequencies reflected in Service Alternative C (while not unreasonably impairing freight and commuter rail operations in the corridor), the alternatives analysis examined an earlier operations analysis that was prepared using Berkeley Simulation Software's Rail Traffic Controller (RTC) modeling package. The RTC modeling effort had been undertaken by WisDOT between 2007 and 2010 to identify the infrastructure investments needed to support various *Hiawatha Service* speed and frequency scenarios. With input from CP, Metra, and FRA, a final model and results were completed in 2010 that identified the following investment projects as being necessary to support 10 round trips per day on the corridor:

- Install universal crossover near Dewes Street (Glenview, IL);
- Install double track connection with the UP Milwaukee Subdivision at Tower A-20 (Glenview, IL);
- Upgrade Deerfield crossover (Deerfield, IL);
- Install universal crossover in Lake Forest (Lake Forest, IL);
- Upgrade Wadsworth crossovers (Wadsworth, IL);
- Install universal crossover at Truesdell (Kenosha, WI);
- Replace 19 miles of jointed rail with continuous welded rail (CWR) between Wadsworth, IL and Milwaukee, WI;
- Upgrade crossovers at Sturtevant (Sturtevant, WI);
- Construct second platform at Milwaukee Airport Rail Station (Milwaukee, WI); and
- Upgrade signals at Milwaukee Intermodal Station (Milwaukee, WI).

Between 2010 and 2012, when the preparation of this EA began, WisDOT and CP funded the construction of two of the investment projects identified by the RTC modeling. These projects included:

- Installation of universal crossover at Truesdell (Kenosha, WI)
- Installation of CWR between Wadsworth, IL and Milwaukee, WI

As part of the preparation of this EA, an Operations Analysis Working Group was established, consisting of representatives of WisDOT, IDOT, FRA, Amtrak, Metra, CP, and UP, to assist in the Investment Alternatives analysis effort. Meetings of this Working Group were held in January 2013 and April 2013 to review the investments identified in the 2007-2010 operations analysis, and to determine if there were other projects that merited consideration as a means to accommodate the proposed increase in frequency reflected in Service Alternative C. Working Group meetings were held on the following dates:

- Meeting #1 – February 19, 2013
- Meeting #2 – April 5, 2013
- Meeting #3 – April 29, 2013

The purpose of Meeting #1 was to review work completed for the Chicago-Milwaukee corridor as part of previous modeling efforts and within the current Program; discuss guidelines for identifying investment projects necessary to accommodate the increase in *Hiawatha Service* frequencies; and to identify the appropriate personnel from each Working Group organization to participate in future meetings. At the conclusion of the meeting, it was agreed upon that Working Group Meeting #2 would focus solely on projects needed for 10 round trips per day. Meeting #3 would focus on fine-tuning the results of Meeting #2.

During Meeting #2, each railroad presented its current constraints, future constraints with future freight volumes, and future constraints with future freight volumes and 3 additional *Hiawatha Service* round trips per day. The system constraints and bottlenecks identified by the railroads were compared to the inputs to the RTC model and to the modeling results produced by WisDOT. In general, the RTC model identified locations of bottlenecks in the corridor that matched bottlenecks and constraints identified by the Working Group. However, several areas of constraint - at Milwaukee Airport Rail Station and at the Metra Fox Lake Subdivision – were not modeled. CP noted that several assumptions used in the model, including a maximum freight train length of 7,000 feet and freight traffic volumes, were out of date. Additionally, CP indicated that the turnout upgrades at Deerfield, Wadsworth, and Sturtevant should be removed from the Investment Alternative due to additional maintenance requirements of higher speed turnouts. Areas of constraint and preliminary infrastructure to mitigate the constraints were discussed as follows:

- Metra – Reduced maintenance windows as a result of Trains 331 (Amtrak) and 281 (CP), and (Amtrak) 358 on weekends. Mitigated by adding control points at Lake Forest and Glenview. Avoids need for night work which communities and unions oppose.
- Metra – Amtrak 341 can be delayed by Metra 2147. Mitigated by construction of second main [track?] from Rondout to St. Mary's Road with Centralized Traffic Control (CTC) and new higher speed turnout will allow parallel moves.
- CP – Second platform at Milwaukee Airport Rail Station (MARS) to keep trains on their normal track and eliminate crossover movements.
- CP – Run-through track through Muskego Yard area of Milwaukee to avoid Milwaukee Station and wear and tear on the Menomonee River swing bridge. Also allows eastbound freights to stage in the yard rather than on the main lines.
- CP – Need to find solution to mitigate CP Train #282 from being overtaken three times. Possible solutions include constructing a universal crossover at the turnout to the Wisconsin Electric Power Company (WEPCO). All agreed that a 10,000 foot connecting track at A-20 would be helpful.

At Meeting #3, Metra confirmed that the following strategies would mitigate its constraints:

- Construct universal crossovers in Lake Forest and Glenview to allow for daytime maintenance windows and operational flexibility.
- Construct second main track from Rondout to St. Mary's Road on Metra Fox Lake Subdivision

with CTC and new higher speed turnout to allow for parallel moves.

CP confirmed that the following investment projects were still required:

- Construct second platform at MARS to reduce delays from crossover movements.
- Provide two run-through tracks within Muskego Yard by upgrading existing yard tracks and installing signals at east end of the yard to allow trains an additional route around Milwaukee (which would create capacity within Milwaukee Intermodal Station) and allow freight trains to stage in the Yard rather than on the main lines.
- Upgrade signals at Milwaukee Intermodal Station and install CTC to allow for more efficient train movements through the station.
- Construct an extension of the CP connecting track at A-20 along the UP Milwaukee Subdivision from Shermer Road to West Lake Avenue to allow CP trains to hold off the main lines while waiting for approval to enter UP territory (which would create capacity on the CP main line and reduce delays for commuter and intercity passenger trains.

Given the differences identified by CP between existing train volumes and train lengths and the inputs to the RTC model, CP performed updated operations simulations using the RTC model both to validate the Working Group's recommendations and reflect then-current (2013) freight traffic levels, updated projections of future freight traffic levels, and updated train lengths. CP produced an updated RTC model of the corridor in August 2013 that included the investment projects identified during Working Group Meeting #3. Based on the updated RTC model, CP identified two additional projects and additional scope on one project needed to accommodate the additional *Hiawatha Service* frequencies and mitigate its effect on other rail operations in the corridor:

- Rondout Siding Extension – New project that would extend an existing freight siding from Rondout (the railroad control point south of Illinois Route 176) to Illinois Route 60 for a total siding length of 13,000 feet. Project would allow for operational flexibility for all trains by providing a third track in a very busy segment of the corridor.
- Union Pacific Railroad (UPRR) Siding Extension at A-20 – At A-20, in addition to providing a siding adjacent to the UP that CP can use to stage trains for entrance to the UP or exit from the UP, construct a second connection to the UP from the CP mainline south of the Northbrook Metra Station. The new connection would allow for simultaneous moves between the CP and UP.
- Speed Increase between A-20 and Rondout – New project that would increase speeds for certain freight trains between A-20 (Northbrook, IL) and Rondout (Lake Forest, IL) from 40 MPH to 50 MPH. This project would reduce delays for CP trains and would decrease the speed differential between freight trains and passenger trains, making operations safer. Signal system modifications to accommodate increased train speeds are the only physical improvements required to implement the project.

The railroad stakeholders and project sponsors initially coalesced around a final Investment Alternative to

support an increase in *Hiawatha Service* to 10 round trips per day at 79 MPH. CP later indicated that freight operations in the Milwaukee area are evolving and changing, which may lead to additions or alterations to the proposed scope of work at Muskego Yard. This EA considers only the infrastructure investments initially identified and accepted by the project team for Muskego Yard. Any additional or altered scope would be subject to additional documentation to support NEPA. The project sponsors moved forward with the Investment Alternative for infrastructure consisting of the following projects as modeled by CP in August 2013:

- Glenview Universal Crossover
- UPRR Siding Extension at A-20
- Speed Increase between A-20 and Rondout
- Deerfield Holding Track
- Lake Forest Universal Crossover
- Rondout Siding Extension
- Metra Fox Lake Second Track
- Milwaukee Airport Rail Station Second Platform
- Muskego Yard Signalization
- Milwaukee Station-Cut-Off CTC Installation

A description of the operational benefits of the infrastructure investments included in the Investment Alternative is provided in Section 3.6.5.3.

2.2.2.3.2 Equipment Investments

Also as part of the Working Group meetings, a 10 round trip schedule was developed to support the implementation of Service Alternative C, and was approved by the railroad stakeholders. The schedule is presented in Section 3.6.2.2. In developing the schedule, the number of train sets required to operate the 10 round trip schedule was analyzed. To implement Service Alternative C, three train sets are required. The current *Hiawatha Service* utilizes two sets of equipment; an additional set of equipment must be procured by the States.

Two equipment scenarios were identified for the Build Alternative: Alternative 1A assumes that a third PRIIA 305 locomotive could be procured or utilized from the Midwest fleet and an additional set of Amtrak-owned cars would be available; Alternative 1B assumes that the States would procure a third PRIIA 305 locomotive and three sets of PRIIA 305 cars.

In discussions with Amtrak regarding equipment scenarios, Amtrak stated that it would be unlikely that an additional set of Amtrak-owned cars would be available for use by the *Hiawatha Service*. Therefore, the only reasonable Investment Alternative for equipment consists of the procurement of one PRIIA 305 locomotive and three sets of PRIIA 305 cars.

2.2.2.4 Design Alternatives

Of the projects included in the Investment Alternative identified above, the majority are simple enough or so limited in scope so as to have only a single reasonable Design Alternative for their implementation; however, three of the projects included in the Investment Alternative package were identified to have multiple potential Design Alternatives capable of providing similar operational benefits to the overall project. These projects include:

- UPRR siding extension at A-20
- Rondout siding extension
- Metra Fox Lake second track

Design Alternatives for each of these projects were identified and evaluated for each alternative's ability to meet the purpose and need and reasonableness criteria. A summary of the analysis of the Design Alternatives is included below and the detailed analysis is included in Appendix A.

2.2.2.4.1 UPRR Siding Extension at A-20

The purpose of the UPRR Siding Extension at A-20 project is to allow a 10,000-foot long freight train to hold off the CP mainline while waiting to get access to the UP Milwaukee Subdivision. Much of CP's freight traffic must traverse a portion of UP's Milwaukee Subdivision to access CP Bensenville Yard in Chicago.

Currently, CP trains must wait on the mainline at Rondout (Lake Forest, IL) until they are given permission to enter the UP Milwaukee Subdivision at A-20, a railroad control point 12 miles south of Rondout in Northbrook, IL, a situation that significantly degrades freight operations on the corridor.

Six Design Alternatives were identified as alternatives that would meet the operational objectives of the project as follows:

- A-20 Alternative 1 – construct 11,000 foot holding track adjacent to the UP Milwaukee Subdivision on the west side of the existing two mainlines; construct new bridge over Shermer Road adjacent to the existing Shermer Road bridge. An 11,000 foot track is the longest section of track that can be constructed on the west side of the UP between Techny Road and West Lake Avenue.
- A-20 Alternative 2 – construct 10,000 foot track adjacent to the UP Milwaukee Subdivision on the east side of the existing two mainlines; construct new bridge over Shermer Road adjacent to the existing Shermer Road bridge; construct track swings to allow UP mainline operations to occur on eastern two tracks; CP trains would hold on former UP northern mainline. A 10,000 foot track is the longest section of track that can be constructed on the west/east side of the UP between Techny Road and West Lake Avenue.
- A-20 Alternative 3 – Construct the same improvements as Alternative 1 plus an additional 10,500 feet of track to the southwest on the west side of the UP. A 10,500 foot track is the longest section of track that can be constructed on the west side of the UP between West Lake Avenue and I-294.

- A-20 Alternative 4 – construct 10,000 foot track adjacent to the CP mainline on the west side of the existing main tracks north to Cherry Lane; permanently close Techny Road and Shermer Road grade crossings. A 10,000 foot track is the longest section of track that can be constructed on the west side of the CP between Shermer Road (on the UP) and Cherry Lane (on the CP).
- A-20 Alternative 5 – this alternative proposes a freight bypass for CP trains on the UP Milwaukee Subdivision from the Illinois-Wisconsin border to A-20. Requires construction of 30 miles of second main track and CTC, construction of a greenfield connection between UP and CP in Pleasant Prairie, WI; special track construction, new grade crossing construction
- A-20 Alternative 6 – the Village of Glenview proposed a service alternative consisting of the current 7 round trip service operating on the existing route and the additional 3 round trips operating on the UP Milwaukee Subdivision

Alternative 3 was removed from further consideration because it would not meet the purpose and need as it does not meet operational requirements of the project. It also would not be reasonable because it would adversely impact the use of a Section 106 historic property (The Grove National Historic Landmark in Glenview, IL) and it would cost 2.4 times as much as the lowest cost option to construct. Alternative 4 was removed from further consideration because it would not be reasonable as it poses constructability issues and because it presents significant community access concerns associated with the bifurcation of the parking lot and the Metra station. Alternative 5 was removed from further consideration because it does not meet the purpose and need of the project as it is not deemed necessary for 10 round trip *Hiawatha Service*. It also would not be reasonable as it presents likely environmental impacts to communities around the UP Milwaukee Subdivision and it would cost 5.5 times as much as the lowest cost option to construct. Finally, Alternative 6 was removed from further consideration because it would not be reasonable as it splits the *Hiawatha Service* to minimize the impact of the improvements on the Village of Glenview, but provides no benefit to intermediate stations and would cost 5.5 times as much as the lowest cost option to construct. A-20 Design Alternatives 1 and 2 were carried forward. The detailed analysis of the A-20 Design Alternatives is included in Appendix A.

2.2.2.4.2 Metra Fox Lake Second Track

Metra operates 62 weekday commuter trains between Chicago Union Station and Deerfield, IL, with 47 of those trains continuing north onto the Fox Lake Subdivision (toward Metra's terminus at Fox Lake, IL) through a railroad control point known as Rondout, located in Lake Forest, IL. Rondout is a complex interlocking (a configuration of switches and signals interconnected to direct trains along different routes[15]) that controls movements on the CP C&M Mainline, movements to and from the Fox Lake Subdivision, and movements to and from the Canadian National's Elgin, Joliet & Eastern line, which

[15] The American Railway Engineering and Maintenance-of-Way Association's *Practical Guide to Railway Engineering*, 2003

intersects the CP C&M Subdivision just east of the Fox Lake Subdivision junction.

Current operations are affected greatly by the fact that the 17 mile Fox Lake Subdivision has a single track configuration. Because of the inability for Metra trains to meet each other on the Fox Lake Subdivision, if an eastbound Fox Lake train is delayed on the Fox Lake Subdivision, Metra trains waiting to enter the Fox Lake Subdivision from the C&M Subdivision must hold on the C&M main tracks to meet the delayed Fox Lake train, potentially for long periods of time. This in turn creates a traffic conflict on the C&M Subdivision that results in delays to CP, Amtrak, and other Metra trains. Additionally, the need to schedule all commuter trains so that meeting points occur on the C&M mainline south of Rondout severely limits schedule options for Metra and the *Hiawatha Service*.

The Metra Fox Lake Second Track project proposes to address these operational limitations by creating a second track on the Fox Lake Subdivision and through the Rondout control point to allow for simultaneous moves by Metra trains to and from the Fox Lake Subdivision, and to allow for Metra trains to meet each other (whether by schedule or due to delays) on Fox Lake Subdivision rather than on the CP C&M mainline. Two Design Alternatives were identified as alternatives that would meet the operational objectives of this project:

- Metra Fox Lake Alternative 1 – Construct a second track on the Fox Lake Subdivision from Rondout to just east of St. Mary's Road; replace signal equipment controlling the interlocking, upgrade interlocking trackwork
- Metra Fox Lake Alternative 2 - Construct a second track on the Fox Lake Subdivision from Rondout to 1,500 feet west of St. Mary's Road; replace signal equipment controlling the interlocking, upgrade interlocking trackwork

Design Alternative 2 was removed from further analysis because it does not meet the purpose and need of the project as the extension of the new second track west of St. Mary's Road was not deemed necessary for 10 round trip *Hiawatha Service*. It also would not be reasonable as it would cost 7.5% more than Alternative 1. As such, only Metra Fox Lake Design Alternative 1 was carried forward. The detailed analysis of the Metra Fox Lake Design Alternatives is included in Appendix A.

2.2.2.4.3 Rondout Siding Extension

The Rondout Siding Extension project connects to the south end of the Metra Fox Lake Second Track project. The purpose of the Rondout siding extension is to provide additional operational flexibility for freight and passenger trains traveling through the Rondout control point. By constructing a third track at least 10,000 feet in length, which is the average length of a freight train in this analysis, a train would be able to hold off the mainline, creating capacity for other trains on the mainline. The siding could also be used by trains as a main track during maintenance windows on the mainline.

Two design alternatives were identified as alternatives that would meet the operational needs of the project:

- Rondout Siding Extension Alternative 1 – Construct 9,000 feet of track on existing embankment; install signals, special trackwork, and a control point. The total length of the third track would be 13,000 feet which includes the existing running track near Rondout to be reconstructed. A 13,000 foot third track is the longest section of track that can be constructed between the Metra Fox Lake Subdivision and Illinois Route 60.
- Rondout Siding Extension Alternative 2 - Construct 14,000 feet of track on existing embankment and on an overhead structure; construct a new 130-foot bridge adjacent to the existing rail bridge over Illinois Route 60; install signals, special trackwork, and a control point. The total length of the third track would be 18,000 which includes the existing running track near Rondout to be reconstructed. On the south end of the extension, the third track would connect to the proposed Lake Forest universal crossover to be constructed north of Conway Road in Lake Forest.

Design Alternative 2 was removed from further analysis because it would not be reasonable as the noise and vibration increase due to the project would impact sensitive residential receptors; track construction for Alternative 2 south of Illinois Route 60 would occur within numerous wetlands; and it would cost $9.2 million (nearly twice) more than Alternative 1. As such, only Rondout Siding Extension Design Alternative 1 was carried forward. The detailed analysis of the Rondout Siding Extension Design Alternatives is included in Appendix A.

2.3 Description of Alternatives

2.3.1 No-Build Alternative

The No-Build Alternative consists of operating the Amtrak *Hiawatha Service* at existing service levels (7 round trips per day Monday through Saturday and 6 round trips on Sunday) and speeds (maximum of 79 MPH). Maintaining existing service levels does not meet the Program purpose and need because existing and future passenger rail demand would not be addressed; modal options would not be expanded to provide an alternative to delays, reliability issues, and travel times; connections to other transportation options would not be strengthened; and the reliability of the service would not be improved.

The No-Build Alternative was retained for detailed analysis to allow equal comparison to the other alternatives. NEPA requires consideration of no action to serve as a baseline comparison with the proposed action and other alternatives considered.

2.3.2 Build Alternative

2.3.2.1 Route, Service, and Investment Alternative

As described in Section 2.2.2, the alternatives analysis resulted in the identification of a Build Alternative consisting of a single Route Alternative, Service Alternative, and Investment Alternative to be carried forward into the EA. The Route Alternative corresponds to the existing Amtrak route that uses Amtrak/Metra/CP-owned track and the Service Alternative reflects a frequency of 10 round trips per day,

seven days a week with similar travel times, train consists[16], stopping patterns, and fare structures as would be in place under the No-Build. The 10 round trip schedule would add two non-peak period and four peak period one-way trips per day (See Section 3.6.5 for the proposed train schedule). The added trips would address gaps in the existing schedule during peak travel times and are anticipated to reduce overcrowding seen on Trains 330, 332, 337, and 339 by providing more *Hiawatha Service* options during peak periods.

To implement this Service Alternative, a single Investment Alternative package was identified, comprised of the following:

- Infrastructure Investment Projects
    - Glenview Universal Crossover
    - UPRR Siding Extension at A-20
    - Speed Increase between A-20 and Rondout
    - Deerfield Holding Track
    - Lake Forest Universal Crossover
    - Rondout Siding Extension
    - Metra Fox Lake Second Track
    - Milwaukee Airport Rail Station Second Platform
    - Muskego Yard Signalization
    - Milwaukee Station-Cut-Off CTC Installation
- Equipment Investment Procurement
    - One PRIIA 305 locomotive
    - Three sets of PRIIA 305 cars

2.3.2.2 Design Alternatives

As described in Section 2.2.2.4 a single reasonable Design Alternative was carried forward for nine of the 10 improvement projects included in the identified build Investments Alternative package. The one exception is for the UPRR Siding Extension at A-20 project, for which the following two Design Alternatives were carried forward into the EA:

- A-20 Alternative 1 – construct 11,000 foot holding track adjacent to the UP Milwaukee Subdivision on the west side of the existing two mainlines; construct new bridge over Shermer Road adjacent to the existing Shermer Road bridge. An 11,000 foot track is the longest section of track that can be constructed on the west side of the UP between Techny Road and West Lake Avenue.
- A-20 Alternative 2 – construct 10,000 foot track adjacent to the UP Milwaukee Subdivision on the east side of the existing two mainlines; construct new bridge over Shermer Road adjacent to the existing Shermer Road bridge; construct track swings to allow UP mainline operations to occur on

[16] The coupled vehicles making up a train (for example, a passenger train consist typically contains coaches, a cab car, and a locomotive)

eastern two tracks; CP trains would hold on former UP northern mainline. A 10,000 foot track is the longest section of track that can be constructed on the west/east side of the UP between Techny Road and West Lake Avenue.

The evaluation of the Design Alternatives for impacts to environmental resources is included in Chapter 3 – Environmental Resources Analysis of this EA. The Design Alternatives are only discussed in specific sections in Chapter 3 where the design results in different impacts.

3 Affected Environment and Environmental Consequences

3.1 Introduction

This section describes the existing social, economic, and environmental resources within the Chicago-Milwaukee corridor and the potential impacts of the Build Alternative on the resources. Under the No-Build Alternative, daily trips on the *Hiawatha Service* would not increase from existing levels, and no infrastructure improvements would be constructed. Under the Build Alternative, daily trips on the *Hiawatha Service* would increase to 10 round trips per day and ten infrastructure improvement projects would be constructed to support the increase in service. The maximum speed would remain at 79 MPH.

To describe the existing conditions and environmental impacts, 19 resource topics are evaluated. These resources are discussed in individual sections of this chapter and include:

- Land use, zoning, and property acquisition
- Socioeconomics
- Title VI and Environmental Justice
- Agriculture
- Transportation
- Noise and vibration
- Air quality
- Hazardous materials
- Public health and safety
- Cultural resources
- Critical habitat and endangered species
- Water resources and aquatic habitats
- Water quality
- Floodplains
- Wetlands
- Section 4(f) properties
- Section 6(f) properties
- Energy use and climate change
- Visual and aesthetic quality

Additional sections at the end of this chapter address cumulative and indirect impacts and environmental commitments. Construction impacts are discussed within each environmental resource section.

3.2 Land Use, Zoning, and Property Acquisition

This section describes the land cover in the Program Study Area and discusses land acquisitions proposed as part of improvement projects.

3.2.1 Affected Environment

The Build and No-Build Alternatives would utilize a long-established rail corridor between Chicago and Milwaukee. Intercity passenger rail, commuter rail, and freight rail traffic operate on portions of the corridor. Development has occurred within the Program Study Area to take advantage of rail services. The Study Area begins in the heavily developed urban and suburban industrial, commercial, and residential areas of Chicago. The Study Area continues through Illinois in a mix of suburban residential, undeveloped, and rural areas. In Wisconsin, a majority of the Study Area is surrounded by rural areas with scattered urban areas. The Study Area ends in developed urban industrial, commercial, and residential areas of Milwaukee. Rural areas within the Study Area are predominantly agricultural. Zoning designations vary along within the Study Area by community.

3.2.2 Potential Impacts

3.2.2.1 No-Build Alternative

The No Build Alternative would require no additional property and would not impact land use or zoning. Agricultural land would not be impacted.

3.2.2.2 Build Alternative

The increase in *Hiawatha Service* frequencies would not impact existing land use or zoning. Future land use is dependent upon a number of factors including regional and local markets, plans and zoning ordinances, and economic development policies of local governments. Land adjacent to the corridor would likely be able to continue to support current and proposed future land use.

Construction of the infrastructure improvement projects also would not impact land use or zoning. Property acquisition is proposed to construct two projects require the acquisition of land adjacent to the rail right-of-way: Metra Fox Lake Second Track project and Milwaukee Airport Rail Station Second Platform project. The other eight projects would be located entirely within the existing rail right-of-way.

Construction of the Metra Fox Lake Second Track project would require the acquisition of 0.78 acres of farmland. Documentation of coordination with the Illinois Department of Agriculture (IDOA) and Natural Resources Conservation Service (NRCS) is included in Section 3.5.2. Construction of the Milwaukee Airport Rail Station Second Platform project would require the acquisition of 0.07 acres of farmland. Coordination with the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) is documented in Section 3.5.2.

Zoning for the 0.78 acres of land required for the Metra Fox Lake Second Track project is identified by the Village of Green Oaks, IL as Limited Industrial.[17] Ordinance 2014-O-13, 8-27-2014 states that railroad

[17] http://greenoaks.org/resources/site1/general/Updated%20ZONING_2D%2002252015%203.26.15.pdf

tracks and railroad operations are permitted in any zoning district.[18] Therefore, the improvements proposed as part of the Metra Fox Lake Second Track project are anticipated to be permitted in the Limited Industrial district. Zoning for the 0.07 acres of land required for the Milwaukee Airport Rail Station Second Platform project is Industrial – Light. According to the City of Milwaukee's Zoning Code of Ordinances, a light industrial district provides sites that "utilize medium-sized buildings and do not have extensive outdoor storage areas or operations".[19] The existing Milwaukee Airport Rail Station building and platform are located within the Industrial-Light district, and it is anticipated that the proposed second platform, elevator tower, and overhead pedestrian bridge would meet the definition of the Industrial-Light district as well.

3.3 Socioeconomics

3.3.1 Affected Environment

The Program Study Area spans from Chicago to Milwaukee and traverses two counties in Illinois and three counties in Wisconsin. These counties have a combined 2010 population of approximately 7.2 million.[20] Between 1990 and 2010, the overall population in these counties increased by 4.7%. Although Milwaukee County's population decreased by 1.2% and Cook County's population only increased by 1.8%, the combined population of Lake County, Kenosha County, and Racine County increased by almost 30%. Figure 3-1 shows the population change in the counties comprising the Program Study Area, the states of Illinois and Wisconsin, and the U.S.

[18] http://www.sterlingcodifiers.com/codebook/index.php?book_id=634
[19] http://city.milwaukee.gov/PlanningPermits/DCDzoninglink.htm#.V5j2MXlTEic
[20] U.S. Census Bureau, 2010

Figure 3-1
Population Changes in the Program Study Area, 1990-2010

	1990 Population[21]	2000 Population[22]	2010 Population	Percent Change 1990-2010
Illinois				
Cook County	5,105,067	5,376,741	5,194,675	1.8%
Lake County	516,418	644,356	703,462	36.2%
State of Illinois	11,430,602	12,419,293	12,830,632	12.2%
Wisconsin				
Kenosha County	128,181	149,577	166,426	29.8%
Racine County	175,034	188,831	195,408	11.6%
Milwaukee County	959,275	940,164	947,735	-1.2%
State of Wisconsin	4,891,769	5,363,675	5,686,986	16.3%
U.S.	248,709,873	281,421,906	308,745,538	24.1%

The largest cities within the Program Study Area include the following, with 2010 population shown:

- Chicago, IL (2,695,598)
- Skokie, IL (64,784)
- Glenview, IL (44,692)
- Waukegan, IL (89,099)
- Kenosha, WI (99,218)
- Milwaukee, WI (594,833)

Approximately 16 smaller cities and villages are located within the Program corridor. Between 1990 and 2010, the population of these smaller cities and villages generally increased, with sharp increases between 1990 and 2000 and smaller increases between 2000 and 2010. The greatest increase was seen in cities within Lake County, IL. As indicated in Figure 3-1, the overall population of Lake County increased by 36.2% between 1990 and 2010. During this time, the population in the city of Chicago decreased by 3.2% and population in the city of Milwaukee decreased by 5.3%. The U.S. population increased by 24.1% between 1990 and 2010.[23]

Between 2004 and 2014, unemployment in the Program Study Area generally exceeded the national averages for all counties. Unemployment reached a peak in 2009 in the Study Area and in the country,

[21] U.S. Census Bureau, 1990
[22] U.S. Census Bureau, 2000
[23] U.S. Census Bureau: Census of Population and Housing, http://www.census.gov/prod/www/decennial.html

but rates have been on the decline since then.[24] None of the counties in the Study Area are considered U.S. DOT Federal Highway Administration economically distressed areas.[25]

3.3.2 Potential Impacts

3.3.2.1 No-Build Alternative

The No-Build Alternative consists of operating the current *Hiawatha Service* between Chicago and Milwaukee at the present levels of service. Existing socioeconomic conditions for population, employment, and transportation options would continue.

3.3.2.2 Build Alternative

Construction of rail infrastructure in the Program Study Area would create direct impacts including the creation of jobs related to providing construction materials and equipment, and the creation of jobs related to actual construction of the rail infrastructure improvements. Increased passenger rail service also creates additional jobs for operating the service. Freight rail and commuter rail could also benefit economically from the Build Alternative due to the construction of congestion-reducing infrastructure improvements.

The geographic distribution of the economic impact of passenger rail service would depend on the location of the construction materials and equipment manufacturers, construction labor force, and operations labor force. The study for the MWRRS estimated that approximately 4,000 construction jobs and 2,000 operations jobs would be created if the entire Chicago hub network (a 3,000-mile passenger rail system) were implemented throughout the Midwest.[26]

The MWRRS study added that station connectivity and regional mobility would be enhanced, rail safety and reliability increased, and economic development associated with increased income and property values realized.[27] The MWRRS would allow for more travel options in the Midwest, providing better connectivity to jobs and other cities in the region. Implementation of the full MWRRS would lead to substantial travel time savings over driving and would provide a productivity benefit to business travelers by being able to work while utilizing the MWRRS.

[24] Bureau of Labor Statistics, http://www.bls.gov/lau/#cntyaa
[25] FHWA Supplemental Guidance on the Determination of Economically Distressed Areas Under the Recovery Act, http://www.fhwa.dot.gov/economicrecovery/guidancedistressed.htm
[26] Transportation Economics and Management Systems, Inc. Midwest Regional Rail Initiative Executive Report. February 2000.
[27] Transportation Economics and Management Systems, Inc. Midwest Regional Rail Initiative Project Notebook. June 2004.

3.4 Title VI and Environmental Justice

Title VI of the Civil Rights Act of 1964, *subsection 2000d: Federally Assisted Programs* discusses the prohibition of exclusionary practices of programs receiving funds from the Federal government. It assures that "no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." This Program is being developed in full compliance of Title VI.

On February 11, 1994, President Bill Clinton issued *Executive Order (EO) on Environmental Justice 12898* ("Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations"). The EO requires all federal agencies to address the impact of their programs with respect to environmental justice. The goal is to avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority and low-income populations. The EO also requires those representatives of any low-income or minority populations that could be affected by the project in the community be given the opportunity to be included in the impact assessment and public involvement process.

USDOT Order 5610.2 "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" provides the U.S. Department of Transportation's policy on implementing EO 12898. USDOT Order 5610.2(a) provides the following definitions:

- **Minority Individual**: The U.S. Census Bureau classifies a minority individual as belonging to one of the following groups: American Indian or Alaskan Native, Asian American, Native Hawaiian or Other Pacific Islander, Black (not of Hispanic Origin) and Hispanic or Latino.
- **Minority Populations**: Any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (e.g., migrant workers or Native Americans) who would be similarly affected by a proposed U.S. DOT program, policy, or activity.
- **Low-income**: A person whose household income is at or below the U.S. Department of Health and Human Services poverty guidelines.
- **Low-income Population**: Any readily identifiable group of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons (e.g., migrant workers or Native Americans) who would be similarly affected by a proposed U.S. DOT program, policy, or activity.

Additionally, USDOT Order 5610.2 defines an adverse effect on EJ populations (i.e., minority and low-income populations) as the totality of significant individual or cumulative human health, or environmental effect (e.g., the displacement of a household structure or business as a requirement to build a project). A Disproportionally High or Adverse Effect on Minority and Low-Income Populations is an adverse effect that:

- Is predominately born by a minority population and/or a low-income population, or
- Will be suffered by the minority populations and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the nonminority population and/or non-low-income population.

To meet the requirements of Title VI, EO 12898, and USDOT Order 5610.2, the Proposed Action was assessed to determine if it would result in disproportionately high and adverse human health and environmental impacts (such as those noted below) on minority or low-income populations:

- bodily impairment, infirmity, illness, or death;
- air, noise, water pollution, and soil contamination;
- destruction or disruption of manmade or natural resources;
- destruction or diminution of aesthetic values;
- destruction or disruption of community cohesion or a community's economic vitality;
- destruction or disruption of the availability of public and private facilities and services;
- vibration;
- adverse employment effects;
- displacement of persons, businesses, farms, or nonprofit organizations;
- increased traffic congestion; isolation, exclusion, or separation of minority,
- vulnerable age, or low-income individuals within a given community or from the broader community; and
- the denial of, reduction in, or significant delay in the receipt of benefits of USDOT programs, policies, or activities.

This assessment centered on an examination of the socioeconomic makeup of the Program Study Area. General demographic information of affected Illinois and Wisconsin corridor communities was acknowledged. These trends are compared to the respective U.S. state trends as well as to the U.S. population behavior.

The minority and low-income populations along the Program Study Area were identified using data from the 2010 Census. The racial make-up and percentage of families whose income is below the poverty level data were used to define any tracts in which minority or low-income populations might receive disproportionately high or adverse impacts as a result of the Proposed Action.

3.4.1 Affected Environment

3.4.1.1 Low-Income Populations

As stated above, low-income populations are identified as families or persons whose income is below the poverty level, as measured by the U.S. Census. The U.S. Census Bureau follows the Office of Management and Budget's Statistical Policy Directive No. 14 (Definition of Poverty for Statistical Purposes) to measure poverty. The Census Bureau "uses a set of money income thresholds that vary by family size and

composition to determine who is in poverty." These "poverty thresholds" are the dollar amounts used to determine poverty status. The Census Bureau assigns each person or family one out of 48 possible poverty thresholds based on the size of family unit and number of children under 18 years of age.[28] If a family's earned income is less than the assigned poverty threshold, that family is considered to be "in poverty" and, for the purposes of this analysis, low-income.

Figure 3-2 presents the percentage of population below the poverty threshold by city and county along the Build Alternative route. As is illustrated in Figure 3-3, the existence and concentration of low-income populations varies widely in the Program Study Area, with the highest concentrations of low-income areas occurring near Chicago and Milwaukee and in small clusters in Kenosha, Racine, and Milwaukee Counties.

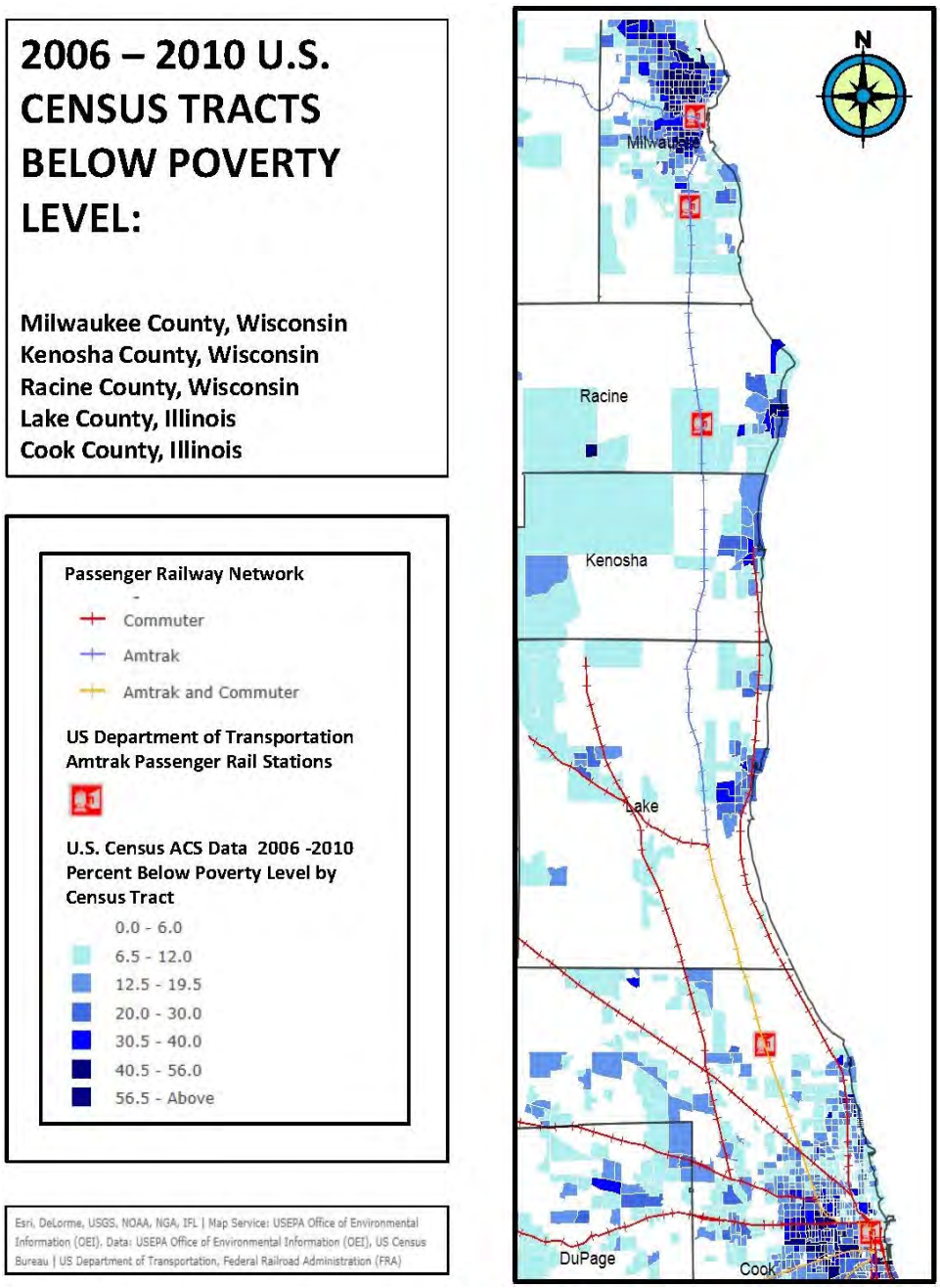
Low-income data was derived from the 2012 American Community Survey (ACS) data from the 2010 U.S. Census.[29]

[28] U.S. Census Bureau: How the Census Bureau Measures Poverty, http://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html
[29] U.S. Census Bureau, Population Estimates, 2008 - 2012 American Community Survey.
Last Revised: Tuesday, 08-Jul-2014

Figure 3-2
Population Rates below Poverty Threshold

Location	Percentage Below Poverty Threshold (%)
Kenosha County	***12.2***
Racine County	***12.6***
Milwaukee County	***20.9***
Milwaukee	28.3
Kenosha	16.2
Mount Pleasant	7.2
Oak Creek	6.3
Caledonia	5.7
Sturtevant	5.2
Pleasant Prairie	4.6
Somers (Town of)	5.4
State of Wisconsin	**12.5**
Cook County	***16.4***
Lake County	***8.7***
Chicago	22.1
Niles	10.3
Skokie	9.5
Morton Grove	6.5
Golf	1.2
Glenview	3.7
Northbrook	4.0
Deerfield	2.7
Bannockburn	9.6
Lake Forest	4.5
Green Oaks	6.6
Waukegan	18.8
Gurnee	4.1
Wadsworth	2.6
State of Illinois	***13.7***
U.S.	***14.9***

Figure 3-3
2006-2010 U.S. Census Tracts below Poverty Threshold, Chicago-Milwaukee Program Study Area



3.4.1.2 Minority Populations

Minority population data was also derived from the 2010 U.S. Census. Minority populations are defined as set forth by the U.S. Census Bureau and include Black, Asian, and American Indian, Hispanic, and

"Others." The occurrences of minority populations in Cook County, Illinois and Milwaukee County, Wisconsin are substantially higher than their respective state averages. Figure 3-4 depicts the minority populations by location for Cook County and Lake County, IL. Figure 3-5 depicts the minority populations by location for Kenosha, Racine, and Milwaukee, WI. The distribution of minority populations is illustrated in Figure 3-6.[30]

[30] United States Census Bureau, 2010 Census

Figure 3-4
2010 Populations for Cook County and Lake County, IL

Location	White	Black	American Indian	Hispanic	Asian	Other
COOK COUNTY	2,278,358	1,331,016	45,040	1,244,762	362,929	614,487
Percent (%)	**43.9**	**25.6**	**0.9**	**24**	**7**	**11.8**
Chicago	854,717	872,286	26,933	778,862	166,770	397,632
	31.7	**32.4**	**1**	**28.9**	**6.2**	**14.7**
Niles	21,332	388	20	2582	4,950	1,280
	71.6	**1.3**	**0.1**	**8.7**	**16.6**	**4.3**
Skokie	35,955	4,566	349	5728	16,437	2,810
	55.5	**7**	**0.5**	**8.8**	**25.4**	**4.3**
Morton Grove	14,426	279	106	1504	6,933	623
	62	**1.2**	**0.5**	**6.5**	**29.8**	**2.6**
Golf	469	4	3	41	21	15
	93.8	**0.8**	**0.6**	**8.2**	**4.2**	**3.0**
Glenview	35,435	431	25	2584	5,535	871
	79.3	**1**	**0.1**	**5.8**	**12.4**	**1.9**
Northbrook	28,915	201	52	828	3,869	196
	87.2	**0.6**	**0.2**	**2.5**	**11.7**	**0.6**
LAKE COUNTY	458,701	46,989	4,097	139,987	50,565	49,821
	65.2	**6.70**	**1.00**	**19.90**	**7.20**	**7.0**
Deerfield	17,296	119	43	510	792	167
	94.9	**0.7**	**0.2**	**2.8**	**4.3**	**0.9**
Bannockburn	1,245	108	10	53	237	22
	78.6	**6.8**	**0.6**	**3.3**	**15**	**1.4**
Lake Forest	17,474	196	75	542	1,066	177
	90.2	**1**	**0.4**	**2.8**	**5.5**	**1.0**
Green Oaks	3,449	87	10	128	326	50
	89.2	**2.3**	**0.3**	**3.3**	**8.4**	**1.3**
Waukegan	19,370	18,333	1,628	47,612	4,401	24,111
	21.7	**20.6**	**1.8**	53.4	**4.9**	**27.1**
Gurnee	20,872	2,362	266	3,665	3,601	1,556
	66.7	**7.5**	**0.8**	**11.7**	**11.5**	**5.0**
Wadsworth	3,180	154	26	337	89	173
	83.4	**4**	**0.7**	**8.8**	**2.3**	**4.6**
State of Illinois	9,423,048	1,974,913	101,151	2,027,578	668,032	958,603
	73.4	**15.4**	**0.8**	**15.8**	**5.2**	**7.3**
U.S.	231,040,398	42,020,743	5,049,092	50,477,594	17,285,143	17,524,712
	74.8	**13.6**	**1.7**	**16.3**	**5.6**	**5.2**

Figure 3-5
2010 Populations for Kenosha, Racine, and Milwaukee Counties, WI

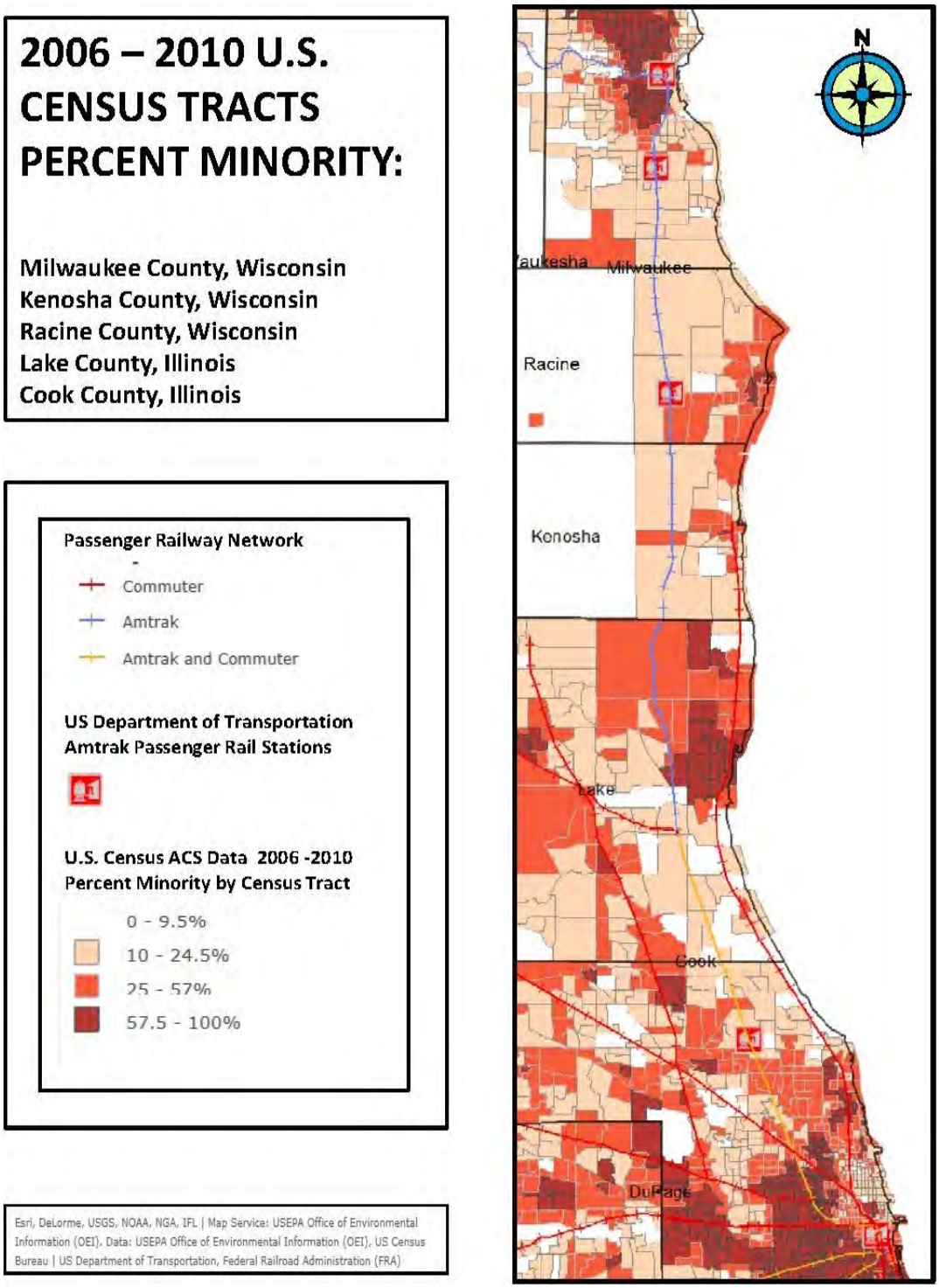
Location	White	Black	American Indian	Hispanic	Asian	Other
KENOSHA COUNTY	143,664	13,336	1,849	19,592	3,310	9399
	86.3	**8.0**	**1.1**	**11.8**	**2.0**	**5.6**
Pleasant Prairie	18,307	622	160	1,332	446	590
	92.8	**3.2**	**0.8**	**6.8**	**2.3**	**3.0**
Kenosha (City)	79,810	11,826	1,353	16,130	2,324	7,952
	80.4	**11.9**	**1.4**	**16.3**	**2.3**	**8.0**
(Town) Somers	8,658	553	85	614	253	283
	90.2	**5.8**	**0.9**	**6.4**	**2.6**	**3.0**
RACINE COUNTY	160,116	24,471	1,806	22,546	2,708	11,553
	81.9	**12.5**	**0.9**	**11.5**	**1.4**	**5.9**
Mount Pleasant	23,005	2,023	179	1,149**	660	903
	87.8	**7.7**	**0.7**	**5.0****	**2.5**	**3.5**
Sturtevant	5,619	1,181	76	424	108	150
	80.6	**16.9**	**1.1**	**6.1**	**1.5**	**2.2**
Caledonia	23,061	865	219	1,303	565	470
	93.3	**3.5**	**0.9**	**5.3**	**2.3**	**1.9**
MILWAUKEE COUNTY	598,222	269,246	13,729	126,039	37,497	59,808
	63.1	**28.4**	**1.4**	**13.3**	**4.0**	**6.3**
Oak Creek	30,888	1,211	411	2,582	1,808	918
	89.7	**3.5**	**1.2**	**7.5**	**5.2**	**2.7**
Milwaukee	282,615	250,003	9,678	103	23,685	50,998
	47.5	**42.0**	**1.6**	**17.3**	**4.0**	**8.5**
State of Wisconsin	4,995,836	403,527	86,228	336,056	151,513	161,611
	87.8	**7.1**	**1.5**	**5.9**	**2.7**	**2.9**
U.S.	236,362,158	41,945,466	5,049,092	50,477,594	17,285,143	17,524,712
	76.5	**13.6**	**1.6**	**16.3**	**5.6**	**5.2**

Notes:

* Numbers may add to more than the total population, and the percentages may add to more than 100 percent because individuals may report more than one race.

** US Census: 2000 Demographic Profile

Figure 3-6
2006-2010 U.S. Census Tracts Percent Minority, Chicago-Milwaukee Program Study Area



3.4.2 Potential Impacts

3.4.2.1 No-Build Alternative

The No-Build Alternative consists of operating the current *Hiawatha Service* between Chicago and Milwaukee at the present level of service. Existing air quality and noise conditions would continue. Minority and low-income populations would not have access to the increased mobility that the proposed increase in *Hiawatha Service* would provide.

3.4.2.2 Build Alternative

Minority populations are higher than the State average in four counties in the Project Study Area: Cook County, IL and Kenosha, Racine, and Milwaukee Counties, WI. Cook, Racine, and Milwaukee Counties also have populations whose income below the poverty level is greater than their respective State averages.

The noise and vibration analysis (discussed in its entirety in Section 3.7) indicated that there would be no moderate or severe noise and vibration impacts as a result of the increase of service under the Build Alternative. Impacts from the increase in service on adjacent land uses would be minimal due to the presence of existing Amtrak, commuter, and freight traffic. Because of this, communities with minority and low-income populations above State averages would not be adversely impacted by the Build Alternative.

Similarly, the air quality analysis (discussed in its entirety in Section 3.8) indicated that the increase of service under the Build Alternative would not produce emissions that would violate the National Ambient Air Quality Standards in the five-county area in which the Program is located. Because of this, communities with minority and low-income populations above State averages would not be adversely impacted by the Build Alternative.

Section 3.2 identified two projects that would require land acquisition in order to construct. Neither the Metra Fox Lake Second Track project nor the Milwaukee Airport Rail Station Second Platform project would require the displacement of persons, businesses, farms, or nonprofit organizations. Therefore, minority and low-income populations above State averages would not be adversely impacted by the Build Alternative.

Section 3.6 discusses impacts to the transportation system as a result of the Build Alternative. In particular, highway/rail at-grade crossings are evaluated for the change in average daily gate closure time due to the increase of service under the Build Alternative. As three round trips of *Hiawatha Service* are added to the corridor, the gates at highway/rail at-grade crossings would be lowered more often than in the No-Build Alternative and the increase in gate closure time would likely result in increased vehicular delays at crossings. Grade crossings in twelve communities in Illinois (Chicago, Niles, Skokie, Morton Grove, Glenview, Northbrook, Deerfield, Bannockburn, Lake Forest, Green Oaks, North Chicago, and Wadsworth) and six in Wisconsin (Pleasant Prairie, Kenosha, Mount Pleasant, Sturtevant, Oak Creek, and Milwaukee) would experience increased vehicular and pedestrian delays due to the Build Alternative.

More detailed census data was used to determine potential environmental justice impacts in areas where increased vehicular and pedestrian delays would occur at crossings. Analysis of census block data identified minority and/or low-income populations adjacent to the highway/rail at-grade crossings in all communities listed in the above paragraph except in Lake Forest, IL and Bannockburn, IL and near several crossings in Deerfield, IL. Figure 3-7 summarizes the environmental justice findings by city.

Figure 3-7
Summary of Environmental Justice Impacts at Highway/Rail At-Grade Crossings

Location (***County*** / City)	Low-Income Population Above County Level?	Minority Population Above County Level?	Percentage Increase in Average Daily Gate Closure Time from No-Build Alternative
Cook County			
Chicago	No	Yes, Asian	13.0%
Niles	Yes	Yes, Asian	13.0%
Skokie	Yes	Yes, Asian	13.0%
Morton Grove	Yes	Yes, Asian	13.0%
Glenview	No	Yes, Asian	13.0%
Northbrook	No	Yes, Asian	3.4%
Lake County			
Deerfield	No	Yes, Asian	2.2%
Bannockburn	No	No	2.2%
Lake Forest	No	No	2.2%
Green Oaks	Yes	Yes, Asian	2.2%
North Chicago	Yes	Yes, Hispanic and Asian	3.1%
Wadsworth	No	Yes, African American and Asian	3.1%
Kenosha County			
Pleasant Prairie	No	Yes, African American and Asian	3.1%
Kenosha	No	Yes, Hispanic, African American, and Asian	3.1%
Racine County			
Mount Pleasant	No	Yes, African American and Asian	3.5%
Sturtevant	No	Yes, African American	3.5%
Oak Creek	No	Yes, Asian	3.5%
Milwaukee County			
Milwaukee	Yes	Yes, Hispanic, African American, and Asian	3.9%

Note:
* 2010-2014 American Community Survey data for Selected Economic Characteristics and Demographic and Housing Estimates

Figure 3-7 shows that most cities with highway/rail at-grade crossings have instances of low-income and/or minority populations located in the census blocks adjacent to the crossings. Though crossing delays would impact census block areas with low-income and minority populations, areas without those populations would also be impacted by crossing delays. Therefore, low-income and minority populations would not receive disproportionately high or adverse impacts as a result of the Proposed Action.

Increased service under the Build Alternative would also positively impact EJ populations. The increase in rail service in the corridor would provide greater mobility and employment opportunities to residents of communities throughout the corridor, benefitting all residents, including low-income and minority populations.

The noise and vibration analyses for the ten proposed improvement projects (discussed in its entirety in Section 3.7) indicated that there would be no severe noise and vibration impacts as a result of the Build Alternative. Impacts from the increase in service on adjacent land uses would be minimal due to the presence of existing Amtrak, commuter, and freight traffic. Because of this, communities with minority and low-income populations above State averages would not be adversely impacted by the Build Alternative and these projects.

3.5 Agriculture

The Farmland Protection Policy Act (FPPA) is intended to "minimize the impact Federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses."[31] The purpose of the FPPA is to ensure that federal programs are compatible with state, local, and private programs and policies to protect farmland. Farmland includes "prime farmland, unique farmland, and land of statewide or local importance. Farmland does not have to be used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban built-up land."

3.5.1 Affected Environment

Agriculture is one of the predominant land uses in the project corridor, and several farm operations straddle the railroad right-of-way.

3.5.2 Potential Impacts

3.5.2.1 No-Build Alternative

The No-Build Alternative would require no additional property and would not impact agricultural properties.

[31] Natural Resources Conservation Service, http://www.nrcs.usda.gov/wps/portal/nrcs/detail/?cid=nrcs143_008275

3.5.2.2 Build Alternative

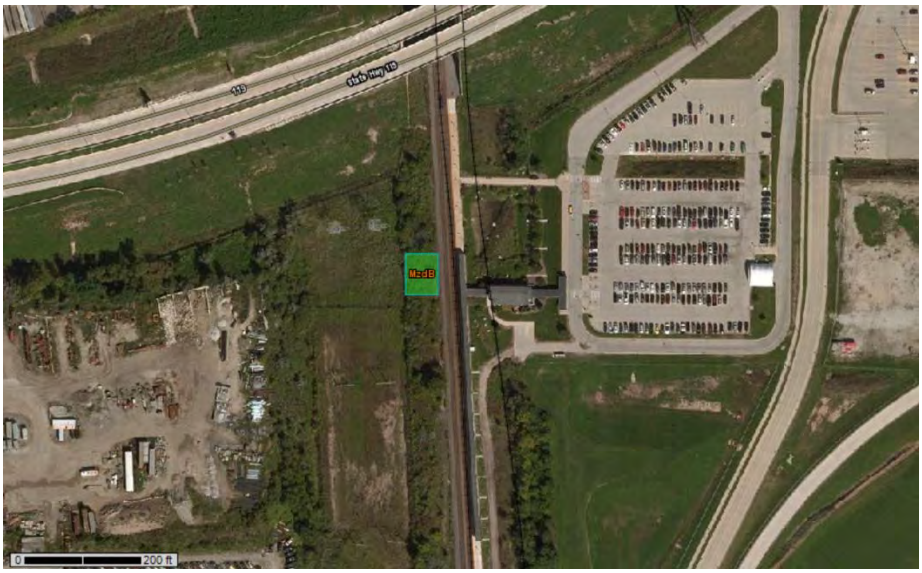
The increase in service under the Build Alternative would not convert farmland to nonagricultural uses and would have no impact on farmland adjacent to the Program corridor.

A majority of the proposed improvement projects would be constructed within the railroad right-of-way and would not impact agricultural properties that exist adjacent to the corridor. Two projects require the acquisition of land adjacent to the rail right-of-way: Metra Fox Lake Second Track project and Milwaukee Airport Rail Station Second Platform project.

The Natural Resources Conservation Service's Web Soil Survey application was used to verify whether the 0.78 acres to be acquired for the Metra Fox Lake project and the 0.07 acres for the Milwaukee Airport Rail Station project are considered prime farmland. Figure 3-8 depicts the soil map for the Metra Fox Lake project and Figure 3-9 depicts the soil map for the Milwaukee Airport Rail Station project.

Figure 3-8
Soil Map for the Metra Fox Lake Second Track Project

Figure 3-9
Soil Map for the Milwaukee Airport Rail Station Second Platform Project



The Survey confirmed that both properties are considered prime farmland. IDOA and NRCS were consulted for potential impacts to the 0.78 acre property adjacent to the Metra Fox Lake Second Track project. IDOA determined that the project would be exempt from further review because it requires less than 3 acres per mile of land acquisition for the entire project in accordance with the IDOT-IDOA Cooperative Working Agreement on the protection of Illinois farmland. Because of the parcel's size (0.78 ag acres) and its location adjacent to the railroad's existing ROW, IDOA and NRCS determined the project complies with the IL Farmland Preservation Act and the federal Farmland Protection Policy Act.

DATCP was consulted for potential impacts to the 0.07-acre property adjacent to the Milwaukee Airport Rail Station Second Track project. Because the land that is proposed to be acquired is not currently farmed, it does not fall under DATCP's jurisdiction. The project does not need to further coordinate with DATCP and an Agriculture Impact Statement is not needed.

3.6 Transportation

This section evaluates the impact of the Build Alternative on the existing transportation environment between Chicago and Milwaukee. The discussion focuses on three major components:

- Regional transportation network
- Highway/rail at-grade crossings
- Rail network

3.6.1 Affected Environment

3.6.1.1 Regional Transportation Network

The existing transportation network within the Chicago to Milwaukee corridor is comprised of highway, intercity bus, air, and rail service. Figure 3-10 depicts the existing share of ridership among these travel modes.[32]

Figure 3-10
Chicago-Milwaukee Modal Share of Ridership

Travel Mode	Existing Person-Trips (Year 2000)	Modal Share
Rail	74,700	0.51%
Air	27,800	0.19%
Bus	101,700	0.71%
Auto	14,221,400	98.59%
Total	**14,425,600**	**100%**

These modes are discussed further in the sections below.

3.6.1.1.1 Highway

Major highways connecting Chicago and Milwaukee include Interstate 94 (I-94), U.S. Highway 41, and U.S. Highway 45. A number of state and county highways also provide north-south connectivity in the corridor. I-94 serves as the main intercity route for automobiles and trucks traveling between Chicago and Milwaukee. The route parallels Amtrak's existing Chicago-Milwaukee route for most of the travel corridor.

I-94 currently is undergoing reconstruction and expansion between Chicago and Milwaukee. As of June 2016, a fourth lane in each direction along segments of I-94 has been completed in Illinois. Reconstruction and the addition of a fourth lane in each direction—the I-94 North-South Freeway Project—is ongoing in Wisconsin.

3.6.1.1.2 Intercity Bus

Intercity bus service in the Chicago-Milwaukee corridor currently is provided by Greyhound, Megabus, and Wisconsin Coach Lines/Coach USA. Intercity bus service has greatly increased in the corridor since 2009.

With the introduction of Greyhound Express service in 2010, Greyhound now provides up to 13 daily round-trips between downtown Chicago (Greyhound's downtown Chicago terminal is approximately

[32] Midwest Regional Rail Initiative Project Notebook, 2004, Exhibit 4-15, 2000 Base Year Person-Trips

three blocks from Chicago Union Station) and downtown Milwaukee (Milwaukee Intermodal Station). Greyhound buses travel between Chicago and Milwaukee in approximately 1 hour 50 minutes to 2 hours 20 minutes, and they typically do not make intermediate stops. Greyhound provides its Chicago-Milwaukee service with standard size coaches that each typically seat 47 or 55 passengers.

Megabus provides 2 daily round-trips between downtown Chicago (with a stop next to Chicago Union Station) and downtown Milwaukee (with a stop approximately one block from Milwaukee Intermodal station) as part of its Chicago-Minneapolis, MN service. Megabus buses travel between Chicago and Milwaukee in approximately 2 hours, and do not make any intermediate stops. Megabus provides its Chicago-Milwaukee-Minneapolis service with both standard size coaches and double-decker coaches which seat 81 passengers.

Wisconsin Coach Lines/Coach USA provides frequent service between Chicago's O'Hare International Airport and Waukesha, WI with intermediate stops located at the Milwaukee Intermodal Station; General Mitchell International Airport; the Coach USA bus terminal in Milwaukee; Racine, WI; and Kenosha, WI. Coach USA provides 15 round trips daily between O'Hare and Waukesha and has a travel time of 2 hours 35 minutes. Coach USA provides its Waukesha-O'Hare service with standard size coaches which seat 56 or 58 passengers.

In total, intercity bus providers currently offer up to 30 daily round-trips in the Chicago-Milwaukee travel corridor. Assuming 55 passengers per coach, intercity buses currently offer approximately 1,650 seats daily in each direction to travelers in the Chicago-Milwaukee corridor. An additional 7 daily round-trips are offered by Wisconsin Coach Lines between Milwaukee and Kenosha. These buses provide an additional 385 seats daily in each direction in the Milwaukee-Kenosha portion of the greater Chicago-Milwaukee travel corridor.

The robust intercity bus service in the Chicago-Milwaukee corridor is not a direct competitor to Amtrak's service in the corridor. This is demonstrated in the fact that as intercity bus companies have expanded their Chicago-Milwaukee service in recent years, *Hiawatha Service* ridership has continued to increase at strong, consistent rates.

3.6.1.1.3 Intercity Passenger Rail

WisDOT and IDOT have jointly contracted with Amtrak to operate the *Hiawatha Service* since 1989. The intercity passenger rail service currently operates between Union Station in Chicago, IL and Milwaukee Intermodal Station (MIS) in Milwaukee, WI with intermediate stops in Glenview, IL, Sturtevant, WI, and Milwaukee's General Mitchell International Airport. The *Hiawatha Service* offers seven daily round trips Monday through Saturday and six daily round trips on Sunday. 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. *Hiawatha Service* trains operate with a maximum speed of 79 miles per hour (MPH) and make the 86-mile trip between Chicago and Milwaukee in about 1 hour

29 minutes. Passengers using the *Hiawatha Service* include those making occasional trips using standard single-ride tickets and those making frequent trips (e.g., for commuting to work) using ten-ride or monthly passes. *Hiawatha Service* seats are unreserved.

Amtrak also currently operates its long-distance *Empire Builder* service in the Chicago-Milwaukee corridor. The *Empire Builder* operates between Chicago, IL, Milwaukee, WI, Minneapolis-St. Paul, MN and Seattle, WA/Portland, OR. In the Chicago-Milwaukee corridor, the *Empire Builder* makes an intermediate stop in Glenview, IL. The *Empire Builder* operates once per day in each direction. The train operates with a maximum speed of 79 MPH. Because the *Empire Builder* caters to long-distance travelers, north-bound trains stop in Glenview and Milwaukee only to receive passengers. Southbound trains stop in Milwaukee and Glenview only to discharge passengers. Amtrak operates the *Empire Builder* as a component of its national network—no states contract with Amtrak to provide the service.

The *Hiawatha Service* and the *Empire Builder* both provide the opportunity for passengers to directly connect at Chicago Union Station with fourteen other Amtrak routes:

Midwest Corridor Routes

- Carl Sandburg and Illinois Zephyr (Chicago, IL-Quincy, IL)
- Lincoln Service (Chicago, IL-Springfield, IL-St. Louis, MO)
- Illini and Saluki (Chicago, IL-Champaign/Urbana, IL-Carbondale, IL)
- Hoosier State (Chicago, IL-Indianapolis, IN)
- Wolverine (Chicago, IL-Detroit, MI)
- Blue Water (Chicago, IL-Lansing, MI-Port Huron, MI)
- Pere Marquette (Chicago, IL-Grand Rapids, MI)

Long Distance Routes

- California Zephyr (Chicago, IL-Emeryville, CA)
- Southwest Chief (Chicago, IL-Kansas City, MO-Albuquerque, NM-Los Angeles, CA)
- Texas Eagle (Chicago, IL-St. Louis, MO-San Antonio, TX)
- City of New Orleans (Chicago, IL-New Orleans, LA)
- Cardinal (Chicago, IL-Indianapolis, IN-Cincinnati, OH-Washington, DC-New York, NY)
- Capitol Limited (Chicago, IL-Cleveland, OH-Pittsburgh, PA-Washington, DC)
- Lake Shore Limited (Chicago, IL-Cleveland, OH-Albany, NY-New York, NY/Boston, MA)

The Amtrak route operating between Chicago and St. Louis is currently undergoing improvements to improve reliability and increase speeds to a maximum of 110 MPH. The Chicago-Detroit-Pontiac, Michigan corridor also is currently undergoing improvements to improve reliability and increase speeds to a maximum of 110 MPH. New and upgraded service on these corridors combined with more frequent Hiawatha Service make interconnectivity at Chicago Union Station an attractive option for riders. In addition, as of October 2016, the Chicago-Pontiac corridor is close to completing an Environmental Impact

Statement for additional frequencies.

Because Chicago Union Station is a terminus for many of Amtrak's intercity passenger rail routes, the company performs train equipment (including *Hiawatha Service* and *Empire Builder* equipment) cleaning and maintenance in Chicago. Amtrak also uses Chicago as a crew base.

The Milwaukee Airport Rail Station (MARS) allows travelers to make rail-air connections at General Mitchell International Airport. It is one of only four intercity passenger rail stations in the nation located at an airport and providing a rail-air link. A dedicated airport shuttle transfers passengers between MARS and the airport's main terminal. A number of people residing in Chicago and northern Illinois use the Milwaukee airport as an alternative to O'Hare and Midway airports. Some of the users of the *Hiawatha Service* air/rail connection at MARS come from Chicago and northern Illinois.

3.6.1.2 Grade Crossings

The *Hiawatha Service* operates between two densely populated metropolitan areas on tracks owned by Metra and CP. There are 39 public highway/rail at-grade crossings in Illinois and 24 public crossings in Wisconsin.

In addition to highway/rail at-grade crossings, the route also crosses other rail lines at-grade, as shown in Figure 3-11.

Figure 3-11
Rail/Rail At-Grade Crossings

Location	Railroad	No. of Tracks Crossed
Tower A2, Chicago, IL	UP Geneva Subdivision	3
Grayland, Chicago, IL	UP Cragin Industrial Lead	1
Mayfair, Chicago, IL	UP Harvard Subdivision	3
Rondout, Lake Forest, IL	EJ&E Western Subdivision	1

With more than 60 Metra commuter trips, 16 Amtrak trips, and 25 freight trips occurring daily in the corridor, vehicles traveling through at-grade crossings already experience delays. Since vehicle queuing data and vehicle delay is not available for each crossing along the corridor, the metric used in this report to compare crossing delays is gate closure time. Average gate closure times at each crossing were calculated first by determining the time that each gate would be down at every crossing for all train types that use the corridor. The time each gate is down is calculated by adding the advanced warning time before a train arrives at the gate to the time it takes a train to cross a crossing. Gates lower 20 seconds before a train arrives at a crossing and the time it takes a train to pass through a crossing is calculated by dividing the train length by the speed of the train. This procedure was performed for every crossing.

Figure 3-12 summarizes the average grade crossing closure times in the corridor by track segment for

existing conditions.[33] The grade crossings were grouped into segments of equal crossing delay.

Figure 3-12
Existing Crossing Gate Closure Times

	Crossing Delay – Metra (minutes per day)	Crossing Delay – Amtrak (minutes per day)	Crossing Delay – Freight (minutes per day)	Total Crossing Delay (minutes per day)
Segment 1: Clinton St to Racine Ave	22.3	6.0	*	28.3
Segment 2: Western Ave Yard	5.6	1.5	*	7.1
Segment 3: Tower A-5 Yard	22.3	6.0	*	28.3
Segment 4: Central Ave to Chestnut Ave	4.2	1.2	*	5.4
Segment 5: Techny Rd to Shermer Rd	13.4	3.6	47.3	64.3
Segment 6: Dundee Rd to Park Ave	4.2	1.2	19.7	25.1
Segment 7: Atkinson Ave to Durand Ave	**	1.2	19.7	20.9
Segment 8: Spring St to Unnamed Crossing	**	1.3	19.7	21.0
Segment 9: Plankington Ave	**	6.0	118.2	124.2
Segment 10: 12th St to 13th St	**	2.3	30.3	32.6
Segment 11: 17th St to 27th St @ Greves	**	2.3	31.2	33.5

Notes:
* Freight trains do not operate in this segment of track
** Metra trains do not operate in this segment of track

3.6.1.3 Rail Network

3.6.1.3.1 Freight Rail

The current Amtrak *Hiawatha Service* operates on the CP Chicago & Milwaukee Subdivision (CP C&M Sub) between Rondout, a railroad control point located in Lake Forest, IL, and Milwaukee. Approximately 25 CP trains use this route daily to travel between Milwaukee and points west and Tower A-20 in Northbrook, IL. Two Wisconsin & Southern Railroad (WSOR) trains operate between Milwaukee and Tower A-5, where they depart the CP C&M Sub and turn west on the CP Elgin Subdivision. A majority of these trains travel on the CP C&M Sub in order to access CP's Bensenville Yard, located just south of Chicago O'Hare International Airport.

3.6.1.3.2 Commuter Rail

Metra, the commuter rail operator in Chicago, owns and operates on the track from Chicago Union Station

[33] Madison-Milwaukee-Chicago RTC Model, HNTB Corp., 2009

(CUS) through Rondout. Metra operates 62 weekday commuter trains between CUS and Deerfield, with 49 of those trains continuing north to Lake Forest and 47 continuing to Rondout where they diverge onto the Metra Fox Lake Subdivision. Commuter service also operates on Saturdays, Sundays and Holidays on approximately 2-hour headways. Figure 1-1 in Chapter 1 of the EA shows a map of the corridor.

The Metra-owned portion of the route has three main tracks from CUS to Tower A-5 and two main tracks from Tower A-5 to Rondout. The route is equipped with Centralized Traffic Control (CTC) and is dispatched by Amtrak and Metra between CUS and Tower A-2, and by CP between Tower A-2 and Rondout.

3.6.2 Potential Impacts

3.6.2.1 No-Build Alternative

Under the No-Build Alternative, the local and regional transportation networks would not change. It is expected that automobile travel would continue to increase due to normal regional growth. Intercity bus travel may also increase. Grade crossings would only be affected by increases in automobile traffic. The No-Build Alternative would not impact traffic patterns at the existing stations. Figure 3-13 shows the crossing gate closure times for the No Build Alternative.

Figure 3-13
No-Build Alternative Crossing Gate Closure Times

	Crossing Delay – Metra (minutes per day)	Crossing Delay – Amtrak (minutes per day)	Crossing Delay – Freight (minutes per day)	Total Crossing Delay (minutes per day)
Segment 1: Clinton St to Racine Ave	22.3	6.0	*	28.3
Segment 2: Western Ave Yard	5.6	1.5	*	7.1
Segment 3: Tower A-5 Yard	22.3	6.0	*	28.3
Segment 4: Central Ave to Chestnut Ave	4.2	1.2	*	5.4
Segment 5: Techny Rd to Shermer Rd	13.4	3.6	51.2	68.1
Segment 6: Dundee Rd to Park Ave	4.2	1.2	21.3	26.8
Segment 7: Atkinson Ave to Durand Ave	**	1.2	21.3	22.5
Segment 8: Spring St to Unnamed Crossing	**	1.3	21.3	22.6
Segment 9: Plankington Ave	**	6.0	127.9	133.9
Segment 10: 12th St to 13th St	**	2.3	33.6	35.9
Segment 11: 17th St to 27th St @ Greves	**	2.3	33.6	35.9

Notes:
* Freight trains do not operate in this segment of track
** Metra trains do not operate in this segment of track

3.6.2.2 Build Alternative

3.6.2.2.1 Regional Transportation Network

One purpose of the Program is to expand modal options to provide an alternative to traffic delay, reliability issues, and long travel times related to existing and future highway congestion in the Program Study Area. Implementation of the Build Alternative would provide a more robust rail network in the corridor and is expected to impact the regional transportation by:

- Diverting a small percentage of riders from auto, bus, or air travel modes to rail
- Increasing rail traffic at highway/rail at-grade crossings

Amtrak provided ridership and revenue forecasting for the project as part of its Route and Service Evaluation. The results of the forecast were provided in the report titled *Route & Service Financial Evaluation for Ten Daily Round Trips on Hiawatha Service* dated August 15, 2014 (Revised August 26, 2014). Amtrak forecasted that ridership on the *Hiawatha Service* would increase due to natural growth of travel demand in the corridor, induced demand, and diverted demand. Induced demand is defined as those trips that would not have been made without the increase in service, while diverted demand is the result of travelers changing travel mode.[34] Figure 3-14 shows the *Hiawatha Service* ridership and the diverted trips generated by the Build Alternative for years 2019 and 2040.

Figure 3-14
***Hiawatha Service* Ridership and Diverted Trips for the Build Alternative**

	Total Ridership	Diverted Trips
Build Alternative, FY 2019	980,200	101,100
Build Alternative, FY 2040	1,150,000	118,600

Figure 3-15 shows the diverted trips from each mode of transportation to rail.

Figure 3-15
***Hiawatha Service* Diverted Trips for the Build Alternative by Mode**

Travel Mode	Diverted Trips (Year 2019)	Diverted Trips (Year 2040)
Air	196	230
Bus	716	840
Auto	100,188	117,530

[34] Midwest Regional Rail Initiative *Project Notebook*, 2004, Page 4-49

Highway

According to the 2008 Final EIS for the I-94 reconstruction and expansion project in Wisconsin, traffic volumes on I-94 are projected to continue to increase through 2035.[35] Traffic volumes in Kenosha County are expected to increase by 41% (an increase from 78,000 to 110,000 vehicles per day in 2035 near the Kenosha County-Racine County border) to 49% (an increase from 85,000 to 127,000 vehicles per day in 2035 in central Kenosha County). Traffic volumes in Racine County are expected to increase by 38% (an increase from 88,000 vehicles per day to 121,000 vehicles per day near the Racine County-Milwaukee County border). Traffic volumes are projected to increase 10% (an increase from 156,000 to 171,000 vehicles per day north of the General Mitchell International Airport Spur) in Milwaukee County. Travel times between Chicago and Milwaukee on I-94 can vary significantly between peak and off-peak periods and ranges from 1 ¾ to 2 ½ hours.

The projected increases in traffic volumes assumed a significant increase in public transit in the region, including implementation of the proposed Kenosha-Racine-Milwaukee commuter rail project—which no longer is an active project. As a result, projected increases in I-94 traffic volumes could be higher if assumed transit projects do not get implemented. In addition, the projected traffic volume growth rates do not include increased traffic attracted to the higher-capacity freeway. The I-94 EIS indicated that the induced demand is forecast to add an additional 2% to 12% to the expected future traffic volumes.

While some auto users would be diverted from auto to the enhanced *Hiawatha Service*, as indicated in Figure 3-15, the overall volume of traffic in the I-94 corridor would still increase because the percentage of diverted autos is very small compared to the high volume of highway traffic.

Intercity Bus

There are no changes to intercity bus proposed by the Build Alternative. Private bus companies may decide to increase service to stations on the Build Alternative route to accommodate the additional *Hiawatha Service* frequencies.

Intercity Passenger Rail

The Build Alternative proposes to add three round trips per day to the existing *Hiawatha Service* intercity passenger rail schedule. The proposed 10 round trip schedule is presented in Figures 3-16 and 3-17.

[35] Interstate 94 North-South Freeway Project Final Environmental Impact Statement. Wisconsin Department of Transportation. March 2008.

Figure 3-16
Proposed Build Alternative Schedule - Northbound

Build Alternative Schedule for 10 Round Trips at 79 MPH											
		327	329	331	333	335	337	339	341	343	345
Station	Mile	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily
Chicago, IL	0	6:15 AM	8:25 AM	9:25 AM	10:25 AM	1:05 PM	3:15 PM	5:08 PM	6:45 PM	8:05 PM	10:30 PM
Glenview, IL	17	6:37 AM	8:47 AM	9:47 AM	10:47 AM	1:32 PM	3:37 PM	5:32 PM	7:07 PM	8:27 PM	10:52 PM
Sturtevant, WI	62	7:14 AM	9:24 AM	10:24 AM	11:24 AM	2:04 PM	4:14 PM	6:14 PM	7:44 PM	9:04 PM	11:29 PM
Milwaukee Airport, WI	79	7:29 AM	9:39 AM	10:39 AM	11:39 AM	2:19 PM	4:29 PM	6:28 PM	7:59 PM	9:19 PM	11:44 PM
Milwaukee, WI	86	7:44 AM	9:54 AM	10:54 AM	11:54 AM	2:34 PM	4:44 PM	6:45 PM	8:16 PM	9:34 PM	12:01 AM
Total Travel Time		1:29	1:29	1:29	1:29	1:29	1:29	1:37	1:31	1:29	1:31

Figure 3-17
Proposed Build Alternative Schedule - Southbound

Build Alternative Schedule for 10 Round Trips at 79 MPH											
		328	330	332	334	336	338	340	342	344	346
Station	Mile	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily
Milwaukee, WI	0	6:15 AM	7:25 AM	8:10 AM	11:00 AM	1:00 PM	1:56 PM	3:00 PM	5:45 PM	8:25 PM	10:42 PM
MARS	17	6:26 AM	7:35 AM	8:20 AM	11:10 AM	1:10 PM	2:06 PM	3:10 PM	5:55 PM	8:38 PM	10:52 PM
Sturtevant, WI	62	6:44 AM	7:49 AM	8:34 AM	11:24 AM	1:24 PM	2:20 PM	3:24 PM	6:09 PM	8:52 PM	11:06 PM
Glenview, IL	79	7:25 AM	8:26 AM	9:11 AM	12:01 PM	2:01 PM	2:57 PM	4:01 PM	6:46 PM	9:29 PM	11:43 PM
Chicago, IL	86	7:57 AM	8:59 AM	9:39 AM	12:29 PM	2:29 PM	3:29 PM	4:29 PM	7:14 PM	9:57 PM	12:11 AM
Total Travel Time		1:42	1:34	1:29	1:29	1:29	1:33	1:29	1:29	1:32	1:29

Figure 3-18 shows the ridership for the No-Build and Build Alternatives for 2013 through 2040.

Figure 3-18
Build and No-Build Alternative Forecasted Ridership

Year	No-Build Alternative	Build Alternative	Incremental Increase in Ridership due to Build Alternative
2013	820,789	-	-
2015	842,500	-	-
2019	879,100	980,200	101,100
2020	886,800	988,800	102,000
2025	921,700	1,027,700	106,000
2030	955,200	1,065,100	109,900
2035	993,200	1,107,500	114,300
2040	1,031,400	1,150,000	118,600

Figure 3-18 illustrates that if the Build Alternative were implemented, ridership would increase by 101,000 in 2019 and by over 118,000 in year 2040. Refer to Figure 3-14 and Figure 3-15 for information on diverted trips.

3.6.2.2.2 Grade Crossings

The implementation of the Build Alternative would increase vehicle delays at grade crossings. The average daily gate closure times were calculated for the Build Alternative assuming 3additional *Hiawatha Service* round trips per day, existing Metra frequencies for Milwaukee District North and North Central Service Lines, and an increase of 2 percent per year in CP traffic. The average daily gate closure times are summarized in Figure 3-19.[36]

[36] Madison-Milwaukee-Chicago RTC Model, HNTB Corp., 2009

Figure 3-19
Build Alternative Crossing Gate Closure Times

	Crossing Delay due to Metra (Increase over No-Build Alternative) in minutes per day	Crossing Delay due to Amtrak (Increase over No-Build Alternative) in minutes per day	Crossing Delay due to Freight (Increase over No-Build Alternative) in minutes per day	Total Crossing Delay (Increase over No-Build Alternative) in minutes per day
Segment 1: Clinton St to Racine Ave	22.3 (0)	9.8 (3.8)	*	32.1 (3.8)
Segment 2: Western Ave Yard	5.6 (0)	2.5 (1.0)	*	8.0 (1.0)
Segment 3: Tower A-5 Yard	22.3 (0)	9.8 (3.8)	*	32.1 (3.8)
Segment 4: Central Ave to Chestnut Ave	4.2 (0)	1.9 (0.7)	*	6.1 (0.7)
Segment 5: Techny Rd to Shermer Rd	13.4 (0)	5.9 (2.3)	51.2 (0)	70.4 (2.3)
Segment 6: Dundee Rd to Park Ave	4.2 (0)	1.9 (0.7)	21.3 (0)	27.4 (0.7)
Segment 7: Atkinson Ave to Durand Ave	**	1.9 (0.7)	21.3 (0)	23.2 (0.7)
Segment 8: Spring St to Unnamed Crossing	**	2.1 (0.8)	21.3 (0)	23.4 (0.8)
Segment 9: Plankington Ave	**	9.8 (3.8)	127.9 (0)	137.7 (3.8)
Segment 10: 12th St to 13th St	**	3.7 (1.4)	33.6 (0)	37.3 (1.4)
Segment 11: 17th St to 27th St @ Greves	**	3.7 (1.4)	33.6 (0)	37.3 (1.4)

Notes:
* Freight trains do not operate in this segment of track
** Metra trains do not operate in this segment of track

The gate closure times shown in Figure 3-19 do not completely represent the impact to vehicle traffic at each crossing. The gates are down a corridor-wide average of 22.3 minutes in existing conditions, 24.4 minutes in the No-Build condition and 24.8 minutes in the Build Alternative condition. The Build Alternative would increase gate closure times by an average of 1.6% over the No-Build Alternative. Although it is impossible to determine the exact number of vehicles that would be delayed and how long each would be delayed at each crossing, an increase of 1.6% in the time a vehicle or pedestrian would wait at a grade crossing per day is considered minimal and would not impact local traffic significantly.

3.6.2.2.3 Rail Network

As discussed in detail in Chapter 2, the railroad stakeholders were engaged for several years in identifying the Investment Alternative to accommodate the increase in *Hiawatha Service* to 10 round trips per day through RTC modeling and working group meetings with the project team. The identified Investment Alternative would mitigate the overall impact of the increased *Hiawatha Service* on freight and commuter rail. The operational benefits of each of the Investment Alternative projects are discussed below.

Glenview Universal Crossover

The purpose of the project is to provide operational flexibility for Metra trains, particularly during maintenance windows. Metra has seen reduced maintenance windows as a result of several Amtrak trains and CP trains. By adding a control point at Glenview, Metra would be able to conduct maintenance activities while allowing trains to cross over to opposite tracks to avoid Metra crews. Installing a control point at Glenview also helps avoid the need for maintenance work at night, which is opposed by communities and railroad unions.

UPRR Siding Extension at A-20 Design Alternatives 1 and 2

This project proposes to construct a 10,000 foot section of track adjacent to CP and UP mainlines to allow freight trains to hold off the CP C&M Sub mainline while waiting to get access to the UP Milwaukee Sub. Instead of holding on the mainline at Rondout, a CP train would be able to travel 12 miles further south to A-20. This would reduce delays for passenger and freight rail and would provide additional capacity on the C&M mainline.

Speed Increase between A-20 and Rondout

According to the CP C&M Subdivision timetable, expedited freight train speeds in the segment are 60 MPH and 'other freight' speeds are 40 MPH. Passenger speeds are 79 MPH in the segment. This project proposes a speed increase for 'other freight trains' from 40 MPH to 50 MPH. The project would provide reduced travel times to freight trains traveling through the 12-mile segment of track. The project also provides an improvement in capacity in the segment by decreasing the speed differential between freight and passenger trains. The speed increase is proposed to occur between the railroad control point known as A-20 in Northbrook, IL and the railroad control point known as Rondout in Lake Forest, IL.

Deerfield Holding Track

The purpose of this project is to allow Metra to short turn trains north of Deerfield off the main tracks. Metra currently short turns between 6 and 8 trains per day on the mainline at Deerfield Road, which means that the mainline is blocked while Metra crews change ends, which can take approximately 15 minutes every time. When Metra short turns their trains off the mainline, capacity for through-trains would increase, which would allow for increased schedule flexibility.

Lake Forest Universal Crossover

In conjunction with the Glenview universal crossover, the Lake Forest universal crossover project would provide operational flexibility for Metra trains. By adding a control point at Lake Forest in addition to the control point at Glenview, Metra would be able to conduct maintenance activities while allowing trains to cross over to opposite tracks to avoid Metra crews. Installing a control point at Lake Forest also helps avoid the need for maintenance work at night, which is opposed by communities and railroad unions.

Rondout Siding Extension

The existing siding on the west side of the mainlines and south of the control point at Rondout (Northbrook, IL) is proposed to be extended approximately 13,000 feet to the south to just north of Illinois Route 60. The project would provide operational flexibility for both freight and passenger trains. The siding can be used to allow a CP train to hold off the mainline until it receives clearance to enter the UP Milwaukee Sub at A-20, providing increased capacity for Amtrak and Metra trains on the mainlines. The siding can also be used by Metra as a main track during maintenance windows on the mainline tracks.

Metra Fox Lake Second Track

To mitigate the significant operational concerns at Rondout, antiquated signal equipment controlling the interlocking must be replaced, trackwork within the interlocking upgraded, and a second track on the Fox Lake Sub constructed to allow for simultaneous moves to and from the Fox Lake Sub at 40 MPH and a Metra train to hold off the CP C&M mainline and the Fox Lake mainline. These improvements would significantly improve delays at this critical interlocking by moving stopped trains off the mainline and increasing through-speeds.

Milwaukee Airport Rail Station Second Platform

This project proposes to install a second rail platform on the west side of the CP tracks, elevator towers on the east and west sides of the tracks, and a pedestrian bridge to cross from the east side platform to the west side at the existing Milwaukee Airport Rail Station (MARS) in Milwaukee, WI. Because there is only one platform in the existing condition, Amtrak trains must use railroad capacity to cross over to the east track to drop off and pick up passengers at the station. When the second platform is constructed, congestion would decrease on the mainline tracks because Amtrak would be able to use the proper track to load and unload passengers. When congestion is decreased, reliability for all users increases.

Muskego Yard Signalization

The Muskego Yard signalization project would provide operational flexibility for CP trains by providing a two-track signalized alternative route around Milwaukee Station. CP currently travels through the Milwaukee Intermodal Station when connecting from the Watertown Subdivision, west of Milwaukee, to the Chicago & Milwaukee (C&M) Subdivision. By providing two signalized yard tracks, CP would have the option to divert some freight through Muskego Yard instead of through the station. In addition, CP freight trains can be held in Muskego Yard rather than on the C&M mainline if necessary.

Milwaukee Station to Cut-Off CTC Installation

This project provides increased reliability and operational flexibility to Amtrak and freight trains traveling through the Milwaukee Intermodal Station. By upgrading the signals and providing Centralized Traffic Control throughout the segment, passenger and freight train movements within the Milwaukee Intermodal Station would become automatic and remote-controlled, enabling trains to operate more

efficiently and at higher speeds between the Milwaukee Intermodal Station and Cut-Off, a railroad control point 1.8 miles west of the station.

3.7 Noise and Vibration

This section will be updated for FRA during the draft EA comment period for noise and vibration receptors along the corridor and specific project areas where applicable.

Noise assessments of high speed intercity passenger railroad operations are performed following the assessment methodology described in the FRA guidance document, *High Speed Ground Transportation Noise and Vibration Impact Assessment* (FRA guidance manual) and the Federal Transit Administration's *Transit Noise and Vibration Impact Assessment* (FTA guidance manual). This section describes the methodology as applied to the Chicago-Milwaukee corridor.

3.7.1 Noise Assessment

3.7.1.1 Noise Impact Criteria

Noise impact for this proposed project was based on the criteria defined both in the FRA guidance manual and the FTA guidance manual.[37] While most of the impact criteria and analysis approaches are identical in the FRA and FTA guidance manuals, this Program will primarily make use of the FTA manual and its models and algorithms because the FTA guidance applies to train speeds below 90 MPH.

The FRA and FTA noise impact criteria are founded on well-documented research on community reaction to noise and are based on change in noise exposure using a sliding scale. Although higher train noise levels are allowed in neighborhoods with high levels of existing noise, smaller increases in total noise exposure are allowed with increasing levels of existing noise.

The Noise Impact Criteria group noise-sensitive land uses into the following three categories:

- **Category 1**: Tracks of land where quiet is an essential element of their intended purpose.
- **Category 2**: Residences and buildings where people normally sleep. This includes residences, hospitals, and hotels where nighttime sensitivity is assumed to be of utmost importance.
- **Category 3**: Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, churches and certain parks.

L_{dn} is used to characterize noise exposure for residential areas (Category 2). For other noise sensitive land uses, such as outdoor amphitheaters and school buildings (Categories 1 and 3), the maximum 1-hour L_{eq} during the facility's operating period is used.

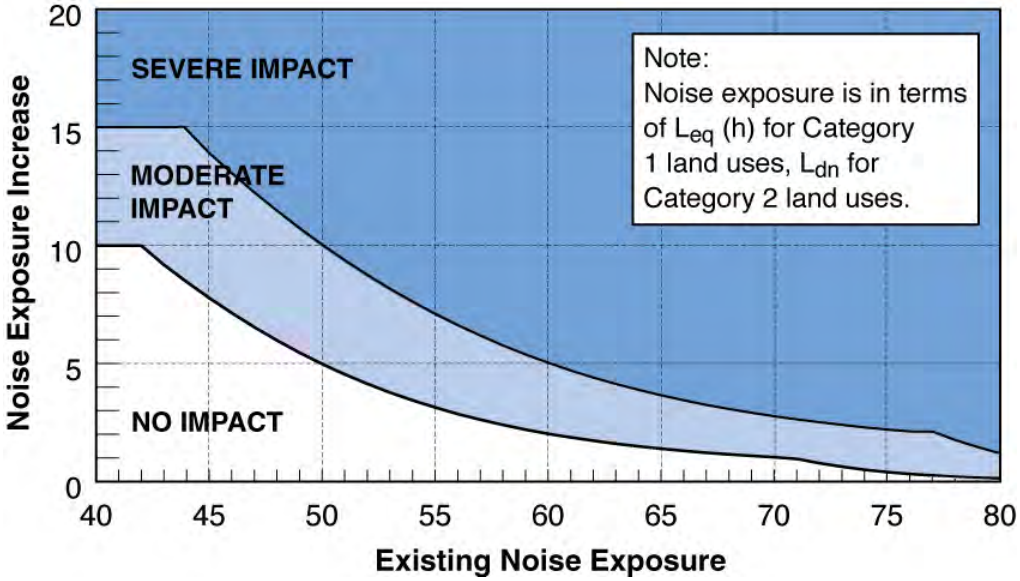
[37] U.S. Department of Transportation, *Transit Noise and Vibration Impact Assessment*, FTA Report FTA-VA-90-1003-06, Federal Transit Administration, Washington, D.C., May 2006.

There are three levels of impact included in the criteria. The interpretation of these three levels of impact is summarized below:

- **Severe Impact**: Program-generated noise in the severe impact range can be expected to cause a significant percentage of people to be highly annoyed by the new noise. Proposed Program-generated noise in the severe impact range represents the most compelling need for mitigation. Noise mitigation would normally be specified for severe impact areas unless there are truly extenuating circumstances that prevent it.
- **Moderate Impact**: In this range of noise impact, the change in the cumulative noise level is noticeable to most people but may not be sufficient to cause strong, adverse reactions from the community. In this range of noise impact, other proposed Program-specific factors must be considered to determine the magnitude of the impact and the need for mitigation. These other factors can include the proposed projected increase over existing noise levels, the types and number of noise-sensitive land uses affected, existing outdoor-indoor sound insulation, and the cost effectiveness of mitigating noise to more acceptable levels.
- **No Impact**: Existing noise exposure.

Figure 3-20 expresses the criteria in terms of the increase in total or cumulative noise that can occur in the overall noise environment before impact occurs.

Figure 3-20
Increase in Cumulative Noise Exposure Allowed by FTA/FRA Criteria



3.7.1.2 Noise Prediction Model

The FTA and FRA general noise assessment procedure determines the potential for noise impact by

applying basic models to estimate existing noise and proposed project noise from train activities, and then comparing the results with the FTA and FRA noise impact criteria. The general assessment procedure is used for proposed projects in preliminary stages of planning, for comparing alternatives, and for estimating the potential for noise impact on a corridor study without the level of detail associated with a full environmental impact analysis.

A general assessment is considered the appropriate level of detail for estimating the noise effects associated with the proposed project. The general noise assessment is a conservative approach, and if no impact is projected, no further analysis is required.

The general noise assessment procedure starts with the noise source levels for the existing and future train consists and incorporates the operating conditions to determine noise exposure at a reference distance of 50 feet from the tracks. Noise levels can be compared at the reference distance to see if there is a large change from existing to future noise levels as a result of the proposed project. Although 50 feet is generally closer to the existing tracks than the location of any residences, this distance is used for a reference because effects of ground and weather are minimal on the source noise level.

To assess impact at distances where people live, however, the noise exposure must be estimated at various distances other than the reference distance. Standard propagation characteristics are used to estimate the way noise spreads out from the right-of-way. The results of this procedure are expressed in terms of estimated noise exposure within the study area for both existing and future cases.

3.7.1.3 Noise Source Reference Levels

In addition to Amtrak service, freight trains operate throughout much of the proposed project corridor north of A-20 (Northbrook, IL), and Metra commuter rail service operates between Chicago Union Station and Rondout (Lake Forest, IL). This section describes the source reference levels used to model all types of service present in the corridor.

Noise impact assessments divide high speed rail operations into three “regimes” based on operating speeds. In Regime I, at low speeds, propulsion or machinery noise is the major noise source, while at higher speeds in Regime II, wheel-rail interactions become the primary noise source. In Regime III, at the highest speeds, typically above 160 MPH, aerodynamic noise is dominant. Because the maximum operating speeds for passenger trains in this assessment (79 MPH) fall within Regime II, precise locomotive source reference levels are not critical, as the wheel-rail noise dominates. In addition, at this level of detail, the differences between different types of locomotives and cars are not large.

Noise source levels and other information for the FRA noise model from these trains are shown in Figure 3-21. The source reference levels in Figure 3-21 are used to determine reference sound exposure levels (SELs) for each of the train consists using equations in Chapter 4 of the FRA guidance manual. The SEL is the fundamental building block for calculating noise exposure. For the purposes of this corridor-wide

assessment, the same source reference levels were assumed for the three different types of trains: Amtrak, freight, and Metra commuter rail.

Figure 3-21
Source Reference Levels for Train Noise Model

Noise Source	Noise Source Reference Quantities		
	Distance (ft)	Speed (MPH)	SEL (dB(A))
Locomotive	50	50	92
Rail Car	50	50	82

3.7.1.4 Sound Propagation Characteristics

Noise exposure at distances beyond the 50-foot reference distance was estimated by using a generic curve of noise exposure as a function of distance, including soft-ground absorption, but ignoring any shielding by terrain features or buildings. This method results in a conservative estimation of the noise environment in urban and suburban areas, but is adequate in comparing existing and future conditions when the only change in noise source is because of the rail corridor. With the foregoing simplifications, noise exposure from trains was assumed to propagate as a line source with ground absorption, that is, a reduction of 4.5 dB per distance doubling. Based on these assumptions, train noise at the land uses present in this study area typically would dominate within about 200 feet on either side of the tracks.

3.7.2 Vibration Assessment

3.7.2.1 Vibration Impact Criteria

The FTA guidance manual provides vibration impact criteria for general assessments in areas that currently experience vibration, including areas that experience vibration from an existing rail corridor. For heavily-used rail corridors (more than 12 trains per day), if the existing train vibration exceeds the ground-borne vibration impact criteria, the proposed project would cause additional impact if the proposed project significantly increases the number of vibration events. Approximately doubling the number of events is required for a significant increase. If there is not a large increase in vibration events, there would be additional impact only if the proposed project vibration would be more than 3 VdB higher than existing vibration.[38]

3.7.3 Affected Environment

This section describes existing conditions within the Project Study Area. For the evaluation, the Project Study Area was subdivided into smaller segments based on similarities in train operations within those

[38] Federal Transit Administration's *Transit Noise and Vibration Impact Assessment Manual*, May 2006, p. 8-5.

portions of the proposed project area. Each of these is described below.

Chicago Union Station to Healy Metra Station (Chicago, IL)

From Union Station to Randolph Street the alignment is in tunnel. North of Randolph Street to the Western Avenue Metra Station (Chicago, IL), the land use is primarily dense commercial and industrial. North of the Western Avenue Metra Station, the land use is primarily commercial and industrial with scattered residential areas.

In addition to the existing Amtrak *Hiawatha Service*, the Amtrak *Empire Builder* and Metra's Milwaukee District West (MD-W), Milwaukee District North (MD-N), and North Central Service (NCS) share this portion of the corridor. The *Empire Builder* consists of one round trip per day, with 2 locomotives and 11 cars. The MD-W has 58 total trains per day, the MD-N has 61 total trains per day, and the NCS has 21 total trains per day. Metra trains typically consist of one locomotive and six cars.

Healy Metra Station (Chicago, IL) to A-20 (Northbrook, IL)

From the Healy Metra Station to the Forest Glen Metra Station (Chicago, IL) the land use is a mix of dense commercial, industrial and residential. From the Forest Glen Metra Station north to the Glenview Metra Station (Glenview, IL), the land use is still mixed, but less dense than to the south. North of the Glenview Metra Station to Techny Road near A-20 (Northbrook, IL), the land use is primarily commercial and industrial.

In addition to the existing Amtrak *Hiawatha Service*, the Amtrak *Empire Builder,* and Metra MD-N Line share this portion of the corridor. The *Empire Builder* consists of one round trip per day, with 2 locomotives and 11 cars. The MD-N Line has 61 total trains per day; with typical consists of one locomotive and six cars.

A-20 (Northbrook, IL) to Rondout (Lake Forest, IL)

From Techny Road to Lake Cook Road (Deerfield, IL), the land use is a mix of light commercial and industrial with some medium to low density residential communities. North of Lake Cook Road, the land use is mostly commercial, with some residential land use near Osterman Avenue (Deerfield, IL). From Osterman Avenue to Half Day Road (Bannockburn, IL), the land use is primarily commercial. North of Half Day Road, the land use is a mix of low density residential and undeveloped land.

In addition to the existing Amtrak *Hiawatha Service*, the Amtrak *Empire Builder*, MD-N Line, and CP freight trains share this portion of the corridor. The *Empire Builder* consists of one round trip per day, with 2 locomotives and 11 cars. The MD-N Line has 61 total trains per day; with typical consists of one locomotive and six cars. There are also 17 daily total freight train operations on the segment with average consists

of 2 powered locomotives and 97 cars.[39]

Rondout (Lake Forest, IL) to Washington Street (Milwaukee, WI)

From Rockland Road to Grand Avenue (Gurnee, IL), the land use is a mix of low density residential and commercial. North of Grand Avenue to Oakwood Road south of Milwaukee, the land use is primarily low-density residential and farms, fields, or undeveloped land. There is some residential land use between Oakwood Road and Drexel Road. North of Drexel Road, the land use is primarily commercial and industrial.

In addition to the existing Amtrak *Hiawatha Service*, the Amtrak *Empire Builder* and CP freight trains share this portion of the corridor. The *Empire Builder* consists of one round trip per day, with 2 locomotives and 11 cars. There are also 17 daily total freight train operations on the segment with average train consists of 2 powered locomotives and 97 cars.

Washington Street (Milwaukee, WI) to Milwaukee Intermodal Station

The land use from Washington Street (Milwaukee, WI) to the Milwaukee Intermodal Station is commercial and industrial with a few residentially occupied warehouse-type buildings.

In addition to the existing Amtrak *Hiawatha Service*, the Amtrak *Empire Builder* and CP freight trains share this portion of the corridor. The *Empire Builder* consists of one round trip per day, with 2 locomotives and 11 cars. There are also 17 daily total freight train operations on this segment with average consists of 2 powered locomotives and 97 cars.

3.7.4 Potential Impacts

3.7.4.1 No-Build Alternative

This analysis assumes that train-induced noise and ground-borne vibration does not change under the No-Build Alternative. Therefore, no new noise impacts are projected to occur.

3.7.4.2 Build Alternative

The proposed project consists of an increase in the number of Amtrak *Hiawatha Service* trains from 7 round trips to 10 round trips per day, with no change in maximum speed. The proposed train consist is assumed to include one powered locomotive and seven passenger cars (the same as the existing Amtrak *Hiawatha* trains). No changes to the freight or commuter rail service were assumed as a part of this proposed project. The maximum speed of Metra trains was assumed to be 79 MPH. The maximum speed

[39] Freight data was provided by Canadian Pacific as part of their August 2013 RTC modeling effort. Consist lengths were averaged from a week-long operating schedule in June 2013.

of freight trains was assumed to be 40 MPH between A-20 and Rondout and 50 MPH between Rondout and Milwaukee.

This section provides the findings for both the noise and vibration assessments for the Build Alternative. The findings are presented according to the same segments of the corridor described above for existing conditions. This evaluation has identified general areas where noise and vibration impacts would be expected. A more detailed evaluation would be required to identify impacts at specific locations and to quantify the number of properties that may experience noise or vibration impacts.

3.7.4.2.1 Noise Impacts due to Increase in Service

Using the methodology described above, the existing and future L_{dns} were computed at a range of distances from the existing tracks. Noise impacts can occur only where future noise levels are expected to exceed existing noise levels.

The distances to noise impact from horns at grade crossings would be identical to those for operational noise discussed below.

Chicago Union Station to Healy Metra Station (Chicago, IL)

In this section of the alignment, the effects of the increase in Amtrak operations would be minimal because of the presence of high volumes of Metra commuter rail trains. The increase in noise because of the additional trains is expected to cause moderate noise impacts at distances of up to approximately 25 feet from the centerline of the corridor. This distance is within the width of the right-of-way, and no noise impacts to adjacent properties are expected.

Healy Metra Station (Chicago, IL) to A-20 (Northbrook, IL)

In this section of the alignment, the effects of the increase in Amtrak operations would be minimal because of the presence of existing freight trains and Metra commuter trains. The increase in noise because of the additional trains is expected to cause moderate noise impacts at distances of up to approximately 25 feet from the centerline of the corridor. This distance is within the width of the right-of-way, and no noise impacts to adjacent properties are expected.

A-20 (Northbrook, IL) to Rondout (Lake Forest, IL)

In this section of the alignment, the effects of the increase in Amtrak operations would be minimal because of the presence of existing freight trains and Metra commuter trains. The increase in noise because of the additional trains is expected to cause moderate noise impacts at distances of up to approximately 25 feet from the centerline of the corridor. This distance is within the width of the right-of-way, and no noise impacts to adjacent properties are expected.

Rondout (Lake Forest, IL) to Washington Street (Milwaukee, WI)

In this section of the alignment, the effects of the increase in Amtrak operations would be minimal because of the presence of existing freight trains. The increase in noise because of the additional trains is expected to cause some moderate noise impacts at distances of up to approximately 25 feet from the centerline of the corridor. This distance is within the width of the right-of-way, and no noise impacts to adjacent properties are expected.

Washington Street (Milwaukee, WI) to Milwaukee Intermodal Station

In this section of the route, the effects of the increase in Amtrak operations would be minimal because of the presence of existing freight trains. The increase in noise because of the additional trains is expected to cause some moderate noise impacts at distances of up to approximately 25 feet from the centerline of the corridor. This distance is within the width of the right-of-way, and no noise impacts to adjacent properties are expected.

3.7.4.2.2 Vibration Impacts due to Increase in Frequencies

The potential for impact due to vibration was assessed in accordance with the criteria discussed above. The FTA guidance manual provides vibration impact criteria for general assessments in areas that currently experience vibration, including areas that experience vibration from an existing rail corridor. For heavily-used rail corridors (more than 12 trains per day), the proposed project would cause additional impact if the proposed project largely significantly the number of vibration events. Approximately doubling the number of events is required for a significant increase.

Because of the large volume of freight and commuter rail activity throughout the proposed project corridor, the proposed project would not double the number of vibration events at any location along the corridor. Therefore, according to the FTA criteria described above, no proposed project-related vibration impacts to adjacent properties are expected to occur on the corridor.

3.7.4.2.3 Noise and Vibration Impacts due to Construction of Improvement Projects

Ten improvement projects are proposed to be constructed to accommodate the increase in *Hiawatha Service* frequencies. The construction of the proposed projects could result in temporary noise and vibration increases within and adjacent to the project area. The noise and vibration would be generated primarily from trucks and heavy machinery used during construction. Any anticipated noise and vibration impacts likely would be confined to normal working hours, which are generally considered to be “noise and vibration tolerant” periods. Construction contractors need to be aware of local noise ordinances to assure compliance with Cook and Lake Counties in Illinois and Kenosha, Racine, and Milwaukee Counties in Wisconsin and within the cities that construction activities occur. No adverse noise and vibration impacts are anticipated during the construction phase of the project.

Noise and vibration impacts due to the projects themselves are discussed further below. Generally, within 100 feet of the noise-generating point of switch of the crossover, impacts to noise and vibration sensitive receptors would be severe. Impacts to sensitive receptors would be moderate within 200 feet of the point of switch.

Glenview Universal Crossover

Two crossovers are proposed to be constructed in Glenview, IL in an area of mixed commercial and institutional (Glenview United Methodist Church) land uses and nearby single-family and multi-family residences. Several residences are located more than 100 feet but less than 200 feet from the noise-generating point of switch on the crossovers. Noise and vibration impacts between 100 and 200 feet of the points of switch would be moderate.

UPRR Siding Extension at A-20 Design Alternative 1

A-20 Design Alternative 1 is proposed to be constructed in an area of mixed commercial/industrial land use and nearby single-family and multi-family residences. Several residences on Longmeadow Drive are located more than 100 feet but less than 200 feet from the noise-generating point of switch on the crossover at West Lake Avenue. Noise and vibration impacts between 100 and 200 feet of the point of switch would be moderate.

The noise analysis indicated that there is potential for noise impact from locomotives idling on the new track; however, based on information provided by UP and CP, engine idling noise occurs today in various locations including near West Lake Avenue and Shermer Road on the UP. In the proposed condition, idling noise would also occur near West Lake Avenue and Shermer Road on the UP. This assumes that engines are located at the head of each train. Because there is no proposed increase in train traffic and the idling noise would occur at the same locations, there would be no net change in idling noise level for the proposed condition.

In existing conditions, UP and CP freights generate moving train noise between West Lake Avenue and Shermer Road on the UP and north of Shermer Road on the CP. In the proposed condition, UP and CP freights would also generate moving train noise between West Lake Avenue and Shermer Road on the UP and north of Shermer Road on the CP, but trains using the new track would be moving on track that is 14' closer to the neighborhood on the west side of the UP between West Lake Avenue and Shermer Road than in existing conditions; however, these trains would not be traveling at full throttle, as the trains would be slowing to a stopped position at West Lake Avenue or Techny Road and would not present a severe impact on the adjacent surroundings.

UPRR Siding Extension at A-20 Design Alternative 2

A-20 Design Alternative 2 is proposed to be constructed in an area of mixed commercial/industrial land use and nearby single-family and multi-family residences. Several residences on Longmeadow Drive are located more than 100 feet but less than 200 feet from the noise-generating point of switch on the

crossover at West Lake Avenue. Noise and vibration impacts between 100 and 200 feet of the point of switch would be moderate.

The noise analysis indicated that there is potential for noise impact from locomotives idling on the new track; however, based on information provided by UP and CP, engine idling noise occurs today in various locations including near West Lake Avenue and Shermer Road on the UP. In the proposed condition, idling noise would also occur near West Lake Avenue and Shermer Road. This assumes that engines are located at the head of each train. Because there is no proposed increase in train traffic and the idling noise would occur at the same locations, there would be no net change in idling noise level for the proposed condition.

In existing conditions, UP and CP freights generate moving train noise between West Lake Avenue and Shermer Road on the UP and north of Shermer Road on the CP. In the proposed condition, UP and CP freights would also generate moving train noise between West Lake Avenue and Shermer Road on the UP and north of Shermer Road on the CP and would be the same distance to the neighborhood on the west side of the UP between West Lake Avenue and Shermer Road as in existing conditions. There would be no net change in moving train noise.

Speed Increase between A-20 and Rondout

The speed increase would occur over a 12 mile section between A-20 and Rondout in an area of mixed commercial, industrial, institutional, and residential land uses. Increasing freight train speeds from 40 MPH to 50 MPH in this area has the potential to increase future noise levels by an additional 1 dB above the increases due to the increase in *Hiawatha Service* frequencies.

The proposed speed increase has the potential to cause moderate noise impacts to a distance of 105 feet from the centerline of the corridor. This impact distance includes some first row sensitive receptors (noise sensitive receptors that abut the corridor that do not have any intervening building rows between them and the rail corridor) along the 12 miles of track including receptors in Northbrook on Tudor Lane, Oak Avenue, Anets Drive, Meadow Road, and Fair Lane; in Deerfield on South Commons Court, Robert York Avenue, Elm Street, Park Avenue, and Chestnut Street; and in Lake Forest on Old Mill Road, Pine Oaks Circle, Leland Court, Abington Cambs Drive, Cornell Court, Harvard Court and Marquette Court. Severe noise impact is predicted at distances of up to approximately 20 feet from the centerline of the corridor. This distance is within the width of the right-of-way, and no severe noise impacts to sensitive receptors are anticipated.

Deerfield Holding Track

The Deerfield holding track is proposed to be constructed in an area of mixed commercial and institutional (North Shore Chinese Christian Church) land uses and nearby single-family and multi-family residences. Several residences Greenwood Court, Chestnut Avenue, and Chapel Court are located more than 100 feet but less than 200 feet from the noise-generating point of switches on both turnouts. Noise and vibration impacts between 100 and 200 feet of the point of switch would be moderate.

Lake Forest Universal Crossover

Two crossovers are proposed to be constructed in an area of largely undeveloped land with nearby single-family residences. Several residences on Conway Road, Pine Oaks Circle, Leland Court, and Abington Cambs Drive are located more than 100 feet but less than 200 feet from the noise-generating points of switch on the two crossovers. Noise and vibration impacts between 100 and 200 feet of the points of switch would be moderate.

Rondout Siding Extension

As part of the Rondout Siding Extension project, a turnout is proposed to be constructed just north of Illinois Route 60 in an area of largely undeveloped land with several nearby single-family residences. The point of switch on the turnout to the new track is located more than 300 feet from the residences on Faculty Circle, and would not impact the residences.

The noise analysis indicated that there is potential for noise impact from locomotives idling on the new track. Because the locomotive end of the trains would idle at a location more than 400 feet from the residences on Faculty Circle, the new idling noise would not impact the residences.

Metra Fox Lake Second Track

The Metra Fox Lake Second Track project proposes the installation of numerous crossovers and turnouts in the area of Illinois Route 176 in Fox Lake, IL in an area of industrial and undeveloped land uses and nearby single-family and multi-family residences. The points of switches on the turnouts and crossovers are located more than 300 feet from the residences, and would not impact the residences.

A turnout is proposed to be constructed along the Fox Lake Line portion of the project, just east of the railroad's at-grade intersection with St. Mary's Road, adjacent to residential neighborhoods. The point of switch on the turnout is located more than 100 feet but less than 200 feet from one residence on Minard Lane. Additional residences on Minard Lane and Thornbury Lane are located more than 200 feet from the point of switch. Noise and vibration impacts between 100 and 200 feet of the point of switch would be moderate. At distances from the point of switch over 200 feet, there would be no impact.

The noise analysis also indicated that there is potential for noise impact from locomotives idling on the new track within 400 feet of the residences on Minard Lane and Thornbury Lane; however, due to the number of existing freight trains that currently operate in the corridor, noise impacts due to the idling trains would be moderate.

Milwaukee Airport Rail Station Second Platform

There are no changes to the noise or vibration environment caused by adding a passenger platform. There is no potential for impact.

Muskego Yard Signalization

There are no noise or vibration sensitive receptors located near the yard and therefore there are no noise or vibration impacts.

Milwaukee Station to Cut-Off CTC Installation

There are no changes to the noise or vibration environment caused by upgrading signals and installing CTC. There is no potential for impact.

3.8 Air Quality

The Clean Air Act (CAA) requires individual states to develop, update and maintain State Implementation Plans (SIPs) that will demonstrate compliance with the National Ambient Air Quality Standards (NAAQS). Common features of a SIP include attainment timeframes or milestones, area-wide emissions inventories and budgets and control and mitigation strategies that will be employed.

The proposed Program lies within a five county area spanning over two states (i.e., Illinois and Wisconsin). Milwaukee, Racine, and portions of Kenosha Counties in Wisconsin are designated by the U.S. Environmental Protection Agency (EPA) to be maintenance areas for particulate matter with a diameter of 2.5 microns or less ($PM_{2.5}$). Other portions of Kenosha County in Wisconsin and Cook and Lake Counties in Illinois are designated to be nonattainment for the 8-hour ozone standard. Because the proposed Program will require input and/or approval of the federal government (i.e., Federal Railroad Administration [FRA]) the General Conformity requirements of the CAA are applicable. Section 176 (c) of the CAA (42 U.S.C. 7506(c))[40] requires any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity, to demonstrate that the action conforms to the applicable SIP before the action is otherwise approved. Therefore, the proposed Program's operational emissions were compared to the *de minimis* levels outlined in the CAA's General Conformity regulations (40 CFR Part 93)[41]. When Program-related emissions are greater than the *de minimis* levels, a General Conformity Determination is required.

National Ambient Air Quality Standards

This section describes existing air quality conditions including applicable regulations, attainment status, and provides available ambient air quality monitoring data in the vicinity of the Proposed Project.

Pursuant to the requirements of the CAA, the EPA establishes, enforces, and periodically reviews the NAAQS. The NAAQS are set to safeguard public health and environmental welfare against the detrimental effects of outdoor air pollution and are defined as primary and/or secondary standards. Primary NAAQS are health-based standards geared toward protecting sensitive or at-risk portions of the population such

[40] Clean Air Act Section 176(c)
[41] 40 CFR Part 93 - Determining Conformity of Federal Actions to State or Federal Implementation Plans,

as asthmatics, children, and the elderly. Secondary NAAQS are welfare-oriented and are designed to prevent decreased visibility and damage to animals, vegetation, and physical structures. NAAQS have been established for six common air pollutants, referred to as criteria pollutants: carbon monoxide (CO); lead (Pb); nitrogen dioxide (NO_2); ozone (O_3); particulate matter (PM), which includes particulate matter with a diameter of 10 microns or less (PM_{10}) and $PM_{2.5}$; and sulfur dioxide (SO_2). Nitrogen oxides (NO_x) and volatile organic compound (VOC) emissions are precursors to ozone formation. The NAAQS are summarized in Figure 3-22.

Figure 3-22
National Ambient Air Quality Standards

Pollutant		Primary/Secondary	Averaging Time	Level
Carbon Monoxide (CO)[a]		Primary	8-hour	9 ppm
			1-hour	35 ppm
Lead (Pb)[b]		Primary and Secondary	Rolling 3 month average	0.15 µg/m^3
Nitrogen Dioxide (NO_2)[c]		Primary	1-hour	100 ppb
		Primary and Secondary	Annual	53 ppb[d]
Ozone (O_3)[e]		Primary and Secondary	8-hour	0.075 ppm[f]
Particulate Matter	**$PM_{2.5}$[g]**	Primary	Annual	12 µg/m^3
		Secondary	Annual	15 µg/m^3
		Primary and Secondary	24-hour	35 µg/m^3
	PM_{10}[h]	Primary and Secondary	24-hour	150 µg/m^3
Sulfur Dioxide (SO_2)[i]		Primary	1-hour	75 ppb[j]
		Secondary	3-hour	0.5 ppm

Source: EPA, *National Ambient Air Quality Standards (NAAQS)*, 2014, http://www.epa.gov/air/criteria.html.
Notes: ppb = parts per billion, ppm = parts per million, and µg/m^3 = micrograms per cubic meter of air.
[a] CO 1-hour and 8-hour standard not to be exceeded more than once per year.
[b] Lead rolling three month average standard not to be exceeded. Final rule signed October 15, 2008. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
[c] NO_2 1-hour standard represents the 98th percentile, averaged over three years.
[d] The official level of the annual NO_2 standard is 0.053 ppm, equal to 53 ppb, which is presented for the purpose of clearer comparison to the 1-hour standard.
[e] Ozone 8-hour standard represents the annual fourth-highest daily maximum 8-hr concentration, averaged over three years.
[f] Final rule signed March 12, 2008. The 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) and related implementation rules remain in place. In 1997, EPA revoked the 1-hour ozone standard (0.12 ppm, not to be exceeded more than once per year) in all areas, although some areas have continued obligations under that standard ("anti-backsliding"). The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is less than or equal to 1.
[g] $PM_{2.5}$ annual standards represent annual mean, averaged over three years. $PM_{2.5}$ 24-hour standard represents 98th percentile, averaged over three years.
[h] PM_{10} 24-hour standard not to be exceeded more than once per year on average over three years.
[i] SO_2 1-hour standard represents 99th percentile of 1-hour daily maximum concentrations, averaged over three years. SO_2 3-hour standard not to be exceeded more than once per year.
[j] Final rule signed June 2, 2010. The 1971 annual and 24-hour SO_2 standards were revoked in that same rulemaking; however, these standards remain in effect until one year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.

Attainment/Nonattainment Status

The EPA designates areas as either meeting (attainment) or not meeting (nonattainment) the NAAQS. An area with measured pollutant concentrations that are less than the NAAQS is designated as an attainment area and an area with pollutant concentrations that exceed the NAAQS is designated as a nonattainment area. Areas that are in transition back to attainment are designated as maintenance areas. Ozone nonattainment areas are further classified as extreme, severe, moderate, or marginal. An area is

designated as unclassifiable when there is a lack of sufficient data to form the basis of an attainment status determination.

The CAA requires states to develop a general plan to attain and/or maintain the primary and secondary NAAQS in all areas of the country and to develop a specific plan to attain the standards for each area designated nonattainment for a NAAQS. These plans, known as SIPs, are developed by state and local air quality management agencies and submitted to EPA for approval.

General Conformity Requirements

The General Conformity Rule of the federal CAA prohibits federal agencies from permitting or funding projects that do not conform to an applicable SIP. The General Conformity Rule applies only to areas that are in nonattainment or within a maintenance status. Under the Rule, project-related emissions of the applicable nonattainment/maintenance pollutants are compared to *de minimis* level thresholds. If the emissions exceed the thresholds, a formal Conformity Determination is required to demonstrate that the action conforms to the applicable SIP. Conversely, if Program-related emissions are less than the *de minimis* levels the project is assumed to conform to the SIP. As previously stated, the Program would require input and is anticipated to receive financial assistance from the FRA; therefore, the General Conformity requirements of the CAA are applicable.

Ambient Air Quality Monitoring Data

EPA and local state agencies maintain air quality monitoring stations throughout the U.S. These monitoring stations measure concentrations of pollutants in the ambient (i.e., outdoor) air to gauge compliance with the NAAQS.

3.8.1 Affected Environment

As previously stated, the Program is located within a five county area within two states for which two of the counties (Milwaukee and Racine Counties in Wisconsin) are designated by the EPA as maintenance areas for $PM_{2.5}$ and the other three counties (Kenosha County in Wisconsin and Cook and Lake Counties in Illinois) are designated as nonattainment for the 8-hour ozone standard. Figure 3-23 presents the EPA-designated nonattainment status for the five counties.

Figure 3-23
EPA Designated Nonattainment Status

County, State	Pollutant	Area Name/State	Classification	County NA Part/Whole?[a]
Kenosha County, WI	8-Hr Ozone (2008)	Chicago-Naperville, IL-IN-WI	Marginal	Partial
Milwaukee County, WI	$PM_{2.5}$ (2006)	Milwaukee-Racine, WI	Maintenance	Whole
Racine County, WI	$PM_{2.5}$ (2006)	Milwaukee-Racine, WI	Maintenance	Whole
Cook County, IL	8-Hr Ozone (2008)	Chicago-Naperville, IL-IN-WI	Marginal	Whole
Lake County, IL	8-Hr Ozone (2008)	Chicago-Naperville, IL-IN-WI	Marginal	Whole
Source: EPA Green Book, http://www.epa.gov/airquality/greenbook/				
[a] The column "County NA Part/Whole" indicates whether only a part of the county or the whole county is designated nonattainment.				
[b] These designations are only for a specific part of Cook County which do not include the rail line corridor.				
[c] Consist of the area bounded by Damen Avenue on the west, Roosevelt Road on the north, the Dan Ryan Expressway on the east, and the Stevenson Expressway on the south.				

The General Conformity *de minimis* levels for the Program Study Area are presented by County in Figure 3-24.

Figure 3-24
General Conformity *de minimis* Thresholds

County, State	Pollutant	Area Type	*de minimis* Level (tons/year)
Kenosha County, WI	Ozone (NOx)	Marginal	100
Milwaukee County, WI	$PM_{2.5}$	Maintenance	100
Racine County, WI	$PM_{2.5}$	Maintenance	100
Cook County, IL	Ozone (NOx)	Marginal	100
Lake County, IL	Ozone (NOx)	Marginal	100

Figure 3-25 presents air quality monitoring data collected by state and local air quality control agencies in Cook County and Milwaukee County for the six criteria pollutants between 2011 and 2013. As shown, the concentrations of CO, NO_2, PM_{10}, and $PM_{2.5}$ are much less than the NAAQS for all three years for both counties and showing overall a decreasing trend. Additionally, ozone concentrations are less than the NAAQS in Cook County for all three years but show an exceedance in 2012 in Milwaukee County, which was at or less than the NAAQS in 2011 and 2013.

Figure 3-25
Ambient Air Quality Monitoring Data

County	Monitoring Station	Pollutant	Averaging Period	NAAQS	2011	2012	2013
Cook[a]	Northbrook Water Plant	CO	1-hour[b]	35 ppm	1.7	1.1	1.5
			8-hour[b]	9 ppm	1.3	0.8	0.7
	CTA Building	NO_2	1-hour[c]	100 ppb	71.7	67.0	64.3
			Annual[d]	53 ppb	21.4	22.1	20.6
	Cook County Trailer	O_3	8-hour[e]	0.075 ppm	0.069	0.074	0.073
	Village Hall	PM_{10}	24-hour[g]	150 µg/m^3	77.0	70.3	72.0
Milwaukee	Horicon Wildlife Area	CO[j]	1-hour[b]	35 ppm	3.5	0.7	8.3
			8-hour[b]	9 ppm	0.8	0.5	1.3
	DNR SER Headquarters Site	NO_2	1-hour[c]	100 ppb	52.3[i]	45.1[i]	49.7
			Annual[d]	53 ppb	11.4	11.5	10.4
		O_3	8-hour[e]	0.075 ppm	0.070[i]	0.089[i]	0.075
		PM_{10}	24-hour[g]	150 µg/m^3	63.0	48.0	48.0
	Milwaukee Fire Department Headquarters	$PM_{2.5}$	24-hour[c]	35 µg/m^3	--	30.2[i]	20.7[i]
			Annual[h]	12 µg/m^3	--	9.8[i]	9.0[i]

Source: EPA, AIRData – Monitor Values Reports, http://www.epa.gov/airdata/ad_maps.html accessed September 30, 2014; and NAAQS at http://www.epa.gov/air/criteria.html.
Note: ppm = parts per million, ppb = parts per billion, and µg/m^3 = micrograms per cubic meter.
[a] $PM_{2.5}$ monitoring data is not available for Cook County for the years 2011 through 2013, thus not included in the table.
[b] Not to be exceeded more than once per year.
[c] 98th percentile, averaged over three years.
[d] Annual mean.
[e] Annual fourth-highest daily maximum 8-hr concentration, averaged over three years.
[f] 99th percentile of 1-hour daily maximum concentrations, averaged over three years.
[g] Not to be exceeded more than once per year on average over three years.
[h] Annual mean, averaged over three years.
[i] These values are not averaged over three years due to lack of monitoring data.
[j] There are no active CO monitors in Milwaukee County, closest is Dodge County, Wisconsin.

3.8.2 Potential Impacts

3.8.2.1 No-Build Alternative

The No-Build Alternative would not appreciably worsen air quality in the near future. Over time, air quality may worsen due to increases in vehicular congestion on the roadways and highways in the Program Study Area. The No-Build Alternative would reequip the *Hiawatha Service* with new PRIIA 305 diesel locomotives, which emit much fewer pollutants than the current P42 locomotives used on the *Hiawatha Service.*[42] Air quality would improve in the No-Build as compared to today.

[42] EPA *Emissions Factors for Locomotives*, April 2009, https://www3.epa.gov/nonroad/locomotv/420f09025.pdf

3.8.2.2 Build Alternative

An analysis was conducted to evaluate the air quality impacts that increasing *Hiawatha Service* frequencies would have on the surrounding environment. Air quality impacts due to the operation of 3 additional daily round trips and due to construction of improvement projects are identified. To simplify the analysis, no reduction in vehicle miles traveled due to the additional capacity of coaches and service frequency is assumed. This results in a conservative estimate of emissions and air quality impacts.

3.8.2.2.1 Air Quality Impacts due to Increase in Service

The No-Build Alternative would employ two sets of equipment consisting of one PRIIA 305 diesel locomotive, two Amfleet coaches, four Horizon coaches, and one F40 cab/baggage car each. The Build Alternative would employ three sets of equipment consisting of one PRIIA 305 diesel locomotive, five PRIIA 305 bi-level coaches, and one cab/baggage car each.

Amtrak provided a Route and Service Evaluation titled *Route & Service Financial Evaluation for Ten Daily Round Trips on Hiawatha Service* dated August 15, 2014 (Revised August 26, 2014). The report provided operating and maintenance costs for the *Hiawatha Service* for the proposed 10 round trip frequency. Figure 3-26 presents the operational data for the No-Build and Build Alternatives.

Figure 3-26
Operational Data (FY2019)

Data	No-Build Alternative	Build Alternative
Daily round trips	7 (6 on Sundays)	10
Annual passenger volumes	879,100	980,200
Annual passenger VMT	70,654,000	79,200,000

Figure 3-27 presents the locomotive fuel usage in gallons for the FY2019 No-Build and Build Alternatives.

Figure 3-27
Locomotive Fuel Usage Data for FY2019

Data	No-Build Alternative	Build Alternative
Fuel Usage (gallons)	798,898	1,122,041

Locomotive emission factors for each pollutant were obtained from the EPA guidance document entitled *Emission Factors for Locomotives*[43] and are presented in Figure 3-28. Emission factors were assumed for

[43] EPA, Office of Transportation and Air Quality, *Emission Factors for Locomotives,* [EPA-420-F-09-025], April 2009, http://www.epa.gov/nonroad/locomotv/420f09025.pdf.

a line-haul locomotive. The equipment is assumed to meet EPA's Tier IV locomotive exhaust standards.[44] The locomotive emissions were estimated by multiplying the annual fuel usage by the locomotive emission factors.

Figure 3-28
Locomotive Emission Factors

Pollutant	Tier IV (New Equipment) (grams/gallon)
CO	27
NOx	21
VOC	0.8
PM_{10}	0.3
$PM_{2.5}$	0.3

Source: EPA, Office of Transportation and Air Quality, Emission Factors for Locomotives [EPA-420-F-09-025], April 2009.
Notes: Emission factors are for line-haul locomotives. A conversion factor of 20.8 horsepower-hour per gallon was assumed to express emission rates as grams of pollutant emitted per gallon of fuel consumed.
Assumed emission factors for PM_{10} = $PM_{2.5}$.

The increase in locomotive emissions for the primary pollutants of concern (i.e., CO, NOx, VOC, PM_{10} and $PM_{2.5}$) for the Build Alternative compared to the No-Build Alternative in FY2019 are compared to the *de minimis* levels outlined in the CAA's General Conformity regulations. See Figure 3-29 for annual emissions increases in tons/year.

Figure 3-29
Annual Emissions Increases Associated with the Build Alternative

Pollutant	Annual Emissions (tons/year)			General Conformity *de minimis* Applicability Thresholds (tons/year)
	No-Build Alternative	Build Alternative	Projected Increases	
CO	23.8	33.4	9.6	100
NOx	18.5	26.0	7.5	100
VOC	0.7	1.0	0.3	50
PM_{10}	0.3	0.4	0.1	100
$PM_{2.5}$	0.3	0.4	0.1	100

The results indicate that emissions of CO, NOx, VOC, PM_{10} and $PM_{2.5}$ would increase for the Build Alternative; however, the increase in emissions of each pollutant is less than the General Conformity *de*

[44] EPA, Locomotive Exhaust Emission Standards, http://www.epa.gov/otaq/standards/nonroad/locomotives.htm.

minimis applicability threshold values and a conformity determination is not required.

3.8.2.2.2 Air Quality Impact due to Construction of Improvement Projects

Demolition and construction activities can result in short-term increases in fugitive dust and equipment-related particulate emissions in and around a project area (equipment-related particulate emissions can be minimized if the equipment is well maintained). The potential air quality impacts would be short-term, occurring only while demolition and construction work is in progress and local conditions are appropriate.

The potential for fugitive dust emissions typically is associated with building demolition, ground clearing, site preparation, grading, stockpiling of materials, on-site movement of equipment, and transportation of materials. The potential is greatest during dry periods, periods of intense construction activity, and during high wind conditions.

Dust and airborne dirt generated by construction activities would be controlled through dust control procedures or a specific dust control plan, when warranted. The contractor would develop specific types of control techniques appropriate to the specific situation. Techniques that may warrant consideration include measures such as minimizing track-out of soil onto nearby publicly-traveled roads, reducing speed on unpaved roads, covering haul vehicles, and applying chemical dust suppressants or water to exposed surfaces, particularly those on which construction vehicles travel. With the application of appropriate measures to limit dust emissions during construction, this project would not cause any significant, short-term particulate matter air quality impacts.

3.9 Hazardous Materials

According to the EPA, hazardous waste is "waste that is dangerous or potentially harmful to our health or the environment".[45] Hazardous materials are regulated by the EPA and other federal agencies under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), and the Toxic Substances Control Act (TSCA). Hazardous materials sites include landfills, underground storage tanks, above ground storage tanks, surface staining or stressed vegetation, the presence of multiple drums and waste debris, solid or hazardous waste sites, spill sites, state and federal identified environmental sites, small and large quantity generators and potential pesticides and/or herbicides.

The following federal and state regulatory agency databases contain information on specific locations of hazardous materials sites:

- National Priorities List (NPL) - Including Proposed, Delisted and Recovery Lists
- Federal Comprehensive Environmental Response, Compensation and Liability
- Information System List (CERCLIS)

[45] https://www3.epa.gov/epawaste/hazard/index.htm

- CERCLIS No Further Remedial Action Planned List (NFRAP)
- Federal Resource Conservation and Recovery Act Corrective Action Report (RCRA CORRACTS) facilities list
- Federal RCRA non-CORRACTS TSD facilities list
- Federal RCRA generators list
- Federal Brownfields & Land Revitalization Database
- Federal Emergency Response Notification System List (ERNS)
- WDNR Brownfields list
- WDNR Bureau for Remediation and Redevelopment Tracking System (BRRTS)
- WDNR Registry of Waste Disposal Sites, RR108
- WDNR List of Licensed Solid Waste Landfills
- WDNR Bureau of Remediation and Redevelopment GIS Registry for contaminated site closures
- Wisconsin Department of Safety and Professional Services (DSPS) Storage Tank Database
- DSPS contaminated sites database
- Wisconsin DATCP List of Agricultural Chemical Cleanup Program Spill Sites (ACCP Spills)
- IEPA Site Remediation Program Database (SRP)
- IEPA Leaking Underground Storage Tank Incident Tracking (LIT) Database
- IEPA Office of Brownfields Database
- IEPA Bureau of Land Inventory Database

3.9.1 Affected Environment

Hazardous material is currently transported by freight trains throughout the CP C&M Subdivision. Amtrak and commuter rail do not transport hazardous materials.

3.9.2 Potential Impacts

3.9.2.1 No-Build Alternative

The No-Build Alternative would not impact hazardous materials sites in the project corridor.

3.9.2.2 Build Alternative

Per discussions with IDOT's Special Waste group, a Preliminary Site Environmental Assessment (PESA) for hazardous materials sites would be conducted at the time of final design. Each Project Study Area would be evaluated upon final design funding for hazardous materials sites based on the inventory databases listed above. Examples of construction includes track installation, tie replacement, rail resurfacing, and special trackwork installation all of which require a maximum of two feet of excavation during construction and would generally not disturb contaminated sites. State requirements for hazardous materials would be adhered to during construction.

The increase in *Hiawatha Service* frequencies would not impact contaminated sites.

Specific projects are discussed below.

Glenview Universal Crossover

Two crossovers are proposed to be constructed in Glenview, IL. Construction of the crossovers would require a maximum of 2 feet of soil excavation. Any soil excavated from the site would be distributed within the railroad right-of-way and would not be handled outside the right-of-way.

UPRR Siding Extension at A-20 Design Alternative 1

The A-20 Design Alternative 1 project consists of constructing two crossovers and three turnouts; new track on existing roadbed, new roadbed and embankment, and on retained fill; two single track bridge spans; and signal installation. All of the work would take place within the railroad right-of-way and any soil excavated from the site would be distributed within the right-of-way and would not be handled outside the right-of-way.

UPRR Siding Extension at A-20 Design Alternative 2

The A-20 Design Alternative 2 project consists of constructing two crossovers and two turnouts; new track on existing roadbed, new roadbed and embankment, and on retained fill; two single track bridge spans; and signal installation. All of the work would take place within the railroad right-of-way and any soil excavated from the site would be distributed within the right-of-way and would not be handled outside the right-of-way.

Speed Increase between A-20 and Rondout

Implementation of the speed increase would not require construction of any improvements requiring excavation. The scope of improvements includes signal system modifications, which generally occurs within a signal bungalow above ground. Therefore, the project would not impact hazardous materials sites.

Deerfield Holding Track

One crossover, one turnout, and signal improvements are proposed as part of the Deerfield Holding Track project. Construction of the crossover and turnout would require a maximum of 2 feet of soil excavation. Any soil excavated from the site would be distributed within the railroad right-of-way and would not be handled outside the right-of-way.

Lake Forest Universal Crossover

Two crossovers are proposed to be constructed as part of the Lake Forest Universal Crossover project. Construction of the crossovers would require a maximum of 2 feet of soil excavation. Any soil excavated from the site would be distributed within the railroad right-of-way and would not be handled outside the right-of-way.

Rondout Siding Extension

As part of the Rondout Siding Extension project, two turnouts, track on new embankment, and signal installation are proposed. All of the work would take place within the railroad right-of-way and any soil excavated from the site would be distributed within the right-of-way and would not be handled outside the right-of-way.

Metra Fox Lake Second Track

As part of the Metra Fox Lake Second Track project, six turnouts, six crossovers, track on new embankment and existing embankment, signal work, and double track bridge structure are proposed. A majority of the work would take place within the railroad right-of-way and any soil excavated from the site would be distributed within the right-of-way and would not be handled outside the right-of-way. Land acquisition is required adjacent to the railroad right-of-way, 0.78 acres in area, on which track on 5' embankment would be constructed. Excavation is not anticipated to occur in the section of purchased right-of-way. There are no hazardous materials sites located in the section of purchased right-of-way.

Milwaukee Airport Rail Station Second Platform

As part of the Milwaukee Airport Rail Station Second Platform project, a new platform, two elevator towers, an overhead pedestrian bridge, and track modifications are proposed. A majority of the work would take place within the railroad right-of-way and any soil excavated from the site would be distributed within the right-of-way and would not be handled outside the right-of-way. Land acquisition is required adjacent to the railroad right-of-way, 0.07 acres in area, on which the proposed western elevator tower would be constructed. Excavation greater than 2 feet in depth is anticipated in the section of purchased right-of-way. There are no hazardous materials sites located in the section of purchased right-of-way.

Muskego Yard Signalization

As part of the Muskego Yard Signalization project, seven turnouts, four crossovers, track rehabilitation, and signal installation are proposed. All of the work would take place within the railroad right-of-way and any soil excavated from the site would be distributed within the right-of-way and would not be handled outside the right-of-way.

Milwaukee Station to Cut-Off CTC Installation

As part of the Milwaukee Station to Cut-Off CTC Installation project, signal work is proposed. All of the work would take place within the railroad right-of-way and any soil excavated from the site would be distributed within the right-of-way and would not be handled outside the right-of-way.

3.10 Public Health and Safety

FRA has primary authority over railroad safety. FRA regulations govern aspects of railroad safety, including rail operations, track, and signaling, as well as rolling stock, such as locomotives and freight cars

(49 CFR 200-299). The states also have an important role in rail safety, especially at highway/rail at-grade crossings.

3.10.1 Affected Environment

3.10.1.1 Rail Operations Safety

FRA's Track Safety Standards (49 CFR Part 213) are based on classifications of track that determine maximum operating speed limits, inspection frequencies, and standards of maintenance. The Metra-owned portion of the route (Chicago to Rondout) is maintained to Class 5 standards to provide for good ride quality, but passenger trains only operate at Class 4 speeds of up to 79 MPH. The CP-owned portion of the route (Rondout to Milwaukee) is maintained to Class 4 standards, which allows for maximum passenger operating speeds of 79 MPH. The maximum operating speed for freights on Class 4 track is 60 MPH. At Class 5, requirements for track geometry and track structure are more stringent than for Class 4 and require to be maintained to more rigorous standards than Class 4.

3.10.1.2 Crossing Safety

The existing alignment utilized for passenger service by the *Hiawatha Service* includes 4 at-grade rail-rail crossings. Train movements over these at-grade crossings are controlled by a dispatcher and conflicting movements are safeguarded to avoid collisions. Figure 3-30 shows the locations of the four at-grade rail-rail crossings.

Figure 3-30
At-Grade Rail-Rail Crossings

Milepost	Corridor Railroad	Crossing Railroad
2.0	CP	CP Elgin Sub
8.2	CP	UP Cragin Industrial Lead
9.0	CP	UP Harvard Sub
32.1	CP	EJ&E Western Sub

The existing alignment also crosses roadways at-grade throughout the corridor. FHWA and FRA have regulatory jurisdiction over safety at crossings and USDOT has issued regulations that address grade crossing safety. Jurisdiction over highway/rail grade crossings falls primarily to the states. In Illinois, the Illinois Commerce Commission has regulatory jurisdiction and in Wisconsin, the Office of the Commissioner of Railroads has jurisdiction. There are 63 public highway/rail grade crossings in the corridor, and all have automatic warning devices. Section 3.10.2 discusses this further.

Hazardous material is currently transported by freight trains throughout the CP C&M Subdivision. Amtrak and commuter rail do not transport hazardous materials.

3.10.2 Potential Impacts

3.10.2.1 No-Build Alternative

Under the No-Build Alternative, no changes to rail operations and crossing safety would occur.

3.10.2.2 Build Alternative

Under the Build Alternative, ten round trips per day would operate between Chicago and Milwaukee at a maximum speed of 79 MPH. Adding three additional round trips per day on existing, active rail lines would have no appreciable negative impact on public health and safety. Specific impacts of the Build Alternative on rail operations and crossing safety are discussed below.

3.10.2.2.1 Rail Operations Safety

Because the maximum speed under the Build Alternative is the same as the No-Build Alternative, track would be maintained to the same track class as the No-Build Alternative. Frequency of inspections and standards of maintenance would not be impacted by the Build Alternative.

Several rail-related accidents, including a fatal accident in 2012, occurred within the limits of the proposed UPRR Siding Extension at A-20 project at the Shermer Road Bridge on the UP Milwaukee Sub. The fatal accident was caused by the derailment of a coal train which collapsed the Shermer Road Bridge onto a vehicle, killing two. The derailment of a freight train occurred in 2009 at the same location, causing one train to crash into the side of another. According to an FRA accident investigation, the probable cause of the derailment was a "binding truck bolster which caused the train car wheels to climb over the inside turnout closure rail leading to UP Main Track #1."[46] Both of the proposed UPRR Siding Extension at A-20 Design Alternatives would remove an existing turnout in the area of the previous derailments. This provides a reduction of risk of derailment near the bridge structure.

3.10.2.2.2 Crossing Safety

At-Grade Rail-Rail Crossings

Because the maximum operating speed would not increase under the Build Alternative, no physical improvements are required at the four rail-rail crossings.

An additional track is proposed to be constructed at-grade across the EJ&E just south of Rockland Road in Lake Forest, IL as part of the Metra Fox Lake Second Track project. A crossing diamond would be constructed for the Fox Lake Subdivision's new crossing and would include all signaling and trackwork necessary to operate over the crossing safely.

[46] FRA Office of Safety Accident Investigation Report HQ-2009-55, November 1, 2009

Highway/Rail At-Grade Crossings

Because the existing intercity passenger rail, commuter rail, and freight rail volume traveling throughout the corridor is high, the addition of three intercity passenger rail round trips per day would not appreciably impact the risk of vehicle/train collisions at the highway/rail at-grade crossings.

All 65 public highway/rail at-grade crossings in the corridor are equipped with gates and flashing light signals. Grade crossing warning devices would be replaced at Rockland Road in Lake Forest, IL due to the construction of an additional track across the roadway as part of the Metra Fox Lake Second Track project.

3.11 Cultural Resources

Cultural resources include historic and pre-historic properties that are listed or are eligible to be listed on the National Register of Historic Places (NRHP). Section 106 of the National Historic Preservation Act of 1966, as amended requires Federal agencies to "take into account the effects of their undertakings on historic properties, and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment".[47] Under Section 106, federal agencies are required to provide the public with information about an undertaking and its effect on historic properties and to seek public comment and input.

3.11.1 Affected Environment

Figure 3-31 summarizes the NRHP and NRHP-eligible resources within and adjacent to the project corridor in Illinois. There are no eligible or listed NRHP sites located within the corridor in Wisconsin, however, WisDOT did identify and evaluate an archaeological site adjacent to the Muskego Yard Signalization project. The site, known as the Runner's Village, is located between 2nd Street and 6th Street and Florida Street and the River.

[47] 16 USC 470

Figure 3-31
NRHP and NRHP-Eligible Resources within and Adjacent to Project Corridor

Location	National Register Number	Address	Historic Name	Distance from Rail Right-of-Way
Chicago, Cook County, Illinois	Determined eligible for the National Register	Canal Street between Adams St. and Jackson Blvd.	Union Station	Adjacent to right-of-way
Chicago, Cook County, Illinois	04001306	211 N. Clinton Street	Chicago & Northwestern Railway Power House	Adjacent to right-of-way
Golf, Cook County, Illinois	Determined eligible for the National Register	1 Overlook Drive	Train Station (Metra)	Adjacent to right-of-way
Deerfield, Lake County, Illinois	98000066	860 Deerfield Rd.	Chicago, Milwaukee and St. Paul Railway Passenger Depot (Also known as Deerfield Train Station)	Adjacent to right-of-way

Sites listed or eligible for listing on the NRHP are also subject to Section 4(f) of the U.S. Department of Transportation Act. Additional information about Section 4(f) is provided in Section 3.17.

3.11.2 Potential Impacts

3.11.2.1 No-Build Alternative

The No-Build Alternative would result in no historic properties affected.

3.11.2.2 Build Alternative

In accordance with Section 106, the project team consulted with Illinois and Wisconsin State Historic Preservation Offices (SHPO) and Native American Tribes to assess whether the Build Alternative would result in adverse effects to historic properties.

The IDOT Bureau of Design & Environment (BDE) cultural resources staff performed a review of potential impacts to historical, archaeological, and architectural properties, identified in Figure 3-31 above, and determined that the increase in *Hiawatha Service* frequencies and construction of the improvements necessary to accommodate the increase in service would not impact the four historic resources adjacent to the rail right-of-way. The Illinois SHPO provided a letter documenting the SHPOs concurrence of the determination by IDOT cultural resources staff of "No Historic Properties Affected". Appendix B contains the Illinois SHPO letter of concurrence.

WisDOT identified an archaeological site adjacent to the Muskego Yard Signalization project. The site, known as the Runner's Village, is located between 2nd Street and 6th Street and Florida Street and the River. The Wisconsin Historical Society (WHS) performed a review of potential impacts to the Runner's Village and determined that the increase in *Hiawatha Service* frequencies and construction of the

Muskego Yard Signalization project would not impact the archaeological site. The Wisconsin SHPO provided a letter documenting the concurrence of the determination by WHS staff that the project would result in no historic properties affected. Appendix C contains the Wisconsin SHPO letter of concurrence.

Consultation was in initiated with twelve Native American Tribes in Wisconsin and four Tribes in Illinois. Two Tribes responded to this invitation to consult. The Acting Tribal Historic Preservation Officer for the Miami Tribe of Oklahoma responded to the Section 106 consultation letter sent by FRA on behalf of the project. The email stated that "The Miami Tribe offers no objection to the above-mentioned project at this time, as we are not currently aware of existing documentation directly linking a specific Miami cultural or historic site to the project site. However… if any human remains or Native American cultural items falling under the Native American Graves Protection and Repatriation Act or archaeological evidence is discovered… the Miami Tribe requests immediate consultation with the entity of jurisdiction for the location of discovery". Full consultation will be initiated with the Miami Tribe during the final design phase of the project. Appendix D contains the correspondence with the Miami Tribe of Oklahoma.

The Assistant Tribal Historic Preservation Officer of the Citizen Potawatomi Nation responded to the Section 106 consultation letter as well. A copy of the Cultural Resource Survey Reports was requested and the Illinois SHPO concurrence was provided.

No other Tribal correspondence was received by the project team.

3.12 Critical Habitat and Endangered Species

The purpose of the Endangered Species Act (ESA) of 1973 (16 U.S.C. § 1531-1544) is to "protect and recover imperiled species and the ecosystems upon which they depend".[48] The ESA is administered by the U.S. Fish and Wildlife Service (USFWS) and the Commerce Department's National Marine Fisheries Service. The USFWS has primary responsibility for "terrestrial and freshwater organisms" and is the agency with jurisdiction in the Program Study Area.

As defined by the ESA, "endangered" refers to species that are "in danger of extinction within the foreseeable future throughout all or a significant portion of [their] range," while "threatened" refers to "those animals and plants likely to become endangered within the foreseeable future throughout all or a significant portion of their ranges". Plant species and varieties, animal species and subspecies, and vertebrate animal populations are eligible for listing under the ESA. Critical habitat is defined as "a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection."[49]

As required by Section 7(a)(2) of the ESA, FRA reviewed the USFWS list of federally endangered, threatened, proposed, and candidate species and proposed and designated critical habitat that may be

[48] U.S. Fish & Wildlife Service: Endangered Species Act Overview
[49] Endangered Species Act of 1973

present within the project corridor.

State regulatory agencies can grant additional protections to species. The Illinois Endangered Species Protection Board is responsible for reviewing and revising the Illinois List of Endangered and Threatened Species and plans and implements its Endangered Species Conservation program with the mission of protecting "species native to Illinois which are in danger of being lost from the wild in Illinois".[50] The Wisconsin DNR provides a similar role for the protection of endangered and threatened species in Wisconsin.

In Wisconsin, environmental corridors are "linear areas in the landscape containing concentrations of significant natural resource and resource-related features". Environmental corridors link concentrated natural resource activity through connected high value lakes, wetlands, prairies, and woodlands. Environmental corridors are identified as either primary environmental corridors, secondary environmental corridors, or isolated natural resource areas. Primary environmental corridors (PEC) are "concentrations of significant natural resources at least 400 acres in area, at least two miles in length, and at least 200 feet in width". The corridor lies adjacent to two PECs in Pleasant Prairie, WI and Milwaukee, WI and crosses the Root River primary environmental corridor in Oak Creek, WI.[51] The Migratory Bird Treaty Act (MBTA) "makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations."[52] In addition, the Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof".[53]

3.12.1 Affected Environment

Two Environmental Survey Requests (ESRs) were made to IDOT BDE to produce Natural Resources Reviews (NRRs) of the Illinois-portion of the Program Study Area. The ESRs were established as follows:

- Sequence 19152 covered the Program Study Area from Chicago Union Station to the Illinois-Wisconsin state line, with the exception of the area evaluated in Sequence 19157 (described below), and included the following improvement projects:
    - Glenview Crossover
    - Lake Forest Crossover
    - Deerfield Holding Track

[50] Illinois Endangered Species Protection Board
[51] Southeast Wisconsin Regional Planning Commission
[52] 16 USC 703-712
[53] 16 USC 668-668(c)

    - UPRR Siding Extension at A-20 (both alternatives)
    - Speed Increase between A-20 and Rondout
- Sequence 19157 covered the portion of the Program Study Area for the following improvement projects:
    - Rondout Siding Extension
    - Metra Fox Lake Second Track

NRRs dated April 1 and April 18, 2016 were completed for Sequence 19157 and Sequence 19152, respectively, and are included as Appendix E. WisDOT contracted with a consultant to complete an NRR, dated November 2015, for the Wisconsin-portion of the Program Study Area, and is included in Appendix F. The purpose of the NRRs was to perform a formal review of the Study Area to determine whether the Study Area was in the vicinity of threatened and endangered species or Illinois Natural Area Inventory sites, dedicated Illinois Nature Preserves, and registered Land and Water Reserves. BDE also evaluated the Study Area for potential wetland impacts.

Initially, the USFWS Information for Planning and Conservation (IPaC) review tool was used to receive an official threatened and endangered species list for the entire Program Study Area. Twelve federally listed endangered, threatened, proposed, and candidate species were identified that may be present within or in the vicinity of the Study Area. No critical habitat was identified in the Program Study Area. Figure 3-32 summarizes the species, their status, and identifies in which state the species are located.

Figure 3-32
Federally Listed Threatened and Endangered Species within the Program Study Area

Species	Status	State
Piping Plover	Endangered	IL
Red Knot	Threatened	IL
Whooping Crane	Experimental Population, Non-Essential	WI
Eastern Prairie Fringed Orchid	Threatened	IL, WI
Leafy prairie-clover	Endangered	IL
Mead's milkweed	Threatened	IL
Pitcher's thistle	Threatened	IL
Prairie bush-clover	Threatened	IL
Hine's Emerald dragonfly	Endangered	IL
Karner Blue butterfly	Endangered	IL
Rattlesnake-Master Borer moth	Candidate	IL
Northern Long-Eared Bat	Threatened	IL, WI
Eastern Massasauga	Proposed Threatened	IL

BDE then consulted the Illinois Natural Heritage Database (INHD) for the specific Project Study Areas and found that the INHD contained several records of State-listed threatened or endangered species, Illinois Natural Area Inventory sites (INAI), dedicated Illinois Nature Preserves (NP), and registered Land and Water Reserves in the vicinity of various Project Study Areas. BDE provided a summary of these elements in their Natural Resources Review, included in Appendix E. Wisconsin DNR indicated that there were no state-listed species in the Project Study Areas. The Illinois-listed threatened and endangered species are shown in Figure 3-33.

Figure 3-33
State Listed Threatened and Endangered Species/Critical Habitat within Project Study Areas

Species	Status	Location of Species Occurrence
Upland Sandpiper	Endangered	Observed outside the rail right-of-way in Glenview, IL, but possibly extirpated
Oval Milkweed	Endangered	Observed in Somme Prairie INAI and NP
King Rail	Endangered	Last observed in 2014 in Middlefork Savanna NP
Wilson's Phalarope	Endangered	Last observed in 2008 in Middlefork Savanna INAI
Golden Sedge	Threatened	Observed in Middlefork Savanna NP (2015 survey)
Pale Vetchling	Threatened	Last observed in 1995 in Middlefork Savanna INAI/NP
Marsh Speedwell	Threatened	Observed in Middlefork Savanna NP (2015 survey)
Eastern Prairie Fringed Orchid	Threatened	Two individual plants observed 15+ feet outside the rail right-of-way in Middlefork Savanna NP (2015 survey)
Iowa Darter	Threatened	Observed at the North Branch Chicago River (2015 survey)
Blanding's Turtle	Endangered	Last observed in 2007 in Middlefork Savanna NP
Least Bittern	Threatened	Observed in Middlefork Savanna NP (2015 survey)

Through IDOT BDE coordination with IDNR, the natural areas listed in Figure 3-34 were identified as being located in the vicinity of various Project Study Areas.

Figure 3-34
Illinois Natural Areas in the Vicinity of Project Study Areas

Name	Size (acres)	County	Project Study Areas	Significant Features
Middlefork Savanna INAI	741.5	Lake	Rondout Siding Extension, Metra Fox Lake Second Track, Speed Increase between A-20 and Rondout	High quality natural community; Specific suitable habitat for state-listed species; state-dedicated nature preserve
Jean Farwell Woods Land and Water Reserve	11.19	Lake	Metra Fox Lake Second Track	Mesic savanna, buffer to Middlefork Savanna NP
Middlefork Savanna Nature Preserve	591.72	Lake	Rondout Siding Extension, Metra Fox Lake Second Track, Speed Increase between A-20 and Rondout	Mesic savanna
Morton Grove Prairie INAI	2.06	Cook	Glenview Universal Crossover	High quality natural community and state-dedicated nature preserve
Wayside Prairie INAI	11.11	Cook	Glenview Universal Crossover	Specific suitable habitat for state-listed species
St. Paul Forest Preserve INAI	180.64	Cook	Glenview Universal Crossover	Specific suitable habitat for state-listed species
Glenview Naval Air Station INAI	32.92	Cook	Glenview Universal Crossover, UPRR Siding Extension at A-20 Design Alternatives 1 and 2	Specific suitable habitat for state-listed species
Somme Prairie INAI	404.61	Cook	UPRR Siding Extension at A-20 Design Alternatives 1 and 2, Speed Increase between A-20 and Rondout	High quality natural community; Specific suitable habitat for state-listed species; state-dedicated nature preserve
Somme Prairie NP	70.00	Cook	UPRR Siding Extension at A-20 Design Alternatives 1 and 2, Speed Increase between A-20 and Rondout	Variety of savannas and prairie plans

Using IPaC, USFWS identified thirty-three bird species that are considered Birds of Conservation Concern. Birds of Conservation Concern are "species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act (ESA) of 1973."[54] Figure 3-35 presents the Birds of Conservation Concern.

[54] https://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php

Figure 3-35
Birds of Conservation Concern

Species	Season
Acadian Flycatcher	Breeding
American Bittern	Breeding
Bald Eagle	Year-round
Bell's Vireo	Breeding
Black Tern	Breeding
Black-billed Cuckoo	Breeding
Black-crowned Night-heron	Breeding
Blue-winged Warbler	Breeding
Bobolink	Breeding
Brown Thrasher	Breeding
Canada Warbler	Breeding
Cerulean Warbler	Breeding
Common Tern	Breeding
Dickcissel	Breeding
Field Sparrow	Breeding
Golden-winged Warbler	Breeding
Henslow's Sparrow	Breeding
Kentucky Warbler	Breeding
Least Bittern	Breeding
Loggerhead Shrike	Breeding
Marsh Wren	Breeding
Northern Flicker	Year-round
Peregrine Falcon	Breeding
Pied-billed Grebe	Breeding
Prothonotary Warbler	Breeding
Red-headed Woodpecker	Breeding
Rusty Blackbird	Wintering
Short-eared Owl	Wintering
Upland Sandpiper	Breeding
Willow Flycatcher	Breeding
Wood Thrush	Breeding

3.12.2 Potential Impacts

3.12.2.1 No-Build Alternative

The No-Build Alternative would not impact critical habitat or endangered species.

3.12.2.2 Build Alternative

3.12.2.2.1 Results of Illinois NRRs

Illinois BDE evaluated the federal and state listed threatened and endangered species and Illinois Natural Areas along the corridor as part of the NRR. Through field surveys, Illinois BDE determined that the service increase and proposed improvements for the Glenview Universal Crossover, Lake Forest Universal Crossover, Deerfield Holding Track, UPRR Siding Extension at A-20, and Speed Increase between A-20 and Rondout projects are not likely to jeopardize the continued existence of any federally-listed endangered species or threatened species or result in the destruction or adverse modification of any critical habitat. IDNR reviewed the findings of the NRR, concurred with the findings of the NRR, and provided commitments to be adhered to in order to protect the listed species. The commitments are included as part of Section 3.23 of the EA.

Specific projects are discussed below.

Glenview Universal Crossover

The Wayside Prairie and St. Paul's Forest Preserve Natural Areas are located adjacent to the project near Dempster Street. The Glenview Naval Air Station Natural Area is located near the project just south of Willow Road. All three INAIs were cited by Illinois BDE as having occurrences of "several listed species." An upland sandpiper occurs adjacent to the project area near Dempster Street. Illinois BDE concluded there would be no adverse effect by the Glenview Crossover project on the INAIs.

Figures 3-36.1 through 3-36.3 depict the Illinois Natural Areas adjacent to the Glenview Universal Crossover project.

Figure 3-36.1
Illinois Natural Areas Adjacent to Glenview Crossover

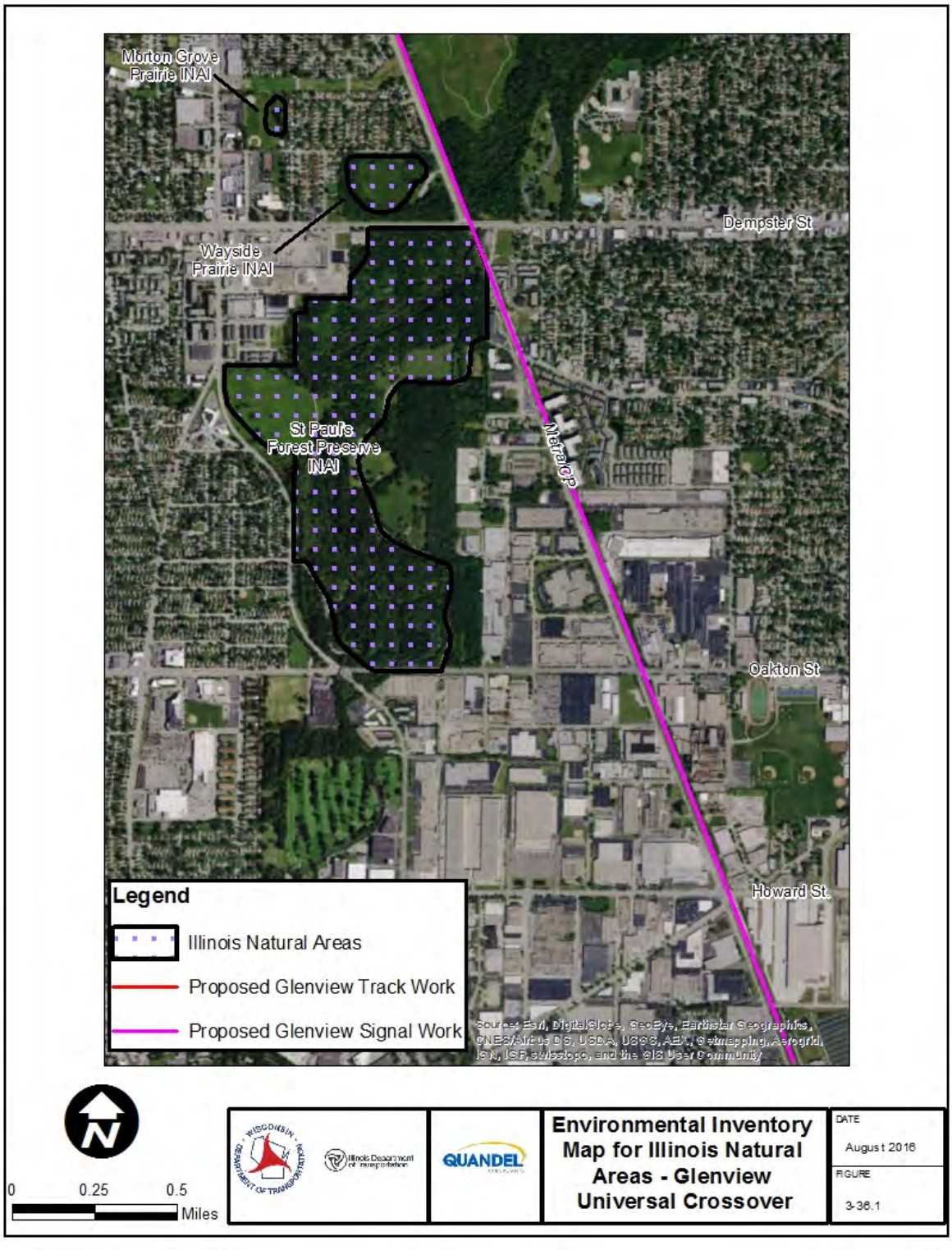


Figure 3-36.2
Illinois Natural Areas Adjacent to Glenview Crossover

Figure 3-36.3
Illinois Natural Areas Adjacent to Glenview Crossover

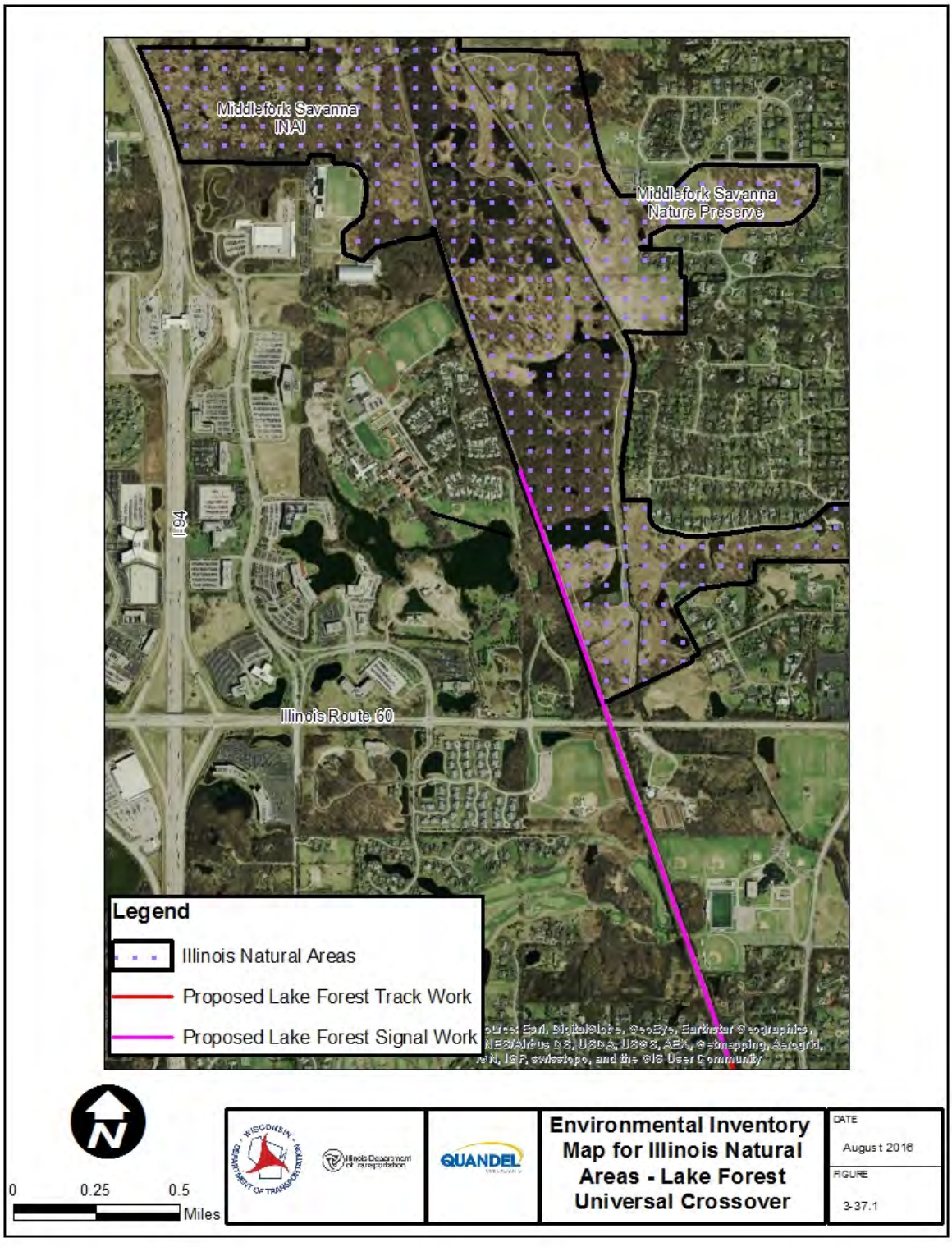
Lake Forest Universal Crossover

Roadside Prairie remnants occur from Old Mill Road to Everett Road. Middlefork Savanna Natural Area and Nature Preserve is located adjacent to the project and contain "numerous listed species" starting at Illinois Route 60. Illinois BDE concluded there would be no adverse effect by the Lake Forest Crossover project on the Roadside Prairie remnants, the Middlefork Savanna INAI, or the Middlefork Savanna NP.

Figures 3-37.1 through 3-37.2 depict the Illinois Natural Areas adjacent to the Lake Forest Universal Crossover project.

Figure 3-37.1
Illinois Natural Areas Adjacent to Lake Forest Crossover

Figure 3-37.2
Illinois Natural Areas Adjacent to Lake Forest Crossover



Deerfield Holding Track

There is no habitat for listed species within this Project Study Area.

UPRR Siding Extension at A-20 Design Alternatives 1 and 2

Somme Prairie Natural Area and Nature Preserve are located adjacent to the Project Study Areas for UPRR Siding Extension at A-20 Design Alternatives 1 and 2 north of Dundee Road and contain state-listed oval milkweed in various locations. State-listed species with the Glenview Naval Air Station Natural Area occur east of the project, but there is no habitat in the project area for those species. Illinois BDE concluded there would be no adverse effect by the UPRR Siding Extension at A-20 project on the INAI.

Figures 3-38.1 through 3-38.2 depict the Illinois Natural Areas adjacent to UPRR Siding Extension at A-20 Design Alternative 1. Figures 3-39.1 through 3-39.2 depict the Illinois Natural Areas adjacent to A-20 Design Alternative 2.

Figure 3-38.1
Illinois Natural Areas Adjacent to UPRR Siding Extension at A-20 Design Alternative 1

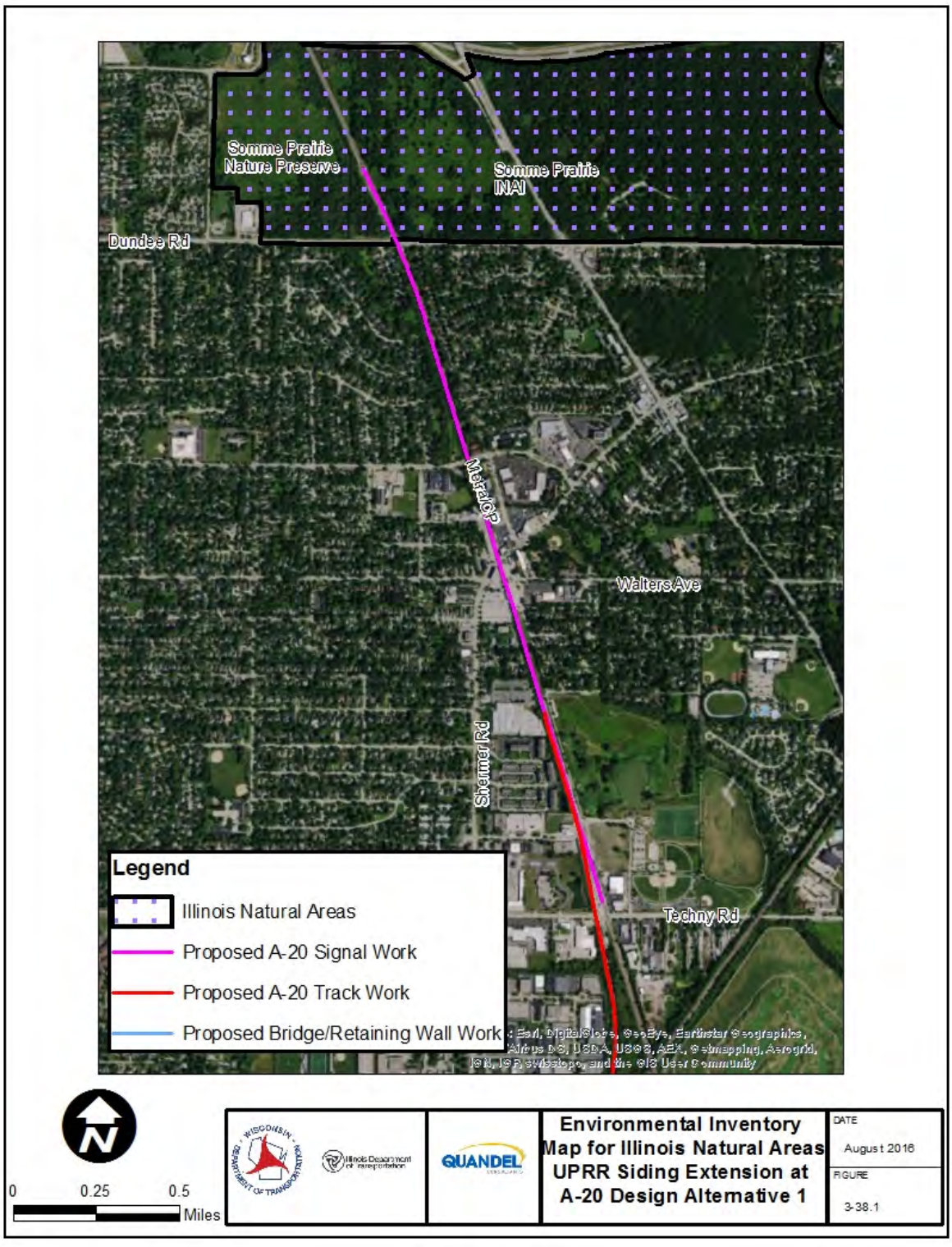


Figure 3-38.2
Illinois Natural Areas Adjacent to UPRR Siding Extension at A-20 Design Alternative 1

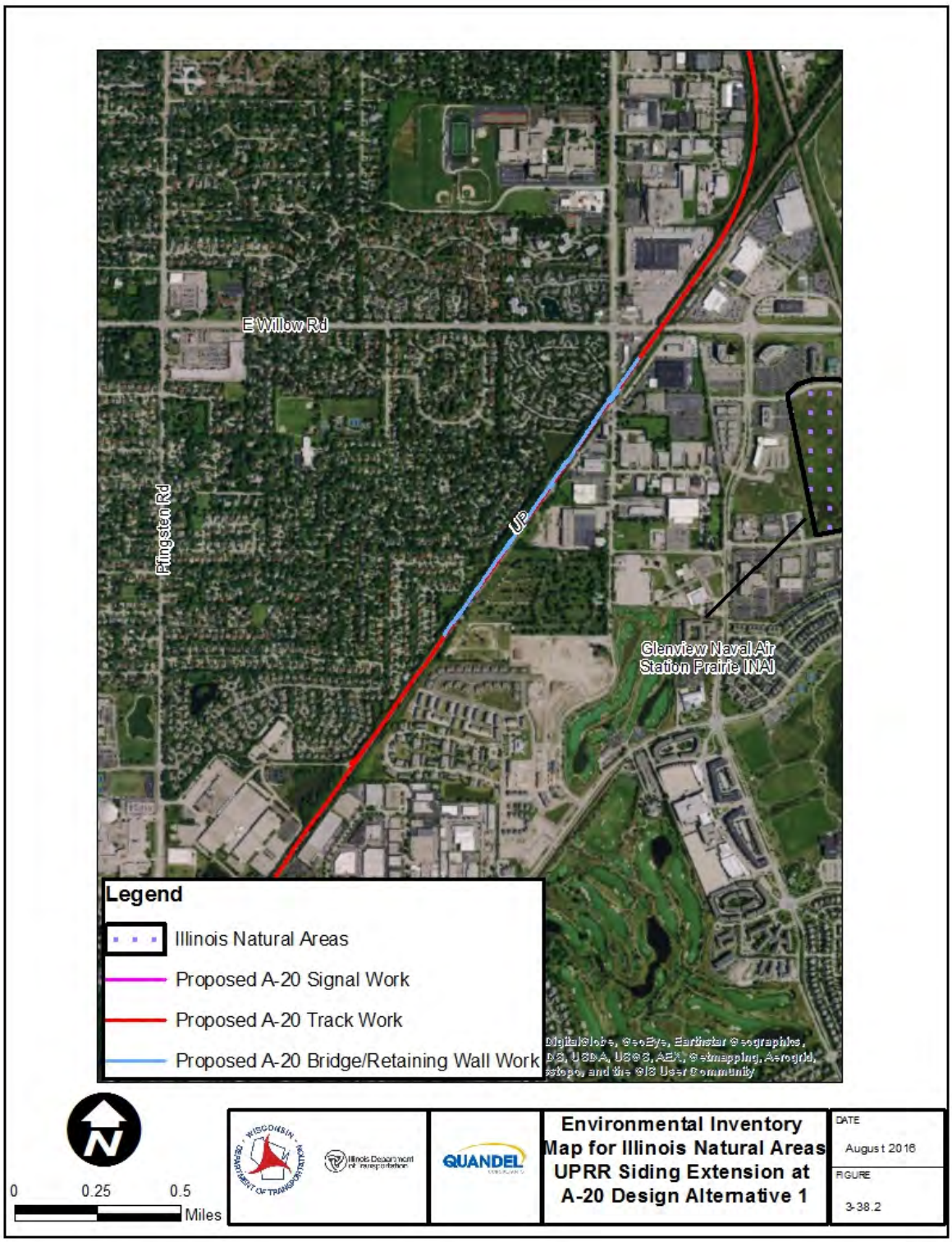


Figure 3-39.1
Illinois Natural Areas Adjacent to UPRR Siding Extension at A-20 Design Alternative 2

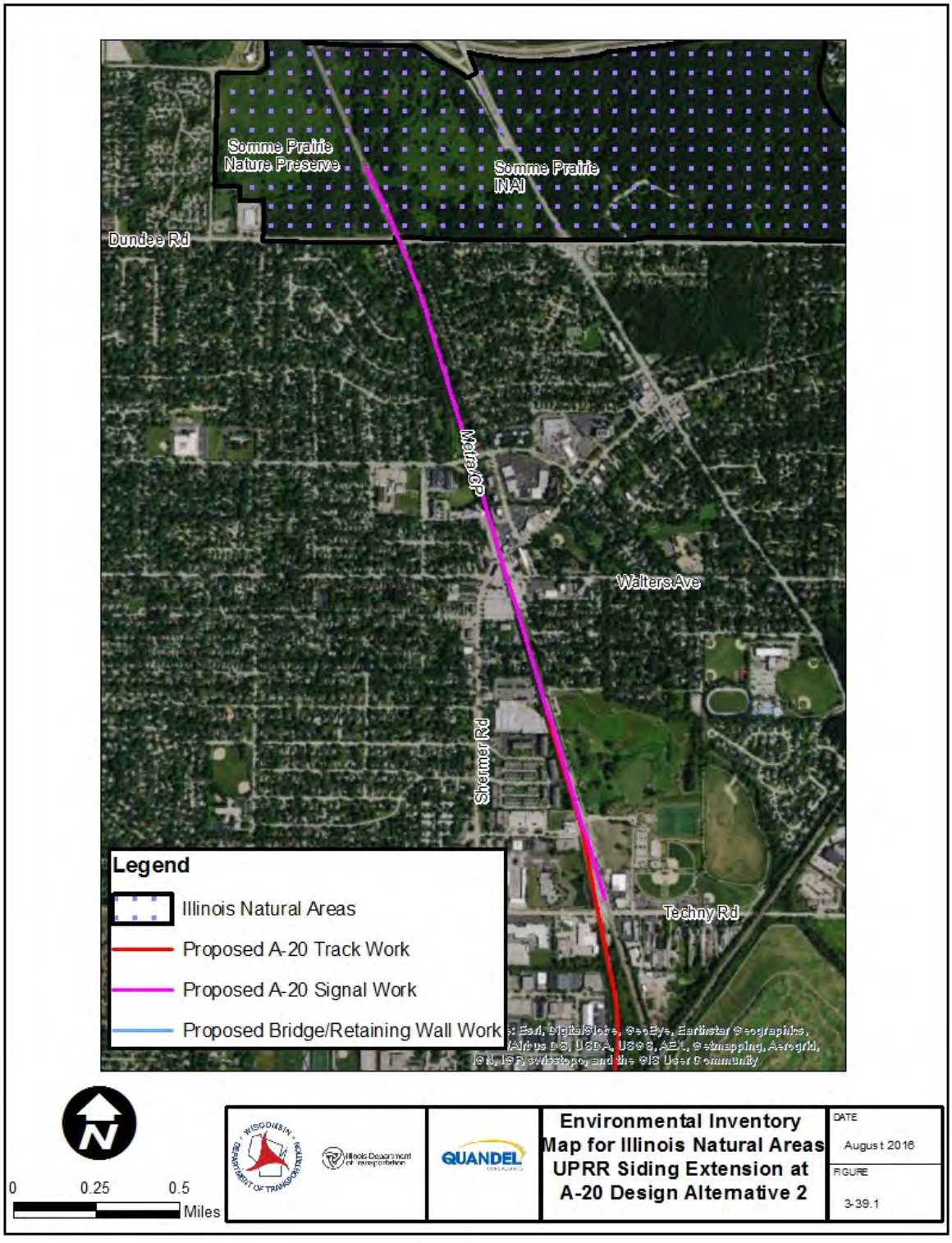
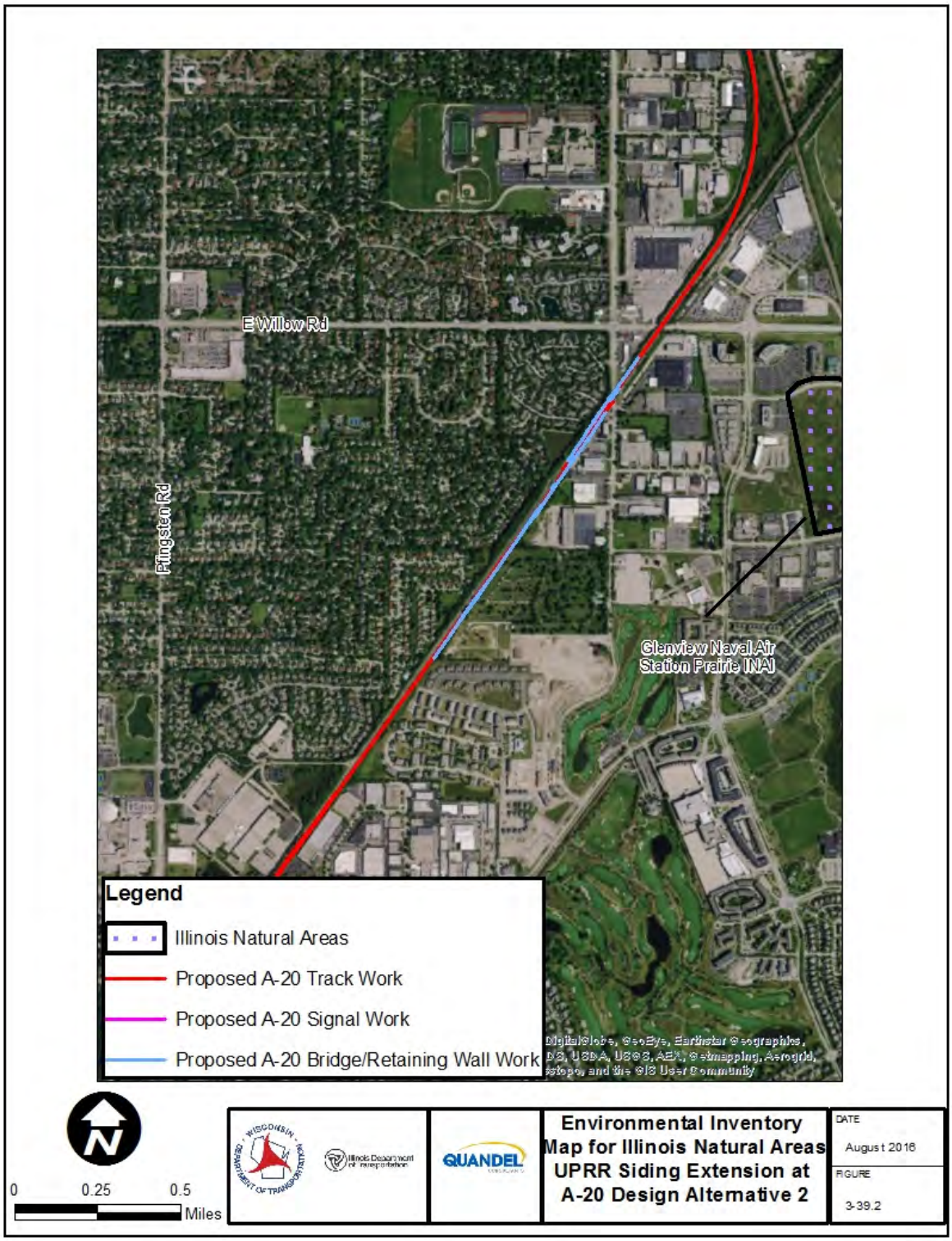


Figure 3-39.2
Illinois Natural Areas Adjacent to UPRR Siding Extension at A-20 Design Alternative 2



Speed Increase between A-20 and Rondout

Middlefork Savanna Natural Area and Nature Preserve occurs on the east and west sides of the project between Dundee Road and Rondout. State-listed species in the vicinity of the project include king rail, Wilson's phalarope, golden sedge, pale vetchling, marsh speedwell, Eastern prairie fringed orchid, Iowa darter, and Blanding's turtle. According to the Illinois BDE, there would be no impact to the Middlefork Savanna INAI or NP "since no right-of-way would be taken from it and since no work would be done in this area."

Figures 3-40.1 through 3-40.3 depict the Illinois Natural Areas adjacent to the Speed Increase project.

Figure 3-40.1
Illinois Natural Areas Adjacent to Speed Increase between A-20 and Rondout

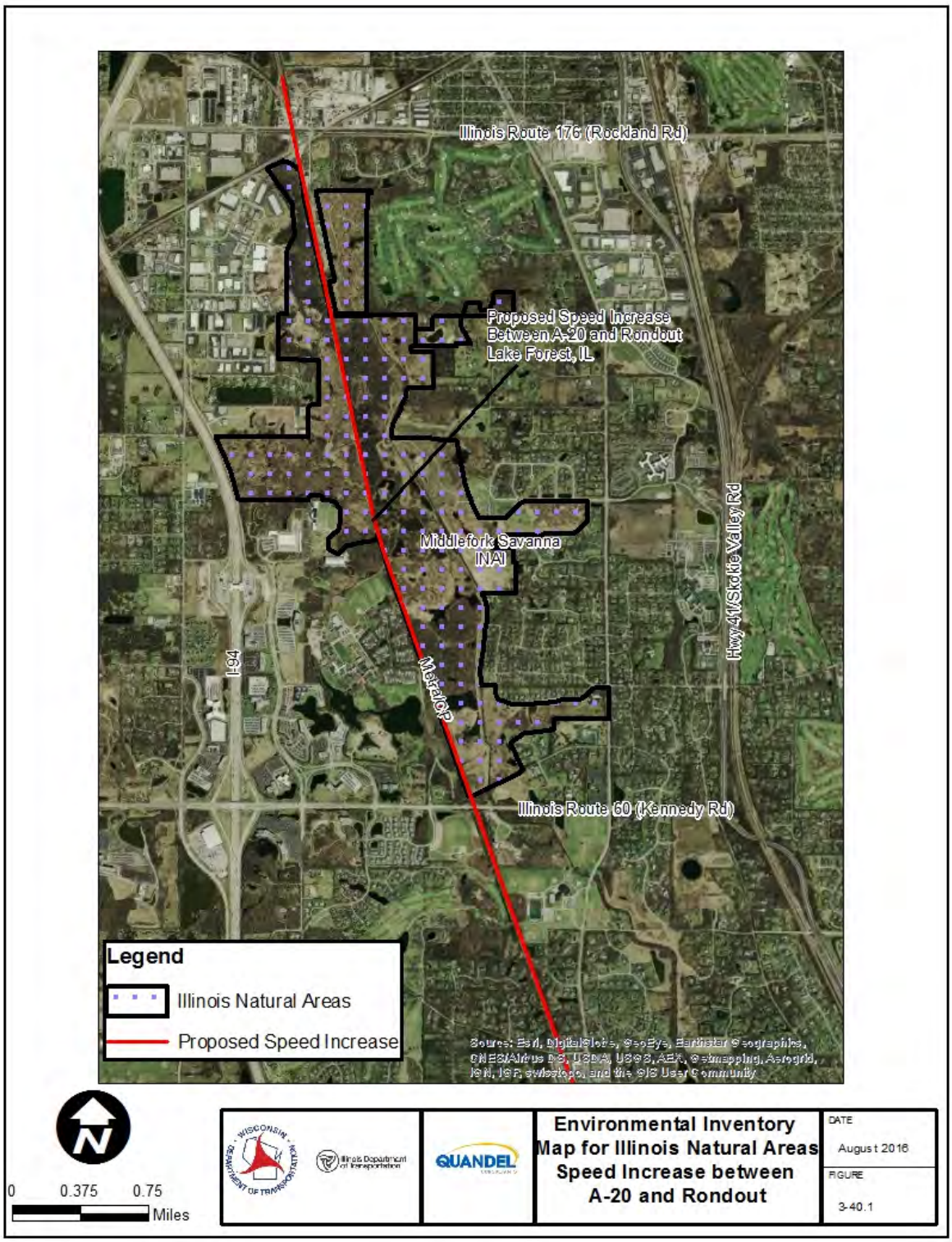


Figure 3-40.2
Illinois Natural Areas Adjacent to Speed Increase between A-20 and Rondout

Figure 3-40.3
Illinois Natural Areas Adjacent to Speed Increase between A-20 and Rondout

Metra Fox Lake Second Track / Rondout Siding Extension

Middlefork Savanna Natural Area and Nature Preserve occur on the east and west sides of the Project Study Areas between Dundee Road and Rondout. State-listed species in the vicinity of the project include king rail, Wilson's phalarope, golden sedge, pale vetchling, marsh speedwell, Eastern prairie fringed orchid, Iowa darter, and Blanding's turtle. Botanical, bat habitat, avian, fish and mussel, and Blanding's turtle surveys were conducted during the summer of 2015 for the Metra Fox Lake Second Track and Rondout Siding Extension projects. The findings are summarized for each survey below.

Botanical Survey

The purpose of the botanical survey was to locate, map, and describe threatened and endangered species and high-quality natural plan communities within the project area. The survey found populations of two threatened plant species within the project limits: marsh speedwell and golden sedge. There were also remnant plan communities of considerable natural quality within the project area which extended into the adjacent Middlefork Savanna NP to the east. Two Eastern Prairie Fringed Orchid populations were found within a high-quality wetland outside the project area, but the wetland extended into the project area. It was noted that there were several areas showing evidence of herbicide drift damage on vegetation. The survey concluded that there would be no adverse effect on the Eastern Prairie Fringed Orchid by the project because the proposed rail work would occur on the west side of the right-of-way, which is on the opposite side of the tracks as the found Orchid population. Erosion and sediment control commitments are included in Section 3.23 of the EA.

Bat Habitat

Bat habitat surveys were conducted in accordance with the *Federal Highway Administration Range-Wide Biological Assessment (BA) for Transportation Projects for Indiana Bat and Northern Long-Eared Bat.* The survey indicated that the project area is of low habitat suitability for listed bats due to better habitat occurring outside the project and few suitable trees existing within the project area. During the wetland survey, no bats or signs of bats were detected under four bridges in the project area. It was determined that the Program is not likely to adversely affect the Northern-Long Eared Bat.

Avian Survey

The survey reported that nearly 200 species of birds have been recorded at Middlefork Savanna during the breeding season including the endangered Wilson's Phalarope and King Rail species. The Savanna "is made up of some of the best remaining mesic soil savanna in Illinois. In addition, the preserve offers diverse habitats for birds, such as other mesic and wet prairie, sedge meadow, marshes, and oak

savannas."[55]

The following species are likely to breed in the Savanna due to the high-quality habitats, but were not observed during the survey: Wilson's Phalarope, King Rail, American Bittern, and Common Gallinule. Black Rail, Northern Harrier, Yellow-headed Blackbirds, and Black-billed Cuckoos could be expected to breed at Middlefork Savanna given the quality of the wetland and forest habitat.

The Least Bittern was detected breeding in habitat adjacent to the project at Middlefork Savanna during the survey. The survey also observed nine other species listed as Species in Greatest Need of Conservation in Illinois in the Savanna: Great Egret, Sandhill Crane, Yellow-billed Cuckoo, Chimney Swift, Red-headed Woodpecker, Northern Flicker, Willow Flycatcher, Marsh Wren, and Blue-winged Warbler.

The survey concluded that since the proposed rail work would occur on the opposite side of the tracks than the Least Bitterns breeding locations and since there is already disturbance consisting of constant train traffic, there would be no adverse effect on the Least Bittern and other listed nesting avian species by the project.

Fish and Mussel Survey

The fish and mussel survey was conducted on four stream crossings within the project area: an unnamed tributary to wetland; an unnamed tributary to the North Branch of the Chicago River; the North Branch of the Chicago River; and a second crossing of the North Branch of the Chicago River. The bridge of the northernmost North Branch of the Chicago River crossing is proposed to be replaced as part of the project.

Eleven species of fish were observed at these four sites including the Iowa darter, a state-threatened species of fish. The Iowa darter was found at the unnamed tributary to the North Branch of the Chicago River and the two North Branch of the Chicago River crossings. It was determined that there would be no adverse effect to the Iowa darter with the implementation of a commitment to conduct no in-stream work on the bridge during the Iowa darter spawning season, which occurs from April 1 to June 30 during any construction year. The commitments are included as part of Section 3.23 of the EA.

Blanding's Turtle Survey

No Blanding's Turtles were sighted during the survey. Illinois BDE indicates that these turtles have not been observed in many prior surveys conducted during the past decade in and around the Middlefork Savanna. It has been determined that the project would not adversely impact the Blanding's Turtle.

Illinois Natural Areas

According to the Illinois BDE, there would be no impact to the Middlefork Savanna INAI or NP "since no

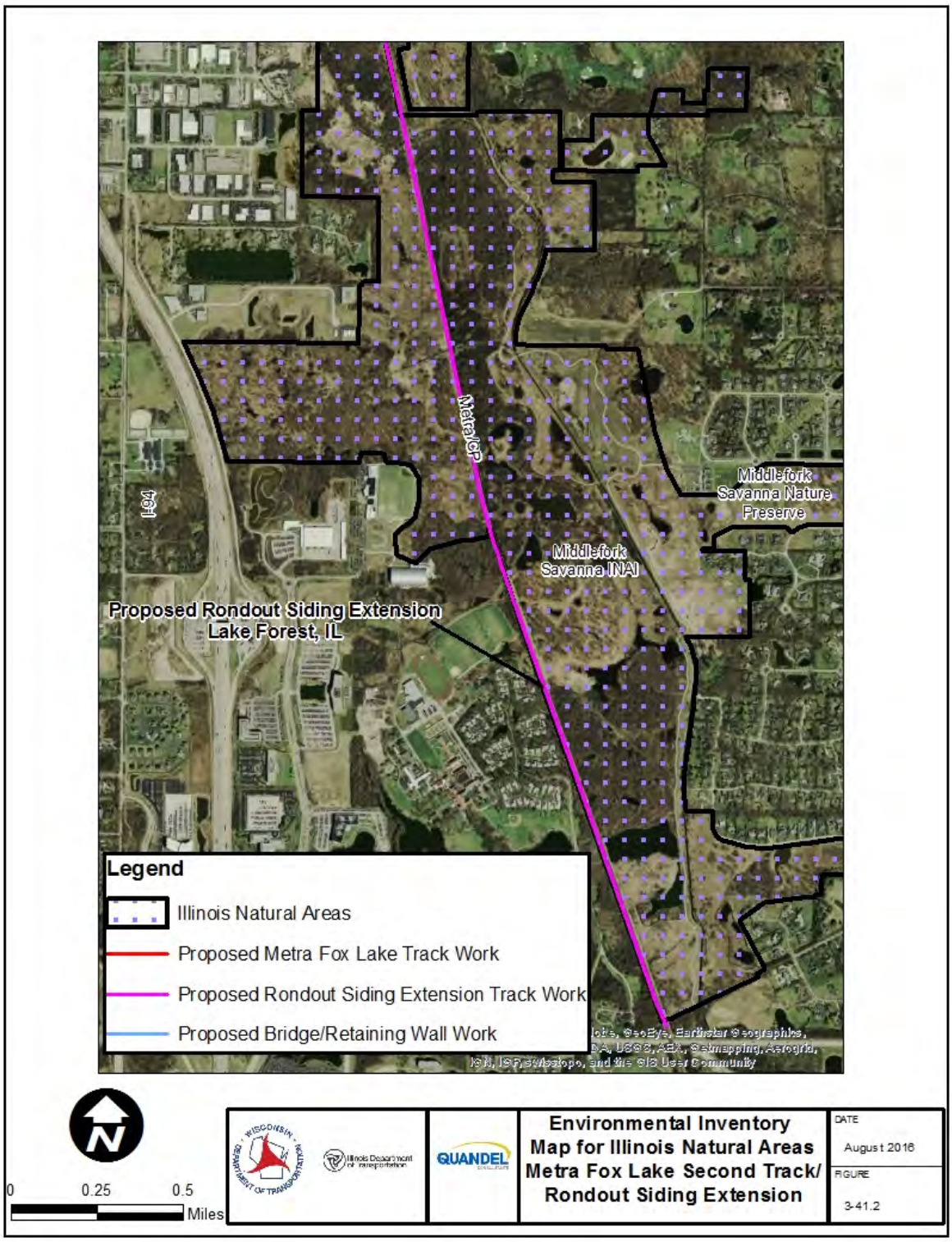
[55] *Breeding Bird Survey for the Rondout Extension/Metra Fox Lake 2nd Track Rail Project in Lake County, Illinois,* Illinois Natural History Survey, August 2015

right-of-way would be taken from it and since no work would be done in this area." IDNR recommends direct coordination with the Illinois Nature Preserve Commission staff during final design/construction to ensure avoidance of any impacts, direct or indirect, to the Middlefork Savanna. This recommendation is included as part of commitments, which can be found in Section 3.23.

Figures 3-41.1 through 3-41.2 depict the Illinois Natural Areas adjacent to the Metra Fox Lake/Rondout Siding project.

Figure 3-41.1
Illinois Natural Areas Adjacent to Metra Fox Lake Second Track/Rondout Siding Extension

Figure 3-41.2
Illinois Natural Areas Adjacent to Metra Fox Lake Second Track/Rondout Siding Extension



3.12.2.2.2 Results of Wisconsin NRR

Milwaukee Airport Rail Station; Muskego Yard Signalization; Milwaukee Station to Cut-Off

Upland plant communities within the three project areas were investigated to document the possible presence of any remnant communities. All ten of the investigated upland areas were generally dominated by weedy species commonly found along roadsides and disturbed areas. The low Floristic Quality Indices and Mean C values of the upland areas indicate that that the areas have lower vegetative quality.[56] Appendix G of the Wisconsin NRR provides an Upland Summary Table.

An assessment of the impact to the Northern Long-Eared Bat was completed as part of the Wisconsin NRR. The assessment found that there is no suitable habitat for the Northern Long-Eared bat within or adjacent to the Milwaukee Airport Rail Station, Muskego Yard Signalization, or the Milwaukee Station to Cut-Off CTC projects. Active Season Habitat Stressors and Structures Stressors listed in the *Federal Highway Administration Range-Wide BA for Transportation Projects for Indiana Bat and Northern Long-Eared Bat* were reviewed for potential effect of proposed conditions on the Northern Long-Eared Bat if the bat were found in the project area. The review found that only lighting and water/foraging habitat alteration stressors could be applicable. Avoidance and Mitigation Measures would be applied if bats were found prior to construction.

The Wisconsin DNR conducted an Initial and Final review of the proposed improvements for the Milwaukee Airport Rail Station, Muskego Yard Signalization, and Milwaukee Station to Cut-Off Signalization projects. Based upon a review of the National Heritage Inventory and other DNR records, DNR found that no state-listed "endangered resources or suitable habitat that could be impacted by the projects are known or likely to occur" in the project areas. The Initial and Final Project Review letters are included as Appendix H. Wisconsin DNR provided commitments for in-stream work, migratory birds, and invasive species that are discussed further in Section 3.23.

Primary Environmental Corridors

Figure 3-42.1 through 3-42.3 depict the PECs adjacent to the project. Implementation of the Build Alternative would not impact the three PECs adjacent to the project in Pleasant Prairie, Oak Creek, and Milwaukee because no work is proposed in these locations and the significant resource-related features would not be altered.

[56] https://www.fws.gov/midwest/Endangered/section7/s7process/plants/FQA.html

Figure 3-42.1
Primary Environmental Corridor in Pleasant Prairie, WI

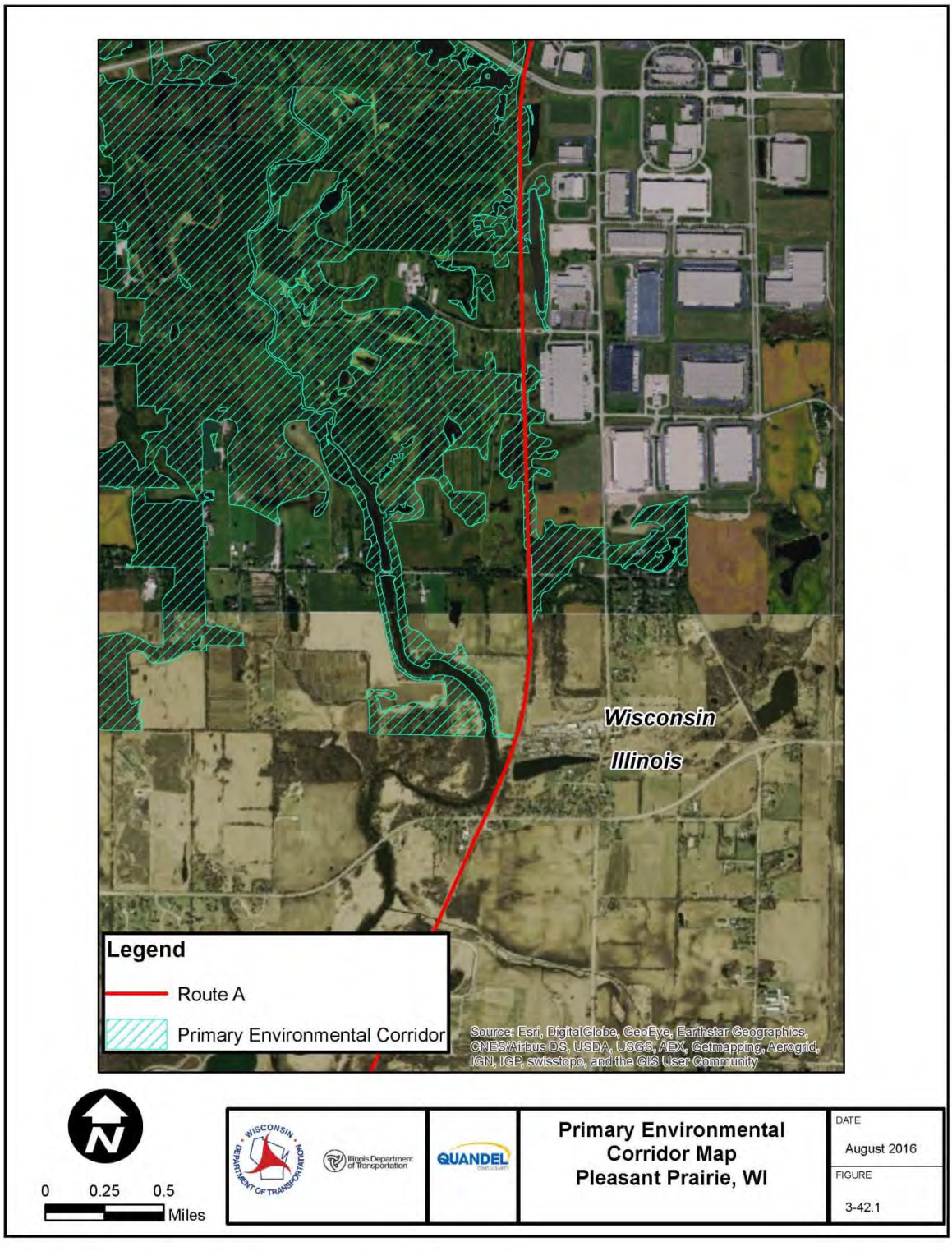


Figure 3-42.2
Primary Environmental Corridor in Oak Creek, WI

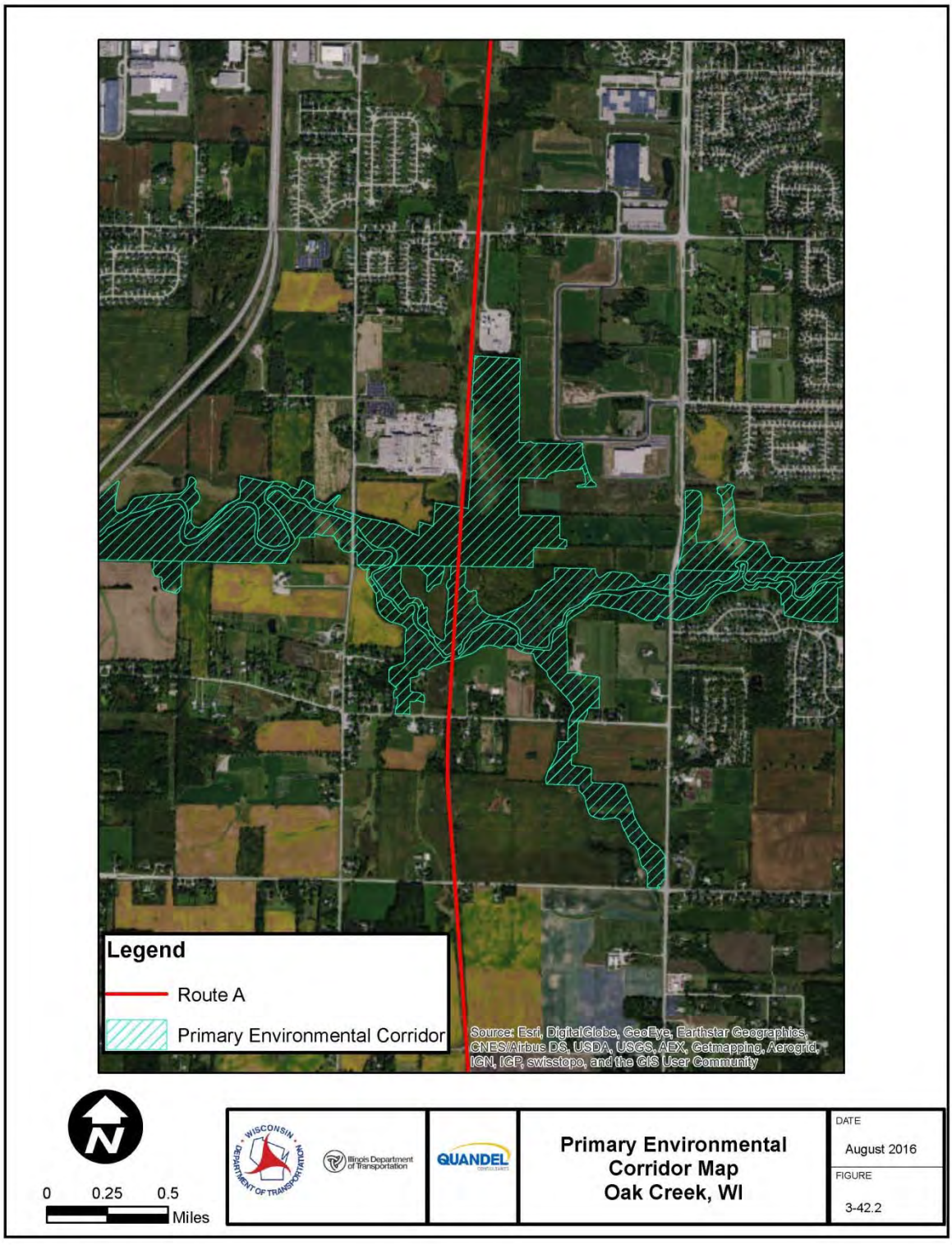
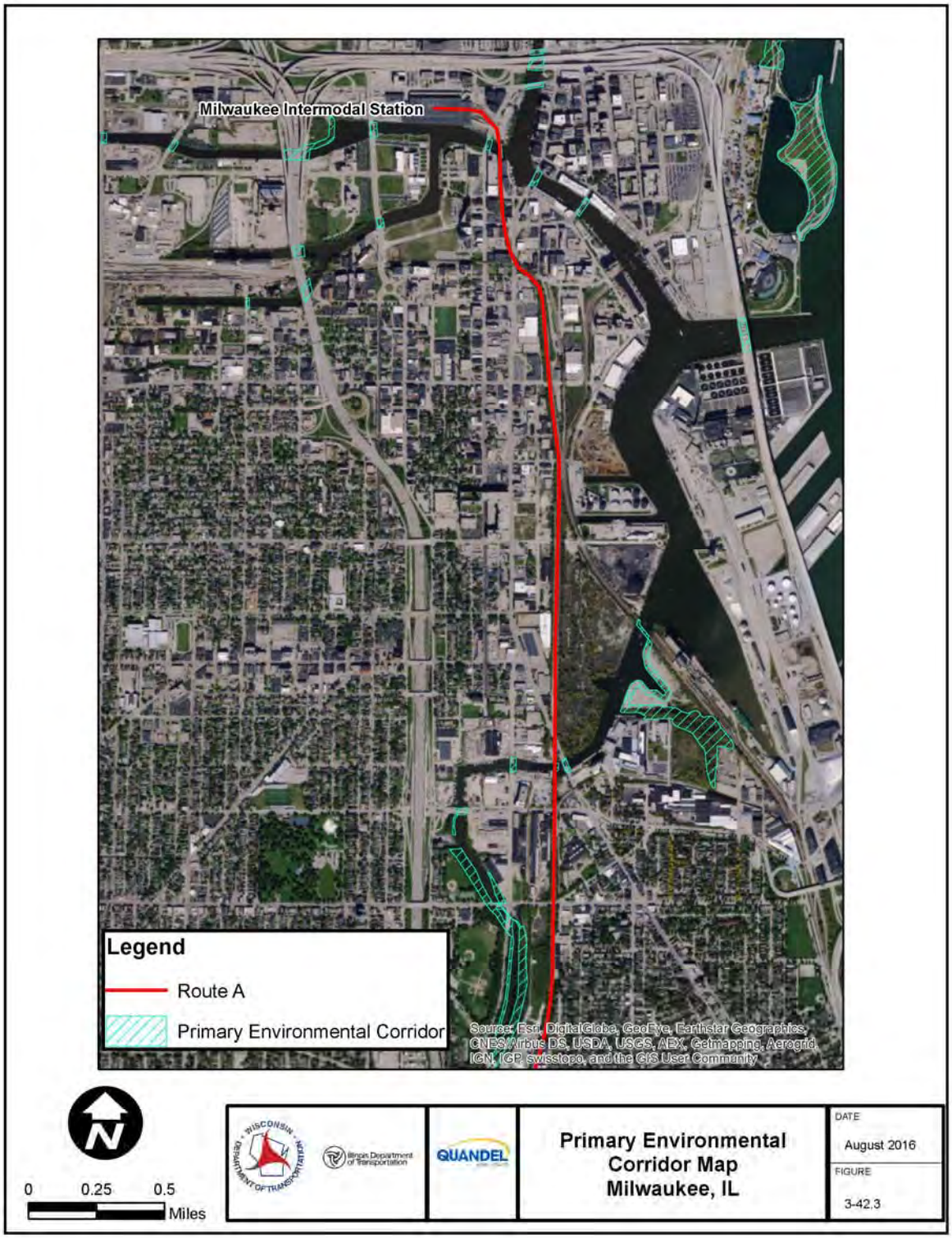


Figure 3-42.3
Primary Environmental Corridor in Milwaukee, WI



Through field surveys, Illinois BDE determined that the proposed improvements for the Glenview Crossover, Lake Forest Crossover, Deerfield Holding Track, UPRR Siding Extension at A-20, and Speed Increase between A-20 and Rondout projects are not likely to jeopardize the continued existence of any federally-listed endangered species or threatened species or result in the destruction or adverse modification of any critical habitat. IDNR reviewed the findings of the NRR and determined that because of the minimal scopes of work of the improvement projects, no IDNR commitments are required.

3.12.2.2.3 Migratory Bird Treaty Act

During the Bat Habitat surveys completed in 2015 for the Metra Fox Lake Second Track/ Rondout Siding Extension project, swallows nests were observed under the I-94 overpass. Construction of the second track on the Fox Lake Subdivision would occur under the I-94 bridge, potentially impacting nesting swallows. Commitments were identified to protect nesting swallows during construction, and are included as part of Section 3.23 of the EA.

Wisconsin DNR indicated as part of their Initial Project Review (Appendix H) that there is evidence of past migratory bird nesting on the bridge over the Menomonee River. Wisconsin DNR identified commitments to protect nesting migratory birds during construction that are included in Section 3.23 of the EA.

3.12.2.2.4 Impacts to Critical Habitat and Endangered Species during Operation

Operational impacts such as the noise and vibration emanating from passing trains are already a part of the existing condition within the Program Study Area. Wildlife that exist along the alignment presumably have adapted to this intrusion. Although the effects on wildlife behavior resulting from various types of recurrent noise are not well known, there is evidence that some species may become desensitized to regular disturbance, such as those that might be experienced along an active rail line; however, increased disruption during the breeding or nesting season could adversely affect local wildlife, especially disturbances caused by construction activities.

Construction activities would include placement of embankment, track installation, special trackwork installation, retaining wall installation, bridge replacement, culvert extension, signal installation, and track rehabilitation. Construction noise mitigation measures should be considered to minimize potential impacts to wildlife. Mitigation measures could include source control mitigation such as utilizing equipment with mufflers, shields, or dampeners, and the placement of noise barriers to abate the impact in especially wildlife-sensitive locations.

Coordination with IDNR and Wisconsin DNR would occur during final design to ensure minimization of disturbances on wildlife, particularly during breeding or nesting season. Commitments identified by the DNRs are included in Section 3.23 of the EA.

The linear habitat offered by railroads provides travel corridors for wildlife to safely access larger areas of suitable cover and food. It is also important that wildlife have the ability to access suitable habitat on

either side of the corridor and be able to escape from the right-of-way. As with other forms of transportation, all wildlife species that cross the path of fast-moving vehicles are susceptible to collisions. Since dozens of trains already operate within the Chicago to Milwaukee corridor, the addition of 3 round trips per day would only slightly increase the chances of collision. Operation of the Build Alternative may affect, but is not likely to adversely affect, any threatened, endangered or candidate species.

3.12.2.2.5 Coordination with USFWS on Threatened and Endangered Species

USFWS reviewed the NRRs for Illinois and Wisconsin and provided technical guidance to the project team, as documented in Appendix G. USFWS does not concur with IDOT's "No Effect" determination related to the Eastern Prairie Fringed Orchid (EPFO), which was observed growing within the existing rail right-of-way. USFWS explained that a "May Affect, Not Likely to Adversely Affect" determination is appropriate for the EPFO because there is evidence of existing herbicidal damage to the species and indirect impacts from herbicides would result in a take of the species. There would be no adverse effect on the EPFO due to the increase in *Hiawatha Service* frequencies because the herbicide damage is an existing condition; the Program would only affect the EPFO or its suitable habitat in areas of new construction.

FRA will engage USFWS in site-specific consultation under Section 7 of the ESA once funding and construction timelines are identified. A commitment to provide wetland maps near project sites to ensure proper mitigation for the EPFO is included in Section 3.23 of the EA. FRA will also work with USFWS to identify mitigation for existing herbicide damage and develop a plan for the monitoring of EPFO prior to construction to ensure known locations of EPFO can be avoided.

3.13 Water Resources and Aquatic Habitats

This section describes the water resources (e.g., streams and ponds) and aquatic habitats in the project corridor.

3.13.1 Affected Environment

Watersheds

The project corridor is located within four drainage sub-basins as catalogued by the U.S. Geological Survey (USGS): the Chicago/Calumet (Hydrologic Unit Code (HUC) 07120003), Des Plaines (HUC 07120004), Pike Root (HUC 04040002), and Milwaukee (HUC 04040003). These sub-basins collectively drain a total of 3,110 square miles in three states (Wisconsin, Illinois, and Indiana). The Chicago/Calumet and Des Plaines sub-basins drain to the Mississippi River and the Pike Root and Milwaukee sub-basins drain to Lake Michigan.[57]

[57] http://dnr.wi.gov/water/basin/ and http://ilrdss.isws.illinois.edu/links/watersheds_all.asp

Surface Water Resources

Surface water resources in the project corridor are riverine and lacustrine (e.g., ponds and lakes).

A total of 41 rivers and creeks and their tributaries are located within the project corridor. Of that total, 3 of the rivers (the North Branch of the Chicago River, the Menomonee River in Milwaukee, and the Kinnickinnic River in Milwaukee) are listed as navigable waters of the U.S. under Section 10 of the River and Harbors Act of 1899. The corridor runs adjacent to the North Branch of the Chicago River and does not cross it. The corridor crosses both the Menomonee River and the Kinnickinnic River.

There are 5 lakes and ponds in the project corridor.

Figure 3-43 lists the lakes and ponds in the project corridor and Figure 3-44 lists the physical parameters of streams in the corridor.

Figure 3-43
Lakes and Ponds within the Project Corridor

Name	Location	Size (acres)	Adjacent/Within Corridor
Eagle Lake	Lake Forest, IL	22	Adjacent
Unnamed (Lake Andrea)	Kenosha County, WI	120.9	Adjacent
Unnamed (Local Water)	Kenosha County, WI	6.2	Adjacent
Unnamed (Local Water)	Kenosha County, WI	0.5	Adjacent
Unnamed (Local Water)	Kenosha County, WI	3.4	Adjacent

Figure 3-44
Summary of Physical Characteristics of Streams within the Project Corridor

Stream	Length (miles)	Predominant Sub-Watershed Land Use	Flow Characteristics
Chicago/Calumet Sub-Basin			
South Branch of Chicago River (IL_HCC-01)	3.97	Urban	perennial
North Branch of Chicago River (IL_HCC-08)	5.70	Urban	perennial
North Branch Chicago River (IL_HCC-07)	11.85	Forest Preserve	perennial
West Fork North Branch Chicago River (IL_HCCB-05)	14.41	Residential/forest preserve	Perennial
Middle Fork North Branch Chicago River (IL_HCCC-02)	18.49	Forest preserve	Perennial
Des Plaines Sub-Basin			
Des Plaines River (IL_G-07)	10.74	Forest preserve/ industrial	Perennial
Des Plaines River (IL_G-25)	6.90	Forest preserve	Perennial
Des Plaines River (IL_G-08)	0.98	Forest preserve	Perennial
Unnamed Tributary to the Des Plaines River (735650)	2.03	Agricultural	Perennial for small amount between local lake and Des Plaines River, then intermittent
Lower Pleasant Prairie Ditch (736300)	2.73	Agricultural	intermittent
Jerome Creek (736500)	4.60	Agricultural	1.7 miles are Perennial, otherwise intermittent
Unnamed River (5041671)	0.63	Agricultural	perennial
Pike Root Sub-Basin			
South Branch Pike River (2500)	8.11	Agricultural	intermittent
Unnamed Stream (5041356)	0.64	Industrial/Agricultural	intermittent
Unnamed Airport Tributary (2825)	1.05	Agricultural	intermittent
Unnamed Stream (5041140)	1.23	Agricultural	intermittent
Unnamed Stream (5041078)	0.52	Agricultural	intermittent
Unnamed Stream (2800)	1.96	Agricultural	intermittent
Unnamed Somers Tributary to South Branch Pike River (2700)	3.38	Agricultural	perennial

Stream	Length (miles)	Predominant Sub-Watershed Land Use	Flow Characteristics
Unnamed Stream (5040635)	1.78	Agricultural	intermittent
Unnamed River (2600)	2.96	Agricultural	perennial
Unnamed River (2100)	2.85	Agricultural	perennial
Unnamed River (2200)	2.62	Agricultural	perennial
Unnamed Stream (5040035)	0.68	Residential/Industrial	intermittent
Waxdale Creek (2300)	2.91	Residential/Industrial	perennial
Hoods Creek (3100)	9.85	Residential/Agricultural	perennial
Unnamed Stream (5038885)	1.83	Agricultural	intermittent
Husher Creek (3500)	2.54	Agricultural	intermittent
Unnamed Stream (3000339)	1.25	Agricultural/Industrial	intermittent
Unnamed Stream (3000338)	1.45	Agricultural	Perennial/ intermittent
Root River (2900)	14.66	Residential/Agricultural	Perennial
Unnamed Stream (3510)	1.70	Residential	intermittent
Oak Creek (14500)	13.32	Agricultural/Industrial	Perennial
North Branch Oak Creek (14900) – crosses three times	5.70	Industrial	perennial
Unnamed Stream (5037305)	2.42	Industrial	intermittent
Unnamed Stream (5037170)	1.26	Industrial	intermittent
Unnamed Stream (5037055)	0.60	Industrial	intermittent
Milwaukee Sub-Basin			
Holmes Avenue Creek (15550)	1.80	Industrial	Intermittent
Wilson Park Creek (9975)	2.00	Industrial	Perennial
Kinnickinnick River (15100)	4.44	Industrial	Perennial
Menomonee River (16000)	3.61	Industrial	Perennial

Special Status Streams

Both Wisconsin designates high quality streams as Outstanding Resource Waters (ORWs) or Exceptional Resource Waters (ERWs). Illinois designates high quality streams as ORWs. An Illinois ORW is a "surface water body or water body segment that is of exceptional ecological or recreational significance and must be designated by the Illinois Pollution Control Board" as such.[58] Wisconsin's ORWs and ERWs are surface waters that provide outstanding recreational opportunities, support valuable fisheries and wildlife

[58] Illinois Administrative Code, Title 35, Part 303.205, Outstanding Resource Waters

habitat, have good water quality, and are not significantly impacted by human activities. ORWs typically do not have any point sources discharging pollutants directly into the water. No increases of pollutant levels are allowed. If a waterbody has existing point sources at the time of designation, it is more likely to be designated as an ERW. Exceptions can be made on maintaining background water quality levels when an increase of pollutant loading to an ERW is warranted because human health would otherwise be compromised. Wisconsin has determined that these waters warrant additional protection from the effects of pollution.[59] There are no Outstanding or Exceptional Resource Waters in the project corridor.

Illinois classifies streams based on fish communities in order to track the level of biotic integrity of a stream. Streams classified with a letter grade "A" are considered most diverse and are referred to as Biologically Significant Streams (BSSs). There are no BSSs in the project corridor.

The Nationwide Rivers Inventory (NRI) is a listing of free-flowing river segments in the U.S. that are believed to possess one or more "outstandingly remarkable" natural or cultural values judged to be of more than local or regional significance. Under a 1979 Presidential Directive, and related Council on Environmental Quality (CEQ) procedures, all federal agencies must seek to avoid or mitigate actions that would adversely affect one or more NRI segments.[60]

One waterway adjacent to the project corridor has been listed on the NRI: the Des Plaines River. The existing rail corridor runs adjacent to the Des Plaines River from Grand Avenue in Gurnee, IL to the Illinois-Wisconsin border, a distance of 9 track-miles.

The Outstandingly Remarkable Values (ORVs) identified for the Des Plaines River are for scenery and recreation. ORVs of scenery and recreation for the Des Plaines River mean that the "landscape elements of landform, vegetation, water, color, and related factors result in notable or exemplary visual features" and recreational opportunities are "popular enough to attract visitors from throughout or beyond the region of comparison".[61] The rail corridor does not cross the Des Plaines River and the river does not run within the rail right-of-way. No rail bridges cross the river.

There are no Illinois Natural Area Inventory streams within the corridor.

3.13.2 Potential Impacts

3.13.2.1 No-Build Alternative

The No-Build Alternative would not impact water resources.

[59] Wisconsin DNR, http://dnr.wi.gov/topic/SurfaceWater/orwerw.html
[60] http://www.nps.gov/ncrc/programs/rtca/nri/index.html
[61] http://www.nps.gov/ncrc/programs/rtca/nri/eligb.html#orv

3.13.2.2 Build Alternative

3.13.2.2.1 Watersheds

The Program Study Area traverses the four drainage sub-basins identified earlier in this section. Specific impacts to surface water that could affect these drainage basins are discussed below.

3.13.2.2.2 Surface Water Resources

There would be no impacts to surface water resources as a result of implementation of the increase in *Hiawatha Service* frequencies. Impacts to surface water resources during construction of the improvement projects that support the increased frequencies would be temporary. In general, direct impacts to surface waters could result from construction and the replacement of structures. Construction associated with the improvement projects includes clearing/grubbing, grading, filling, and excavation that could remove vegetative cover and exposes soils. Such activities increase the potential for erosion and sedimentation by exposing disturbed soils to precipitation.

In-stream construction, streambank modification, and placement of structures in the streams could cause minimal increases in turbidity and sedimentation and temporarily alter downstream hydraulics and substrate conditions. Downstream aquatic systems could be temporarily impacted by the increases in turbidity and sedimentation. Potential impacts would be minimized through the use and enforcement of Erosion and Sedimentation Control policies and National Pollutant Discharge Elimination System (NPDES) permits that employ Best Management Practices (e.g., silt fences, check dams, and sediment basins) and construction activities would comply with all spill prevention control and countermeasures requirements. Permanent Best Management Practices installed following construction (e.g., permanent seeding and use of native vegetation) would further reduce impacts. These Best Management Practices are included in the Environmental Commitments in Section 3.23.

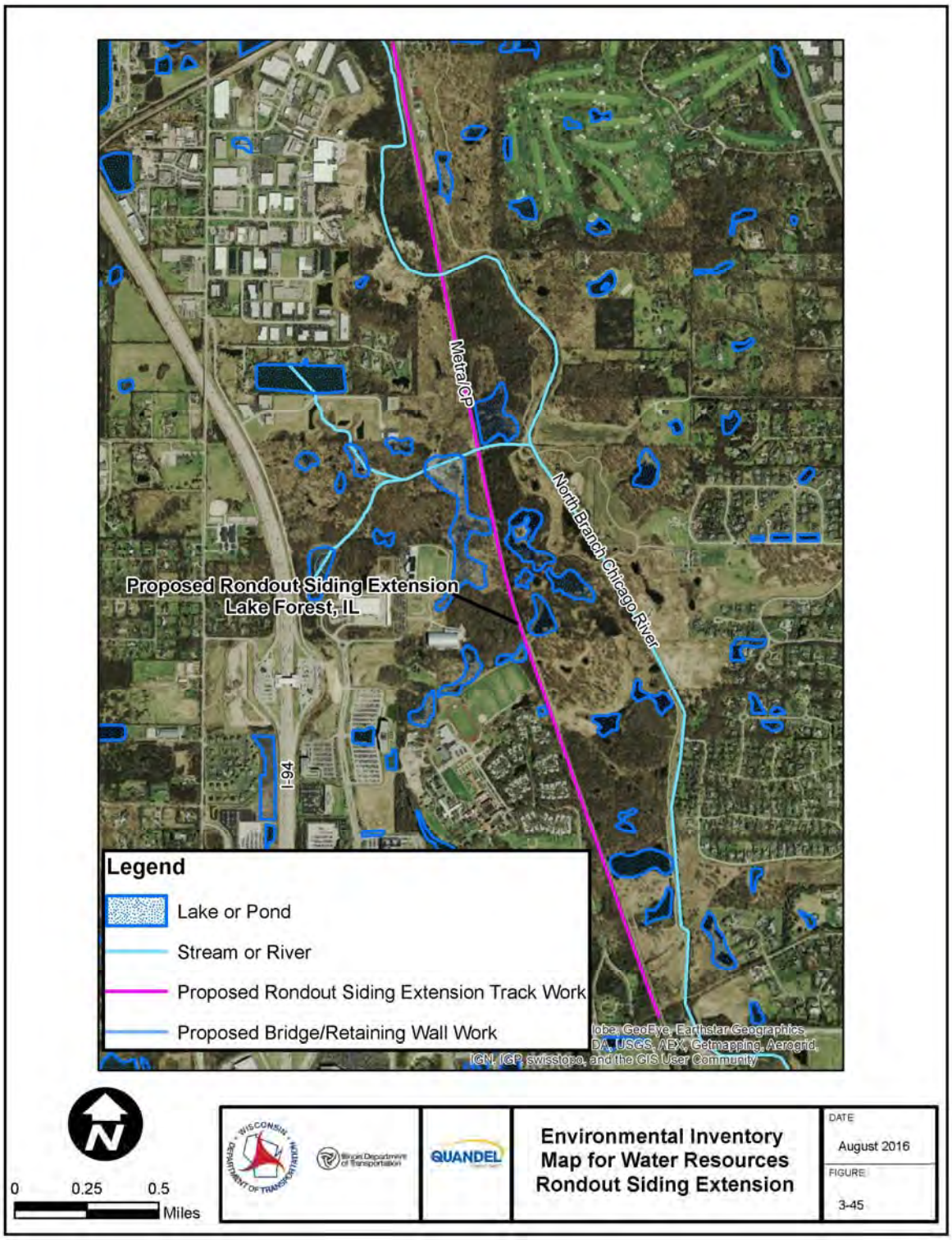
Specific impacts due to the improvement projects are discussed below.

Rondout Siding Extension

As part of the Rondout Siding Extension project, several culverts conveying flow under the rail line would be extended under the new track. These waterways would be temporarily impacted during the construction of the culvert extension. Impacts would cease immediately after construction is complete. Impacts to fish and other species in the area of the project are discussed in Section 3.12 Critical Habitat and Endangered Species.

Figure 3-45 depicts the water resources adjacent to the Rondout Siding Extension project.

Figure 3-45
Water Resources Adjacent to Rondout Siding Extension



Metra Fox Lake Second Track

A bridge over the North Branch of the Chicago River is proposed to be replaced to accommodate a second track onto the Fox Lake Subdivision. Temporary impacts to the North Branch of the Chicago River may occur during construction of the bridge, but would cease immediately after construction is complete. Impacts to fish and other species in the area of the project are discussed in Section 3.12 Critical Habitat and Endangered Species.

Figure 3-46 depicts the water resources adjacent to the Metra Fox Lake Second Track project.

Figure 3-46
Water Resources Adjacent to Metra Fox Lake Second Track

3.13.2.2.3 Special Status Streams

According to CEQ guidance, the proposed action is evaluated on whether it could have an adverse effect on the natural, cultural, and recreational values of the NRI segment. These values are listed as ORVs on the state NRI list. Adverse effects on NRI rivers may occur under conditions which include, but are not limited to:

- Destruction or alteration of all or part of the free flowing nature of the river;
- Introduction of visual, audible, or other sensory intrusions which are out of character with the river or alter its setting;
- Deterioration of water quality; or
- Transfer or sale of property adjacent to an NRI river without adequate conditions or restriction for protecting the river and its surrounding environment.[62]

The implementation of the Build Alternative would not have an adverse effect on the ORVs of the Des Plaines River because the operation would not alter the free flowing nature of the river, would not introduce intrusions that are out of character with the rivers' settings, would not deteriorate water quality, and does not involve the sale of adjacent property. The river's floodplains are located within the rail right-of-way at various portions of the route. Section 3.15 discusses impacts to floodplains.

Potential impacts to wetlands, which are often adjacent to waterways, are discussed in Section 3.16. A discussion of threatened and endangered aquatic species that may be impacted by the Build Alternative is presented in Section 3.12.

3.14 Water Quality

The goal of the Clean Water Act (CWA) is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[63] Under CWA Section 303(d), states are required to classify waters with respect to impairments. Waters that are too polluted or otherwise degraded to meet water quality standards are considered impaired and are catalogued in the 303(d) list, requiring total maximum daily loads (TMDLs). TMDLs establish pollution reduction goals to improve the quality of impaired waters.[64]

In Illinois, waters are protected and evaluated under the General Use Water Quality Standards (title 35 Illinois Administrative Code, Subtitle C, Chapter I, Part 302, Subparts A and B). Waters that do not fully support their designated uses are considered impaired. Designated uses include aquatic life (AL), fish consumption (FC), public and food processing water supplies (PWS), primary contact (PC), secondary contact (SC), indigenous aquatic life (IAL), and aesthetic quality (AQ).[65]

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[62] http://www.nps.gov/ncrc/programs/rtca/nri/consult.html
[63] 33 U.S. Code § 1251(a)
[64] https://www.epa.gov/tmdl
[65] http://www.ipcb.state.il.us/documents/dsweb/Get/Document-33354

In Wisconsin, waters are each assigned four uses that carry with them a set of goals: Fish and Aquatic Life (FAL), Recreation, Public Health and Welfare, and Wildlife.[66] Waters that do not meet water quality standards are considered impaired. The Wisconsin DNR maintains an impaired waters list that identifies why the water is not meeting standards and what pollutants or indicators need to be addressed to restore aquatic health.[67]

3.14.1 Affected Environment

Figure 3-47 below provides an impairment summary for the 303(d) Impaired Waters within the Program Study Area.

[66] http://dnr.wi.gov/topic/SurfaceWater/usedesignations.html
[67] http://dnr.wi.gov/topic/SurfaceWater/management.html

Figure 3-47
Impairment Summary for Streams within the Program Study Area[68] [69]

Stream	Designated Use	Cause	Source	Location	Priority	Status of TMDL
Chicago/Calumet Sub-Basin						
North Branch Chicago River (IL_HCC-02)	Fish Consumption	Mercury; Polychlorinated biphenyls	Atmospheric Deposition – Toxics; Source Unknown; Combined Sewer Overflows; Urban Runoff/ Storm Sewers	Cook County, IL	Medium	Not Developed
	Indigenous Aquatic Life	Oxygen, Dissolved; Total Dissolved Solids		Cook County, IL	Medium	Not Developed
South Branch Chicago River (IL_HC-01)	Indigenous Aquatic Life	Oxygen, Dissolved; Total Dissolved Solids	Source Unknown; Combined Sewer Overflows; Urban Runoff/ Storm Sewers	Cook County, IL	Medium	Not Developed
	Fish Consumption	Polychlorinated biphenyls		Cook County, IL	Medium	Not Developed
North Branch Chicago River (IL_HCC-07)	Aquatic Life	Aldrin; DDT; Hexachlorobenzene; Phosphorus (Total); Total Suspended Solids (TSS)	Contaminated Sediments; Channelization; Streambank Modifications/ destabilization; Combined Sewer Overflows; Highway/Road/ Bridge Runoff; Municipal Point Source Discharges; Urban Runoff/ Storm Sewers; Source Unknown	Cook County, IL	Medium	Not Developed
	Fish Consumption	Polychlorinated biphenyls		Cook County, IL	Medium	Not Developed
	Aquatic Life	Chloride; Oxygen, Dissolved		Cook County, IL	Low	Stage 3 TMDL for Chloride and Oxygen, Dissolved
	Primary Contact Recreation	Fecal Coliform		Cook County, IL	Low	Stage 3 TMDL for Fecal Coliform
North Branch Chicago River (IL_HCC-08)	Indigenous Aquatic Life	Iron; Oxygen, Dissolved; Phosphorus (Total); Total Dissolved Solids	Atmospheric Deposition – Toxics; Source Unknown; Combined Sewer Overflows; Sediment Resuspension; Urban Runoff/ Storm Sewers; Impacts from Hydrostructure	Cook County, IL	Medium	Not Developed
	Fish Consumption	Mercury; Polychlorinated biphenyls		Cook County, IL	Medium	Not Developed

[68] Illinois EPA *Draft Illinois Integrated Water Quality Report and Section 303(d) List*, Appendix A-2, 2016
[69] http://dnr.wi.gov/water/impairedsearch.aspx

Stream	Designated Use	Cause	Source	Location	Priority	Status of TMDL
			Flow Regulation/ modification; Municipal Point Source Discharges			
Middle Fork North Branch Chicago River (IL_HCCC-02)	Aesthetic Quality	Bottom Deposits; Phosphorus (Total)	Channelization; Loss of Riparian Habitat; Streambank Modifications/ destabilization; Urban Runoff; Storm Sewers; Contaminated Sediments	Lake County, IL	Medium	Not Developed
	Aquatic Life	DDT; Hexachlorobenzene; Sedimentation/ Siltation; Total Suspended Solids (TSS)		Lake County, IL	Medium	Not Developed
	Aquatic Life	Chloride; Oxygen, Dissolved		Lake County, IL	Low	Stage 3 TMDL for Chloride and Oxygen, Dissolved
	Primary Contact Recreation	Fecal Coliform		Lake County, IL	Low	Stage 3 TMDL for Fecal Coliform
West Fork North Branch Chicago River (IL_HCCB-05)	Aquatic Life	Aldrin; DDT; Endrin; Hexachlorobenzene; Phosphorus (Total); Total Suspended Solids (TSS)	Contaminated Sediments; Channelization; Loss of Riparian Habitat; Site Clearance; Highway/Road/Bridge Runoff; Municipal Point Source Discharges; Urban Runoff/Storm Sewers; Source Unknown	Cook County, IL	Medium	Not Developed
	Aquatic Life	Chloride; Oxygen, Dissolved		Cook County, IL	Low	Stage 3 TMDL for Chloride and Oxygen, Dissolved
	Primary Contact Recreation	Fecal Coliform		Cook County, IL	Low	Stage 3 TMDL for Fecal Coliform
Des Plaines Sub-Basin						
Des Plaines River (IL_G-07)	Aquatic Life	Arsenic; Chloride; Phosphorus (Total);	Streambank Modifications/ Destabilization; Contaminated Sediments; Municipal Point Source Discharges; Urban Runoff/ Storm Sewers; Atmospheric Deposition – Toxics; Source	Lake County, IL	Medium	Not Developed
	Primary Contact Recreation	Fecal Coliform		Lake County, IL	Medium	Not Developed
	Fish Consumption	Mercury; Polychlorinated biphenyls		Lake County, IL	Medium	Not Developed

Stream	Designated Use	Cause	Source	Location	Priority	Status of TMDL
			Unknown			
Des Plaines River (IL_G-08)	Primary Contact Recreation	Fecal Coliform	Source Unknown; Crop Production; Atmospheric Deposition - Toxics	Lake County, IL	Medium	Not Developed
	Fish Consumption	Mercury		Lake County, IL	Medium	Not Developed
	Aquatic Life	Oxygen, Dissolved; Total Suspended Solids (TSS)		Lake County, IL	Medium	Not Developed
Des Plaines River (IL_G-25)	Fish Consumption	Mercury	Contaminated Sediments; Source Unknown; Site Clearance; Urban Runoff/ Storm Sewers; Atmospheric Deposition – Toxics	Lake County, IL	Medium	Not Developed
	Aquatic Life	Arsenic; Oxygen, Dissolved; Sedimentation/ Siltation; Total Suspended Solids (TSS)		Lake County, IL	Medium	Not Developed
Pike Root Sub-Basin						
Waxdale Creek (2300)	Fish and Aquatic Life	Sediment/ Total Suspended Solids	Degraded Habitat	Racine County, WI	Low	Not Developed
Root River (2900)	Fish and Aquatic Life	Total Phosphorus	Degraded Biological Community	Milwaukee and Racine Counties, WI	Medium	Not Developed
Oak Creek (14500)	Fish and Aquatic Life	Chloride	Chronic Aquatic Toxicity, Acute Aquatic Toxicity	Milwaukee County, WI	Low	Not Developed
		Total Phosphorus	Degraded Biological Community	Milwaukee County, WI	Low	Not Developed
Holmes Avenue Creek	Full Body Contact – Swimming, Boating	Fecal Coliform	Recreational Restrictions – Pathogens	Milwaukee County, WI	Low	Not Developed
Wilson Park Creek	Full Body Contact – Swimming, Boating	Fecal Coliform	Recreational Restrictions – Pathogens	Milwaukee County, WI	Low	Not Developed
Kinnickinnic River (MP 0.00-2.83)	Full Body Contact – Swimming, Boating	Fecal Coliform	Recreational Restrictions – Pathogens	Milwaukee County, WI	Low	Not Developed
Menomonee River	Full Body Contact – Swimming, Boating	Fecal Coliform	Recreational Restrictions – Pathogens	Milwaukee County, WI	Low	Not Developed

3.14.2 Potential Impacts

3.14.2.1 No-Build Alternative

The No-Build Alternative would not impact water quality.

3.14.2.2 Build Alternative

Once the Program is implemented, derailments, spills and leaks may occur during the operation of the increased service. These incidents would be handled through standard contingency plans that would include notifying the appropriate state authorities of the incident and having qualified personnel remove the materials. However, the likelihood of derailments, spills, and leaks occurring would not appreciably change as a result of the increase in service; therefore, the occurrence of temporary and localized discharge of pollutants would not be impacted by the Build Alternative.

Maintenance of the right-of-way has the potential to affect surface water quality. Maintenance includes cleaning of vegetation, the cleaning of ballast, periodic repair and replacement of ties and tracks, and the maintenance of bridge facilities. These actions can result in the temporary and localized discharge of pollutants. Some direct contact to streams from chemicals may occur because of wind drift; however, the majority of sprayed and/or applied chemicals would be filtered out or adsorbed as surface runoff flows through vegetated swales and wetlands outside the rights-of-way. Maintenance practices in the Build condition would be the same as in current conditions.

During construction, there is a potential to temporarily impact water quality as culverts are bridges are being replaced or other modifications are made near water resources. These impacts would be avoided or minimized by the placement of Best Management Practices (e.g., sediment and erosion control, silt fences, check dams, and sediment basins). These Best Management Practices are included in the Environmental Commitments in Section 3.23.

Specific impacts due to the improvement projects are discussed below.

Rondout Siding Extension

As part of the Rondout Siding Extension project, several culverts conveying flow under the rail line would be extended under the new track. These waterways would be temporarily impacted during the construction of the culvert extension. Impacts would cease immediately after construction is complete. Impacts to fish and other species in the area of the project are discussed in Section 3.12 Critical Habitat and Endangered Species.

Metra Fox Lake Second Track

A bridge over the North Branch of the Chicago River is proposed to be replaced to accommodate a second track onto the Fox Lake Subdivision. Temporary impacts to the North Branch of the Chicago River may occur during construction of the bridge, but would cease immediately after construction is complete.

Impacts to fish and other species in the area of the project are discussed in Section 3.12 Critical Habitat and Endangered Species.

3.15 Floodplains

Executive Order 11988 Floodplain Management "requires federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative".[70]

Section 2(a) of the Order provides an eight-step process that agencies should carry out as part of the decision-making on projects that have potential impacts to or within the floodplain. The first step is to determine if a proposed action is in the base floodplain, which is the area which has a one percent or greater chance of flooding in any given year. These floodplains are known as 100-year floodplains, or Special Flood Hazard Areas. The Federal Emergency Management Agency (FEMA) has primary responsibility for identifying flood-prone areas. FEMA floodplain mapping was utilized to assess the corridor for 100-year floodplain areas.

3.15.1 Affected Environment

Several 100-year floodplains cross or are located within the rail right-of-way of the Program Study Area. The locations of the floodplains are listed in Figure 3-48.

[70] https://www.fema.gov/executive-order-11988-floodplain-management

Figure 3-48
100-Year Floodplain Streams within Program Study Area

Stream Name	Location(s)
North Branch Chicago River	Chicago, IL Morton Grove, IL
West Fork North Branch Chicago River	Northbrook, IL
Middle Fork North Branch Chicago River	Lake Forest, IL Green Oaks, IL Waukegan, IL
Gurnee Tributary	Gurnee, IL
Des Plaines River	Gurnee, IL Wadsworth, IL
Suburban Country Club Tributary	Gurnee, IL
Jerome Creek (abuts right-of-way)	Pleasant Prairie, WI
Hoods Creek (abuts right-of-way)	Sturtevant, WI
Root River	Caledonia, WI
Oak Creek	Oak Creek, WI
North Branch Oak Creek	Oak Creek, WI
Wilson Park Creek	Milwaukee, WI
Milwaukee River	Milwaukee, WI

3.15.2 Potential Impacts

3.15.2.1 No-Build Alternative

The No-Build Alternative would not impact 100-year floodplains.

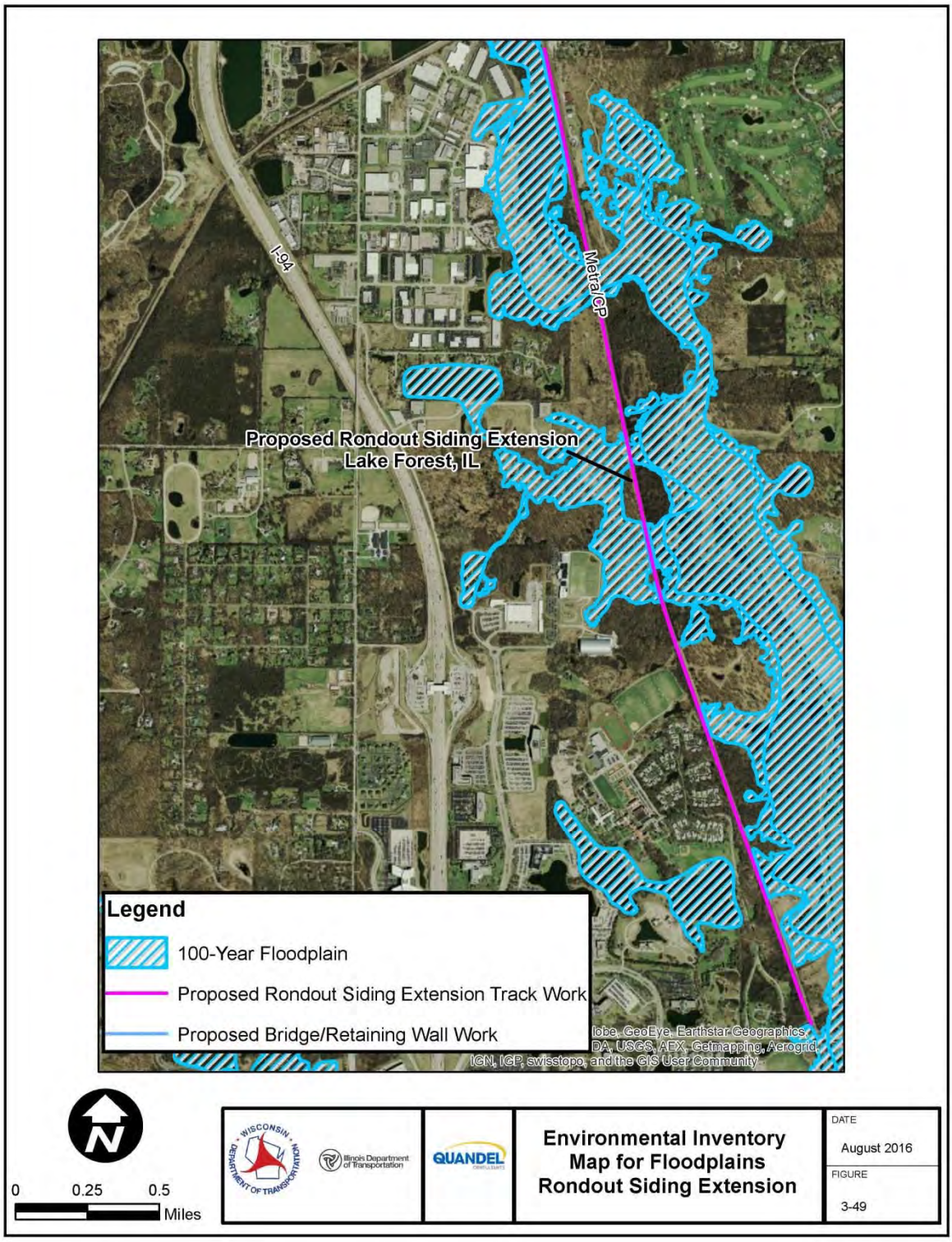
3.15.2.2 Build Alternative

The increase in frequencies on the *Hiawatha Service* would not impact 100-year floodplains because the Build Alternative would continue to operate the *Hiawatha Service* on the existing rail alignment. Construction of the improvement projects needed to accommodate the increase in service could cause temporary and permanent impacts to 100-year floodplains in areas where proposed improvement projects are located within floodplains or where culvert and bridge replacements occur. Temporarily affected areas would be restored following construction. Several improvement projects would be constructed within 100-year floodplains. During final design, coordination with FEMA would occur to ensure that the projects would not increase flood heights within the 100-year floodplains. The projects are discussed below.

Rondout Siding Extension

The Rondout Siding Extension project would construct 1.76 miles of new track on 5 foot embankment starting 500 feet north of the Illinois Route 60 bridge in Lake Forest, IL. The new track would require the extension of five existing culverts under the new track to maintain water flow under the tracks. The culvert to be extended at Milepost 30.9 is located within a Zone AE floodplain that crosses the tracks over a 300 foot section. Figure 3-49 depicts the floodplain at this location.

Figure 3-49
100-Year Floodplain Adjacent to Rondout Siding Extension

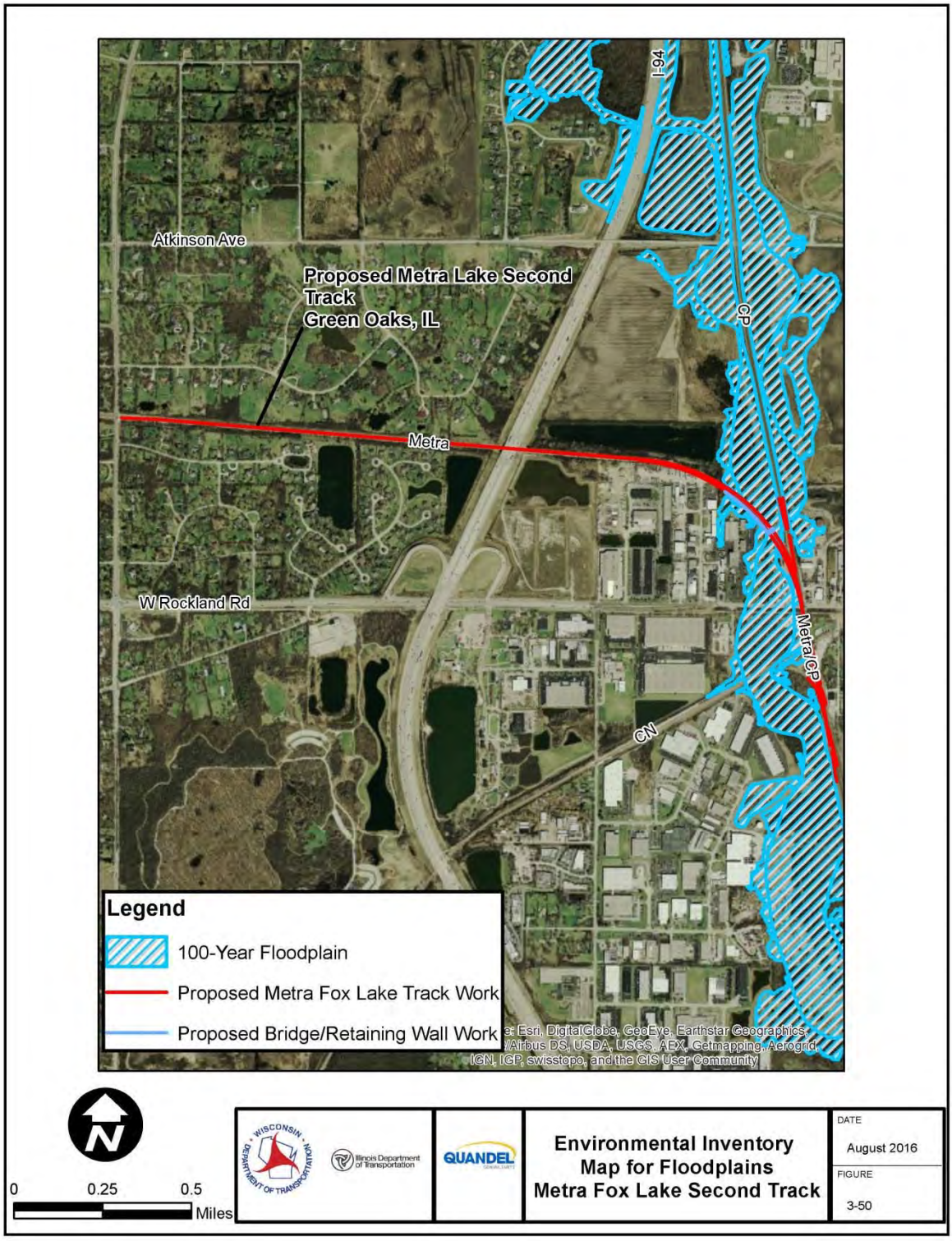


The culvert carries the North Branch of the Chicago River between the east and west sides of the track. Construction of the culvert extension would cause temporary impacts to the floodplain during construction and the new embankment and track could permanently impact the floodplain. During final design, a 100-year flood analysis would be undertaken to determine whether the work would create an increase of 0.01 feet or more in the 100-year conditions. Final design would comply with all applicable FEMA regulations. At the time of final design, floodplain mitigation would be identified, if needed, and coordinated with local officials. Mitigation can include reestablishing a connection between the floodplain and stream channel and the use of native vegetation, soils, and other natural elements. NPDES permitting would also minimize impacts. Mitigation is included in the Environmental Commitments in Section 3.23.

Metra Fox Lake Second Track

The Metra Fox Lake Second Track project proposes to construct a total of 1.68 miles of new track on new 5 foot embankment. The new track would serve as a second main track on the Fox Lake Subdivision and would connect to the CP C&M Subdivision just south of Illinois Route 176 in Lake Forest, IL. The proposed track to be constructed adjacent to the CP C&M main tracks would be constructed within two small sections of floodplains north of the EJ&E rail-rail crossing and north of the Illinois Route 176 at-grade crossing. The project also proposes to replace a bridge crossing the Middle Fork North Branch of the Chicago River and install new track on new embankment within a Zone AE floodplain spanning the length of the river. Figure 3-50 depicts the floodplains at this location.

Figure 3-50
100-Year Floodplain Adjacent to Metra Fox Lake Second Track

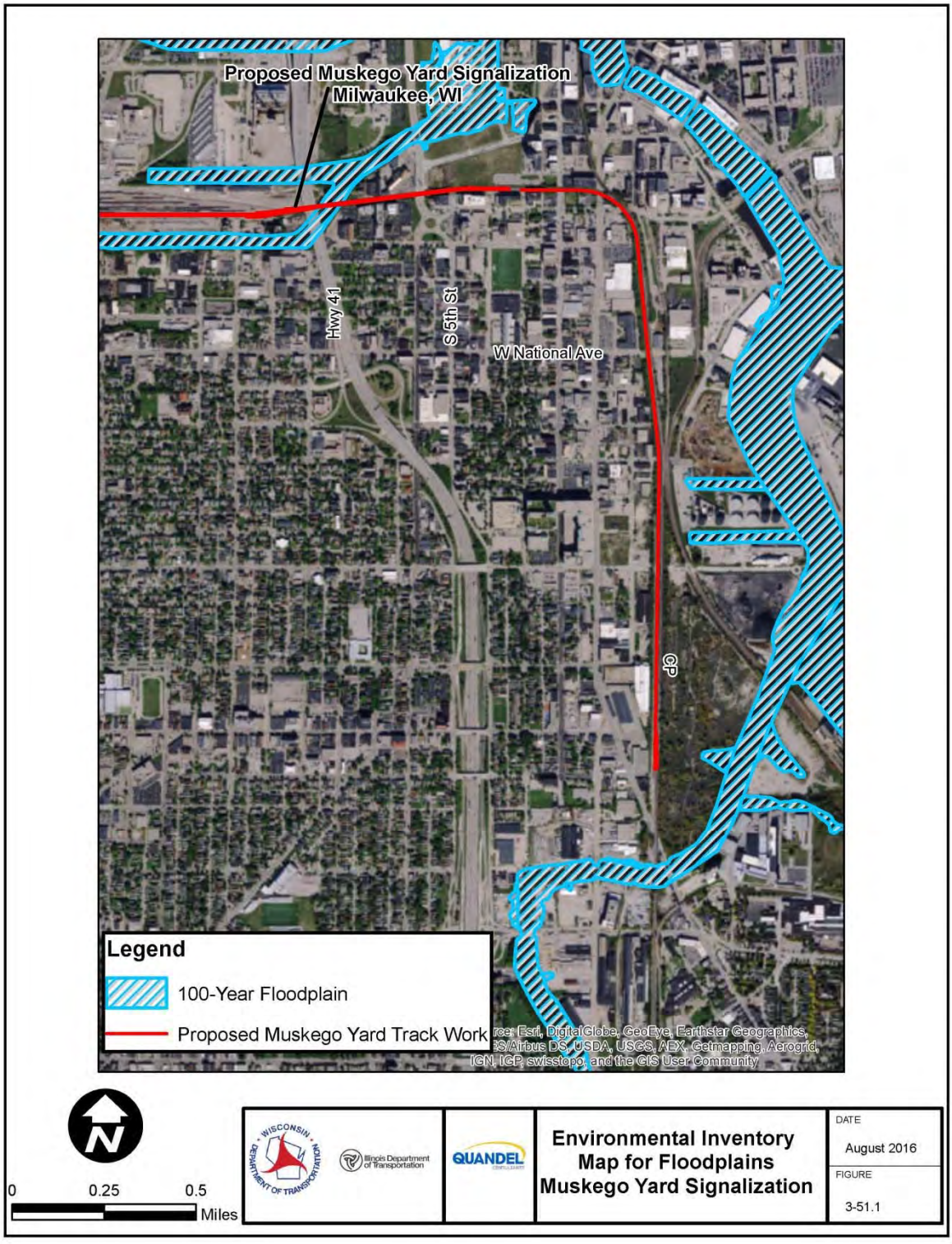


Construction of the new track on new embankment and new bridge would cause temporary impacts to the floodplains during construction and the new embankment and track could permanently impact the floodplains. During final design, a 100-year flood analysis would be undertaken to determine whether the work would create an increase of 0.01 feet or more in the 100-year conditions. Final design would comply with all applicable FEMA regulations. At the time of final design, floodplain mitigation would be identified, if needed, and coordinated with local officials. Mitigation can include reestablishing a connection between the floodplain and stream channel and the use of native vegetation, soils, and other natural elements. NPDES permitting would also minimize impacts. Mitigation is included in the Environmental Commitments in Section 3.23.

Muskego Yard Signalization

The Muskego Yard Signalization project proposes installation of railroad signaling and new track within the Yard limits. As part of the project, track resurfacing and tie replacement would occur over the bridge that crosses the Burnham Canal. The Burnham Canal channel is identified as a Zone AE floodplain. Figure 3-51.1 depicts the floodplains at this location.

Figure 3-51.1
100-Year Floodplain at Burnham Canal within Muskego Yard



The proposed work on the bridge would not impact the floodplain.

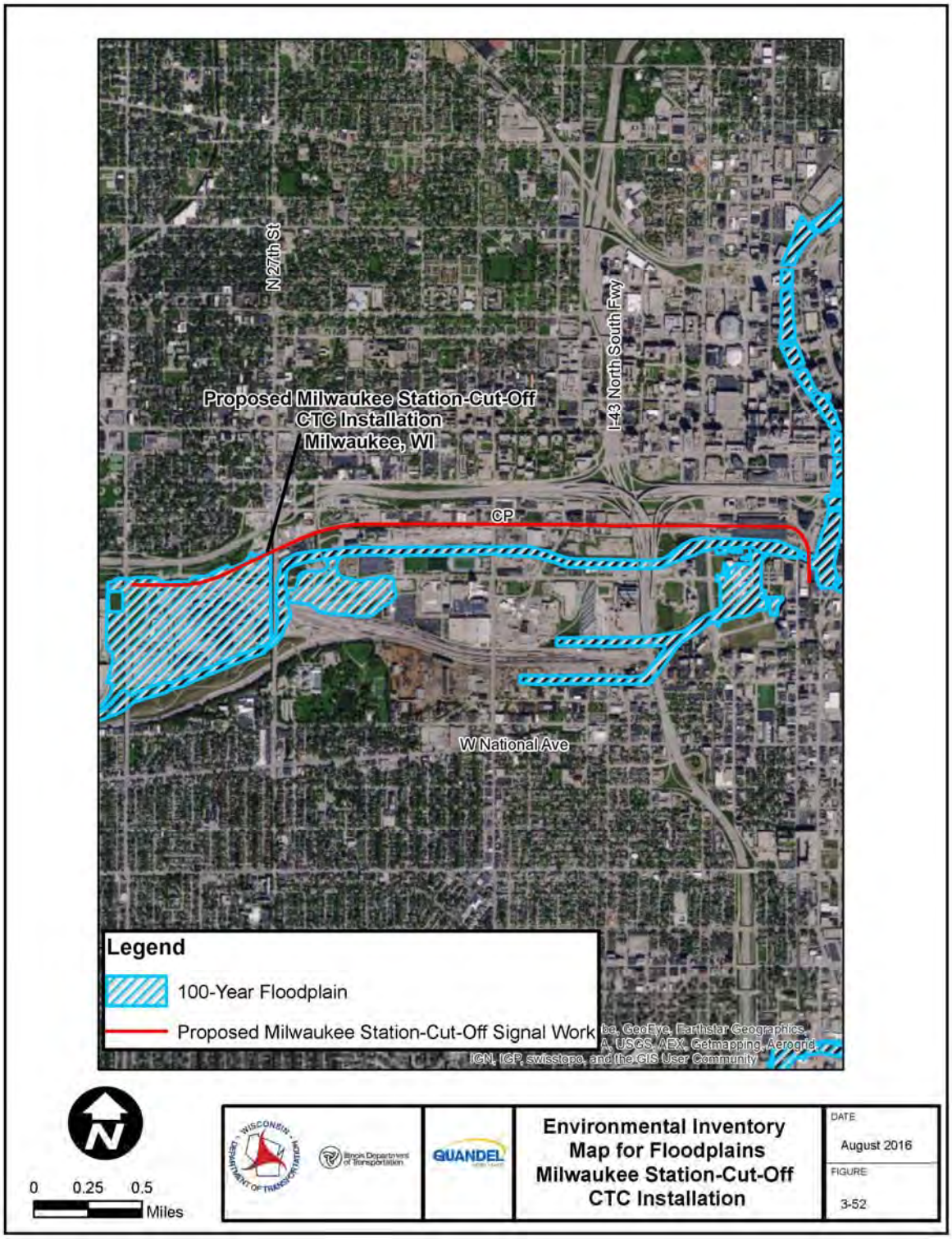
At the west end of the Muskego Yard project, rail resurfacing and tie replacement would occur on two yard tracks and new track on existing embankment would be constructed within a Zone AE floodplain. Additional work includes installation of railroad signals at several locations within the floodplain. Figure 3-51.2 depicts the floodplain at this location.

Figure 3-51.2
100-Year Floodplain at the West End of Muskego Yard

Rail resurfacing, tie replacement, and installation of signals would cause temporary impacts during construction. Since the new track would be constructed on existing embankment, it is not anticipated that the project would impact the flood heights. However, a 100-year flood analysis would be undertaken during final design to determine whether the work would create an increase of 0.01 feet or more in the 100-year conditions. Final design would comply with all applicable FEMA regulations. At the time of final design, floodplain mitigation would be identified, if needed, and coordinated with local officials. Mitigation can include reestablishing a connection between the floodplain and stream channel and the use of native vegetation, soils, and other natural elements. NPDES permitting would also minimize impacts. Mitigation is included in the Environmental Commitments in Section 3.23.Milwaukee Station to Cut-Off CTC Installation

The project proposes installation of railroad signaling throughout the project area. At the west end of the project, installation of signals would occur within a Zone AE floodplain. The proposed signal work would not impact the floodplain. Figure 3-52 depicts the floodplain at this location.

Figure 3-52
100-Year Floodplain at the West End of Milwaukee Station to Cut-Off



3.16 Wetlands

Wetlands are areas where water covers the soil or is present either at or near the surface of the soil all year or for varying periods of time during the year, including during the growing season.[71] Wetlands are important because they support both aquatic and terrestrial species. Section 404 of the Clean Water Act provides protection for wetlands and other waters of the U.S.[72] The U.S. Army Corps of Engineers has the jurisdiction to regulate the discharge of fill materials into these water resources.

3.16.1 Affected Environment

Wetlands were identified using the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping system. Wetlands are classified by landscape position, vegetation cover, and hydrologic regime and include five major wetland types: marine, tidal, lacustrine, palustrine, and riverine.[73] The primary wetland communities within the project corridor are palustrine (i.e., freshwater) emergent (PEM), palustrine forested/scrub-shrub (PFO/PSS), palustrine unconsolidated bottom (PUB) (i.e., ponds), and riverine (i.e., rivers).

NWI mapping from the USFWS was used to inventory existing wetlands within 100 feet of the rail centerline between Chicago and Milwaukee. The findings are summarized in Figure 3-53.

Figure 3-53
Acreage of NWI Wetland Types within the Project Corridor

Wetland Type	Acres of Wetlands within 100' of the Rail Centerline
Freshwater Emergent Wetland (PEM)	806.09
Freshwater Forested/Shrub Wetland (PFO/PSS)	754.72
Freshwater Pond (PUB)	93.74
Riverine	3187.93
Total	**4842.48**

[71] http://www.epa.gov/wetlands/what-wetland
[72] http://www.epa.gov/cwa-404/section-404-permit-program
[73] http://www.epa.gov/wetlands/wetlands-classification-and-types#marshes

3.16.2 Potential Impacts

3.16.2.1 No-Build Alternative

The No-Build Alternative would not impact wetlands.

3.16.2.2 Build Alternative

The increase in *Hiawatha Service* frequencies would not impact wetlands. Construction of the improvement projects needed to accommodate the increase in service could cause temporary and permanent impacts to wetlands in areas where proposed improvement projects are located within floodplains or where culvert and bridge replacements occur. Temporarily affected areas would be restored following construction.

Illinois BDE performed a review of the projects in Illinois as part of its duties under the Illinois Interagency Wetland Policy Act – Part 1090. BDE found that there would be no impacts to any wetlands found in the following project areas: Glenview Universal Crossover; UPRR Siding Extension at A-20 Design Alternatives 1 and 2; Speed Increase between A-20 and Rondout; Deerfield Holding Track; and Lake Forest Universal Crossover. See the results of the wetland review in the Natural Resources Review for Sequence 19152 in Appendix E.

WisDOT hired an environmental consultant to conduct a Natural Resource Review of the projects in Wisconsin. The consultant found that there were no wetlands located in the following project areas: Muskego Yard Signalization and Milwaukee Station to Cut-Off. The results of the wetland review in the Natural Resources Review are included in Appendix F.

Several improvement projects would be constructed within existing wetland areas. During final design, wetland impact analyses would occur to determine the extent of the impacts to wetlands and the appropriate actions to mitigate the impacts. Coordination with State and Federal agencies on approvals and permits would be attained prior to construction. The projects impacting wetlands are discussed below.

Metra Fox Lake Second Track / Rondout Siding Extension

BDE performed a combined review of the Metra Fox Lake Second Track and Rondout Siding Extension projects for wetland impacts because the projects are physically linked together. Thirty-eight sites were identified and examined in the field and 18 of those sites were determined to be wetlands. The Wetland Delineation Report for the combined project area is included as Appendix E. Figures 3-54 identifies the type, quality, and function of each wetland.

Figure 3-54
Wetland Summary for the Metra Fox Lake Second Track/Rondout Siding Extension Project Study Area

Site Number	Wetland Community Type/ NWI Code	Area within Project Study Area (acre)	Floristic Quality Index (FQI)	High Quality Aquatic Resource?	Potential for Project-Related Impacts to Wetland
1	Wet meadow/ Upland	0.15	7.3	No	Unanticipated. Site 1 is located outside the construction footprint.
2	Wet meadow/ Upland	0.10	4.9	No	Unanticipated. Site 2 is located outside the construction footprint.
3	Wet shrubland/ Upland	0.09	8.5	No	Unanticipated. Site 3 is located outside the construction footprint.
5	Wet meadow; Upland	0.24	9.5	No	Unanticipated. Construction in this area would occur on opposite side of track as Site 5.
6	Wetland pond/ Palustrine forested/ scrub-shrub	0.23	11.3	No	Impact to wetland is possible. Construction would occur on opposite side of track as Site 6 but east and west sides are connected by a culvert through which water flows east towards Site 6.
7	Wet meadow/ Upland	0.10	5.7	Yes	Impact to wetland is probable. Portions of Site 7 may be filled to construct the track on new embankment.
8	Marsh/Upland	0.21	15.1	No	Unanticipated. Construction in this area would occur on opposite side of track as Site 8.
9	Wet meadow/ Palustrine emergent	0.16	14.1	Yes	Impact to wetland is probable. Portions of Site 9 may be filled to construct the track on new embankment. East and west sides of track are connected by a culvert through which water flows east towards Site 9A and 9B.
10	Sedge meadow/ Palustrine emergent	0.05	12.3	Yes*	Unanticipated. Construction in this area would occur on opposite side of track as Site 10.
12	Marsh/Palustrine emergent	0.07	11.9	Yes	Impact to wetland is possible. Construction would occur on opposite side of track as Site 12 but east and west sides are connected by a culvert through which water flows east towards Site 12.
14	Marsh/Upland	0.07	10.3	Yes	Impact to wetland is possible. Construction would occur on opposite side of track as Site 14 but east and west sides are connected by a culvert through which water flows east towards Site 14.
16	Sedge meadow/ Palustrine emergent	0.27	27.7	Yes	Impact to wetland is possible. Construction would occur on opposite side of track as Site 16 but east and west sides are connected by a culvert through which water flows

Site Number	Wetland Community Type/ NWI Code	Area within Project Study Area (acre)	Floristic Quality Index (FQI)	High Quality Aquatic Resource?	Potential for Project-Related Impacts to Wetland
					east towards Site 16.
21	Wet forbland/ Upland	0.24	35.0	Yes	Unanticipated. Construction in this area would occur on opposite side of track as Site 21.
28	Forested wetland/ Upland	0.02	8.0	No	Temporary impacts to wetland are possible during construction. Construction would occur within the existing right-of-way and fill would not be added.
31	Wet meadow/ Upland	0.03	10.2	No	Impact to wetland is probable. Portions of Site 31 may be filled to construct the track on new embankment.
32	Marsh/wet meadow/Upland	0.08	20.2	Yes	Unanticipated. Construction in this area would occur on opposite side of track as Site 32.
34	Wet meadow/ Upland	0.04	10.9	No	Impact to wetland is probable. Portions of Site 34 may be filled to construct the track on new embankment.
36	Wet floodplain forest/Palustrine forested	<0.01	18.6	Yes	Unanticipated. Site 36 is located outside the construction footprint.

* Eastern Prairie Fringed Orchid was found near Wetland Site 10 during field visit

Figures 3-55.1 through 3-55.2 depict the wetlands adjacent to the Metra Fox Lake Second Track/Rondout Siding Extension project.

Figure 3-55.1
Wetlands Adjacent to Metra Fox Lake Second Track/Rondout Siding Extension

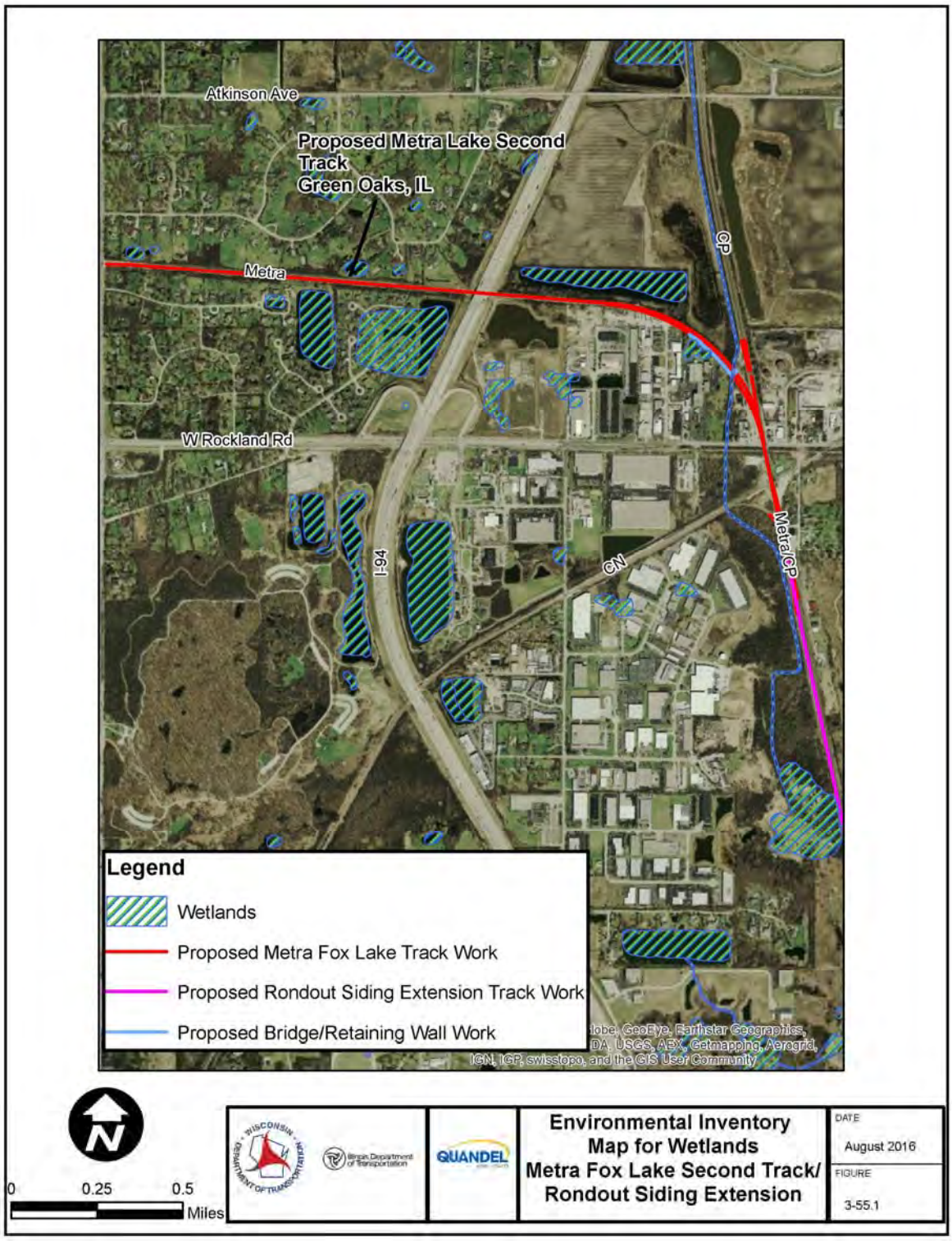
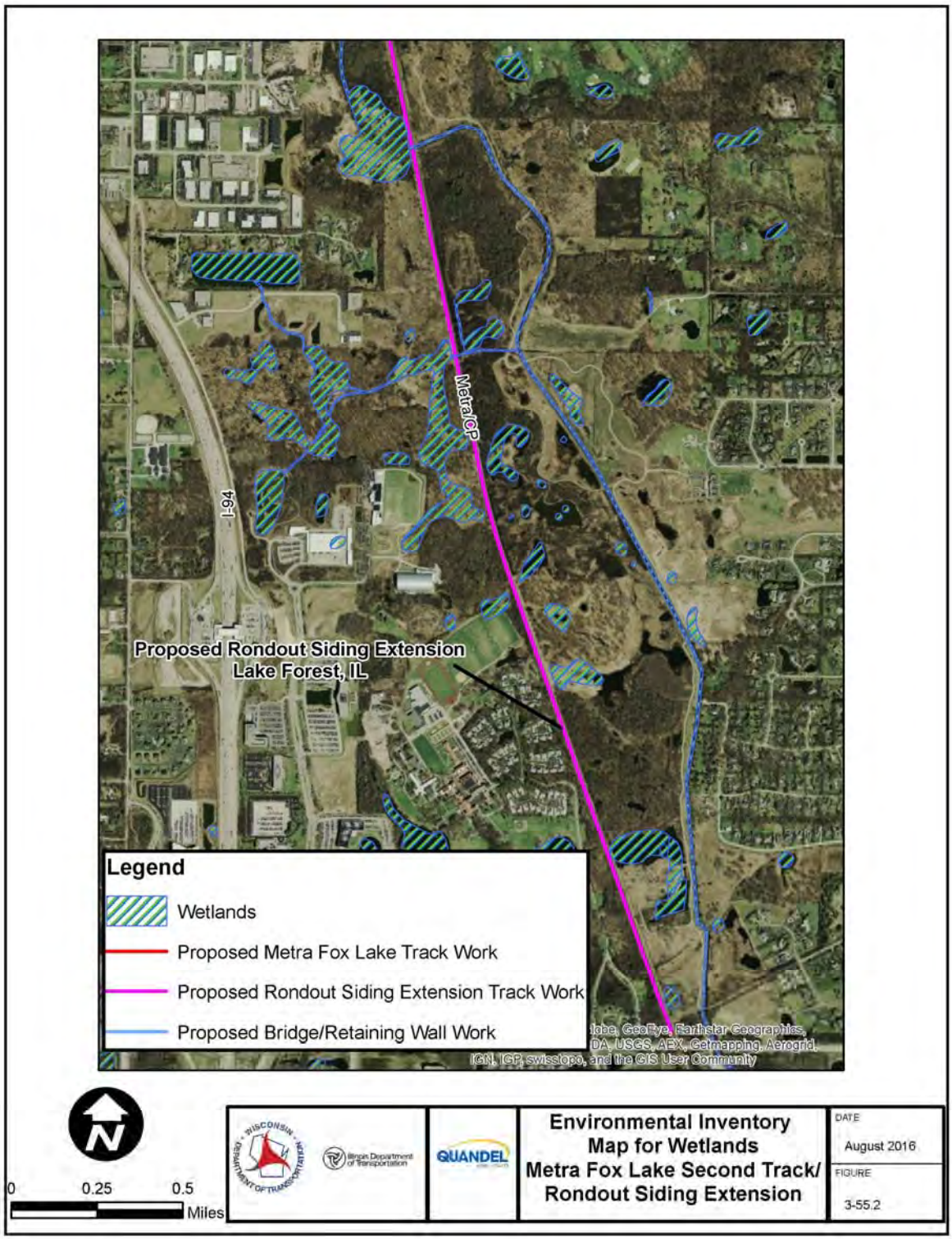


Figure 3-55.2
Wetlands Adjacent to Metra Fox Lake Second Track/Rondout Siding Extension



During final design, Wetland Impact Evaluation (WIE) forms would be completed and submitted to IDOT BDE to document the extent of impacts to the wetlands identified in the figure above. The WIEs would demonstrate that design alternatives were considered to avoid and minimize adverse wetland impacts to the extent practical. IDOT BDE indicated that if Wetland Sites 7, 10, 16, 21, and 32 are impacted, they would require a mitigation ratio of 5.5:1.0 due to having a Floristic Quality Index (FQI) over 20 and/or Mean C of 4.0 or higher. Best Management Practices would be employed during construction to minimize the temporary impacts to wetlands including sediment and erosion control plans. Coordination with USACE and IDNR on permitting would occur during final design. These commitments are included in the Environmental Commitments in Section 3.23.

Milwaukee Airport Rail Station Second Platform

Nine sites were identified within the Project Study Area (as defined by concept plans for the Milwaukee Airport Rail Station Second Platform project) and examined in the field and six were determined to be wetlands. Details on the wetland analysis can be found in the Natural Resources Review in Appendix F. Figure 3-56 identifies the type, quality, and function of each wetland.

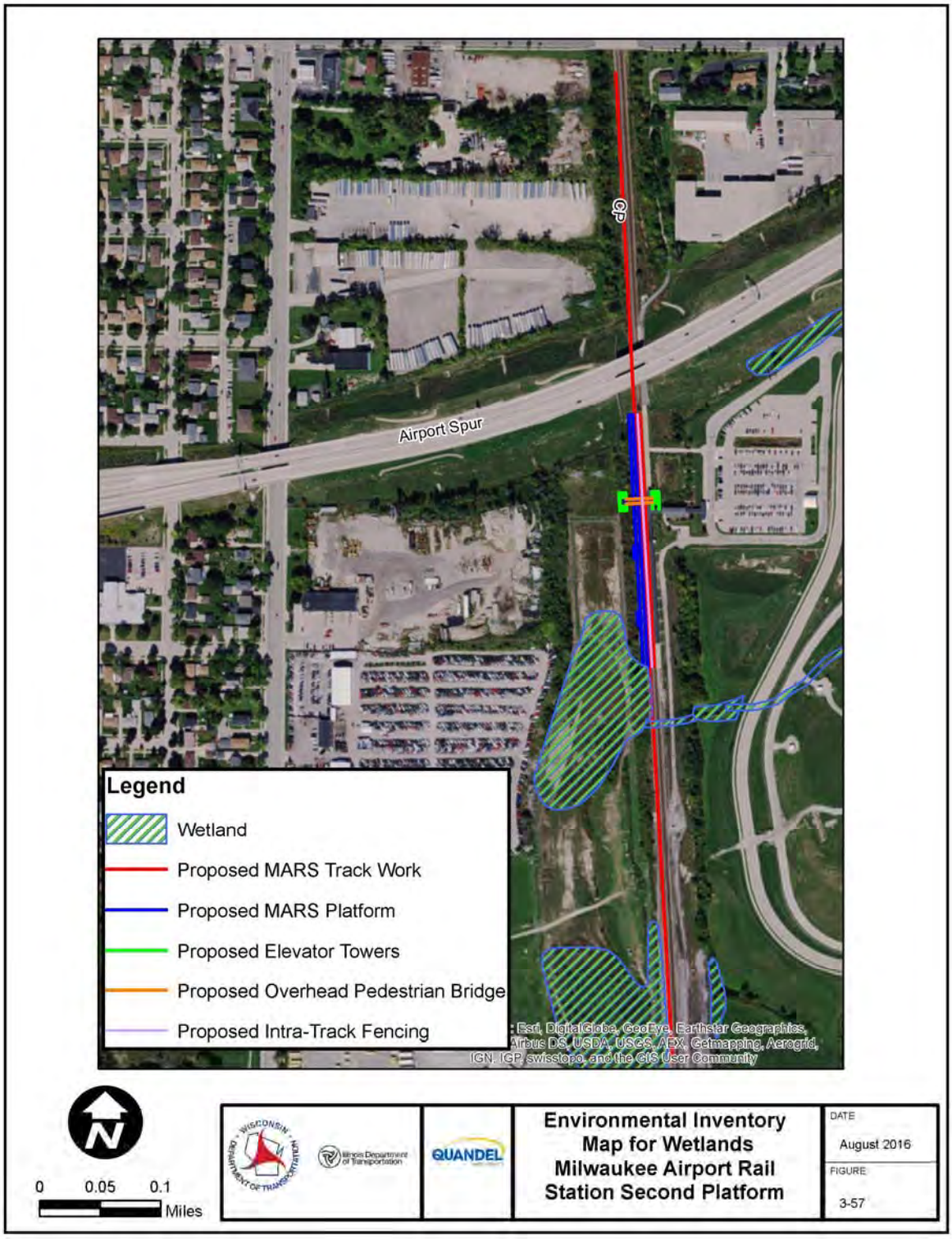
Figure 3-56
Wetland Summary for the Milwaukee Airport Rail Station Second Platform Project Study Area

Site Number	Wetland Community Type	Area within Project Study Area (acre)	Floristic Quality Index (FQI)	Advanced Identification (ADID) Wetland?	Potential for Project-Related Impacts to Wetland
1	Shallow marsh, wet meadow	0.32	13.3	No	Unanticipated. Construction in this area would occur on the trackbed only.
2A, 2B	Shallow marsh, wet meadow	0.22	11.6	No	Unanticipated. Construction in this area would occur on the trackbed only.
2C	Shallow marsh, shrub carr	0.32	9.4	No	Impact to wetland is probable. Portions of Site 2C may be filled to construct the platform and elevator tower.
3	Wet meadow, shrub carr	0.17	12.7	No	Temporary impacts to wetland are possible during construction. Construction of the platform would occur several hundred feet north of the wetland.
4	Wet meadow, shrub carr	0.06	10.5	No	Unanticipated. Construction in this area would occur on the trackbed only.
5	Atypical (stormwater feature)	0.17	9.9	No	Impact to wetland is possible. Construction of elevator tower would occur adjacent to Site 5.
6	Atypical (stormwater feature)	0.07	6.0	No	Unanticipated. Construction in this area would occur on the trackbed only.

Figure 3-57 depicts the wetlands adjacent to the Milwaukee Airport Rail station project. Best

Management Practices would be employed during construction to minimize the temporary impacts on wetlands including sediment and erosion control plans. Permitting with the USACE and Wisconsin DNR for construction within a wetland would occur during final design. These commitments are included in the Environmental Commitments in Section 3.23.

Figure 3-57
Wetlands Adjacent to Milwaukee Airport Rail Station Second Platform



3.16.2.3 Consistency with Coastal Zone Management

The Coastal Zone Management Act of 1972 authorized the National Coastal Zone Management Program, which "provides the basis for protecting, restoring, and responsibly developing our nation's diverse coastal communities and resources."[74] This voluntary partnership between the federal government and states is administered by the National Oceanic and Atmospheric Administration.

Illinois DNR and the Wisconsin Department of Administration administer the state Coastal Management Programs in Illinois and Wisconsin, respectively. These state agencies provide a review of proposed projects within state coastal areas to ensure consistency with their Coastal Zone Management Programs.

The Illinois Coastal Area is defined as the area of land immediately adjacent to Lake Michigan along the northeastern part of the State and a small portion of the Chicago River in downtown Chicago. The *Hiawatha Service* route traverses the Illinois Coastal Area for a distance of 1.1 miles between Chicago Union Station and Jefferson Street. The Illinois Coastal Management Program Office and the Illinois Office of Water Resources (OWR) were consulted on whether a consistency determination would be required for the Program. OWR responded that it will not conduct a federal consistency review for the project. . The Wisconsin Department of Administration advised that it does not have any comments on the project and that a coastal zone management consistency review would not be conducted for the project. On June 22, 2016, the Wisconsin Coastal Management Program provided email confirmation that it does not have any comments on the proposed project and will not conduct a federal consistency review for the project.

3.17 Section 4(f) Properties

Section 4(f) properties include publicly owned public parks, recreational areas, wildlife and waterfowl refuges, or any publicly or privately owned historic sites listed or eligible for listing on the National Register of Historic Places (NRHP). Special analyses are required for compliance with Section 4(f) of the *Department of Transportation Act* of 1966 when a project proposes use of Section 4(f) property. According to 23 CFR 774.11, a "use" of Section 4(f) property occurs:

- When land is permanently incorporated into a transportation facility;
- When there is a temporary occupancy of land that is adverse in terms of the statute's preservation purposes; or
- When there is a constructive use of a Section 4(f) property, as determined by the criteria in 23 CFR 774.15.

Section 4(f) forbids the approval of projects that require the conversion of land from these protected properties unless it can be demonstrated that there is no feasible and prudent alternative to use of land from the property, and the action includes all possible planning to minimize harm to the property resulting from such use. The Administration may determine that the use of the property may have a *de minimis*

[74] https://coast.noaa.gov/czm/

impact, meaning the proposed use of Section 4(f) land would not adversely affect the Section 4(f) resource.

A direct use occurs when there is a physical incorporation of land into a transportation facility. A constructive use occurs when a project "does not incorporate land from a Section 4(f) resource, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are "substantially impaired" and the resource can no longer perform its designated function".[75]

3.17.1 Affected Environment

A variety of Section 4(f) properties are located within the Program Study Area including parks, recreation areas, natural areas, trails, and historic properties.

3.17.1.1 Parks, Recreation Areas, and Natural Areas

The Program Study Area contains more than 30 public and private parks, recreation areas, and natural areas. In two cases, the Section 4(f) resource is partitioned on each side of the rail corridor, but no physical connections exist between the areas.

County-maintained forest preserves are adjacent to the rail corridor in Cook and Lake Counties in Illinois. Approximately 10 miles of the corridor pass through or adjacent to a forest preserve. Several nature preserves are also located within the corridor. Appendix I lists the parks, recreation areas, and natural areas adjacent to the corridor.

3.17.1.2 Recreation Corridors

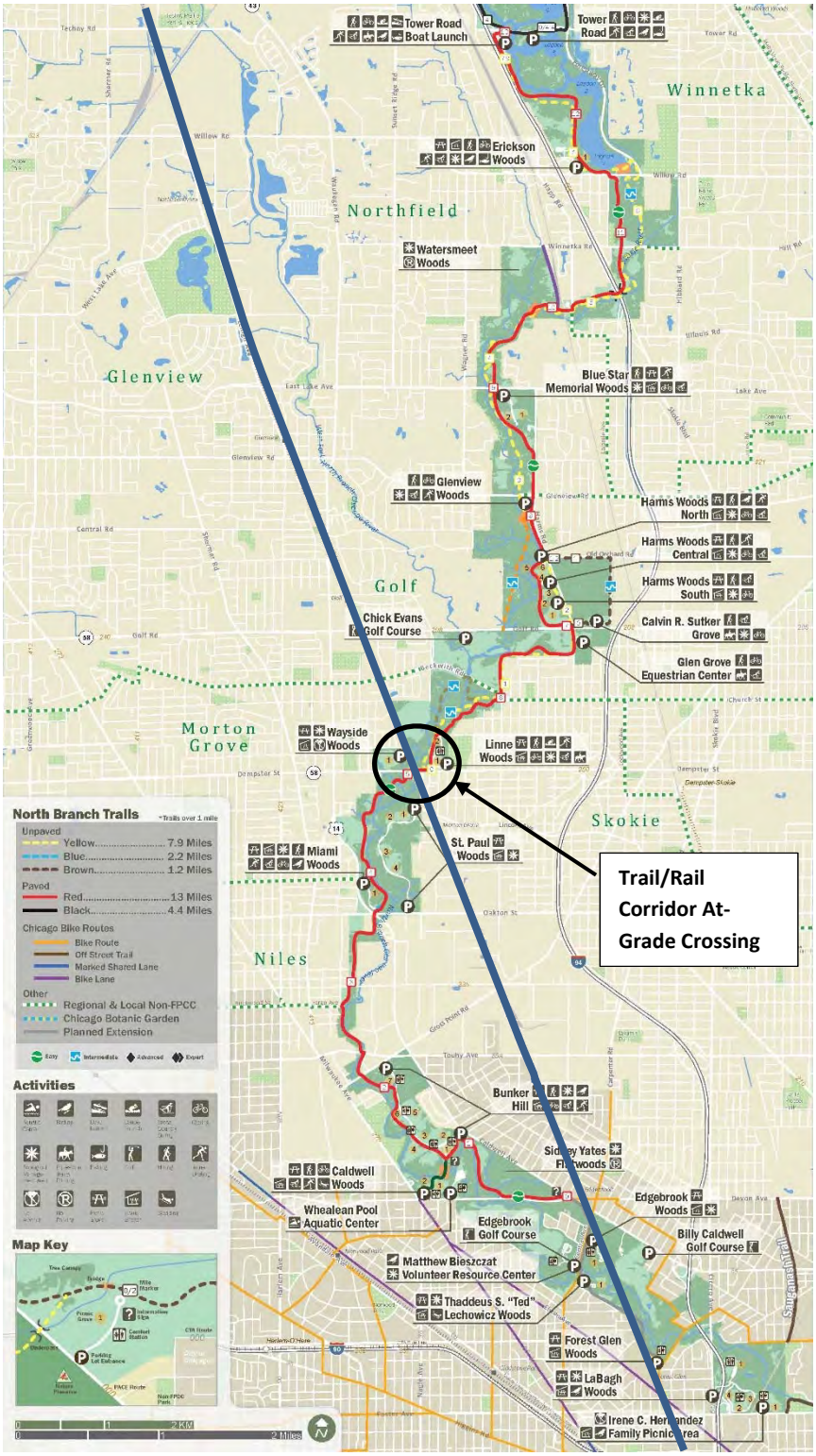
Trails and greenways are located in close proximity to the corridor and some cross the corridor. These recreation corridors are described further below.

3.17.1.2.1 The North Branch Trail System

The 20-mile Class I bicycle trail connects northwestern Cook County, Illinois with Lake County, Illinois winding along the north branch of the Chicago River. The trail merges onto Dempster Street in Morton Grove, IL for a short section and crosses the rail corridor at-grade at Dempster Street. Figure 3-58 depicts the North Branch Trail System.[76]

[75] 49 United States Code Section 303
[76] http://fpdcc.com/downloads/maps/trails/english/FPCC-North-Branch-Trail-Map-10-15.pdf

Figure 3-58
North Branch Trail System, Cook County, IL

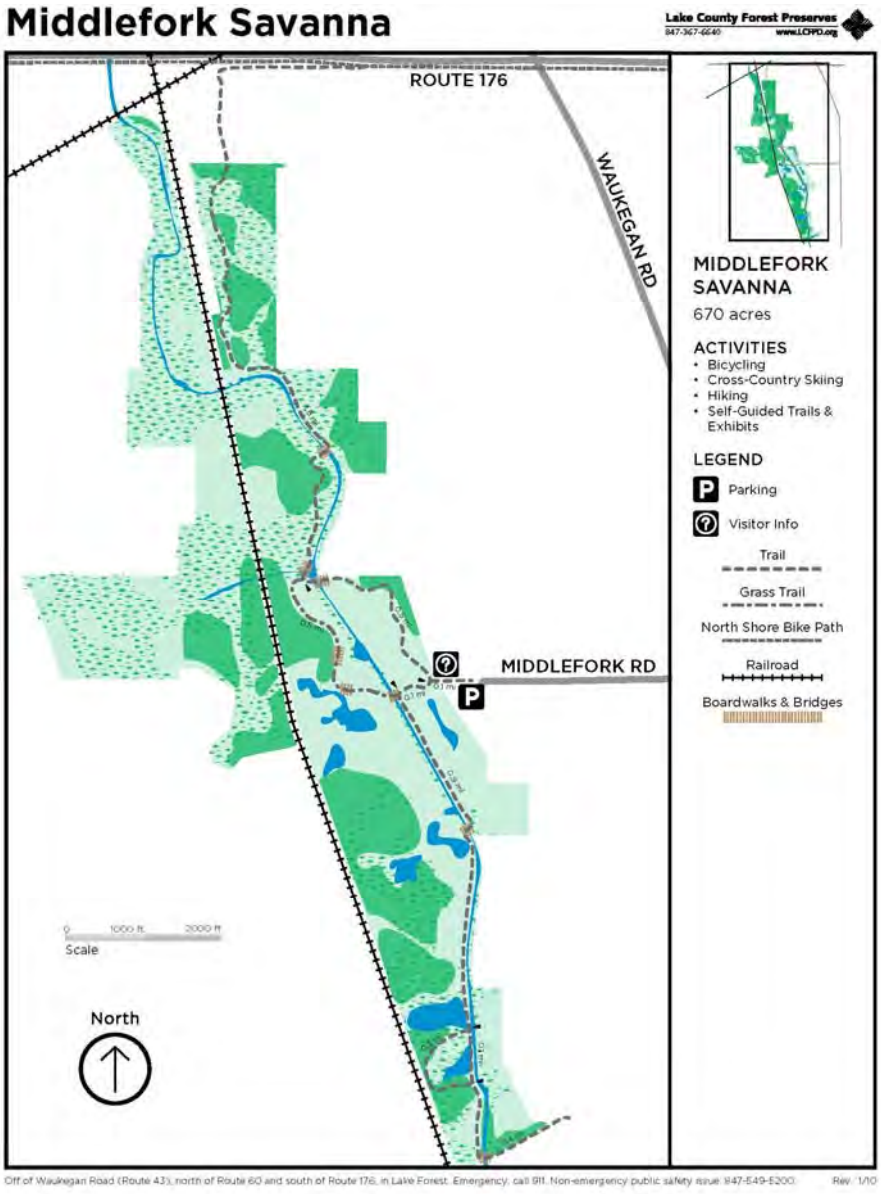


3.17.1.2.2 Middlefork Trail

The Middle Fork Greenway runs north-south through the length of the Middlefork Savanna Forest Preserve in Lake Forest, IL from Illinois Route 60 to Illinois Route 176 where it connects with the North Shore Bike Path. A portion of the rail corridor comes within 200 feet of the greenway on the north end of the trail and within 100 feet of the greenway on the South Loop but it is buffered by forest. Figure 3-59 depicts the Middlefork Trail.[77]

[77] http://www.lcfpd.org/assets/1/7/MiddleforkTrailMap.pdf

Figure 3-59
Middlefork Trail, Lake County, IL

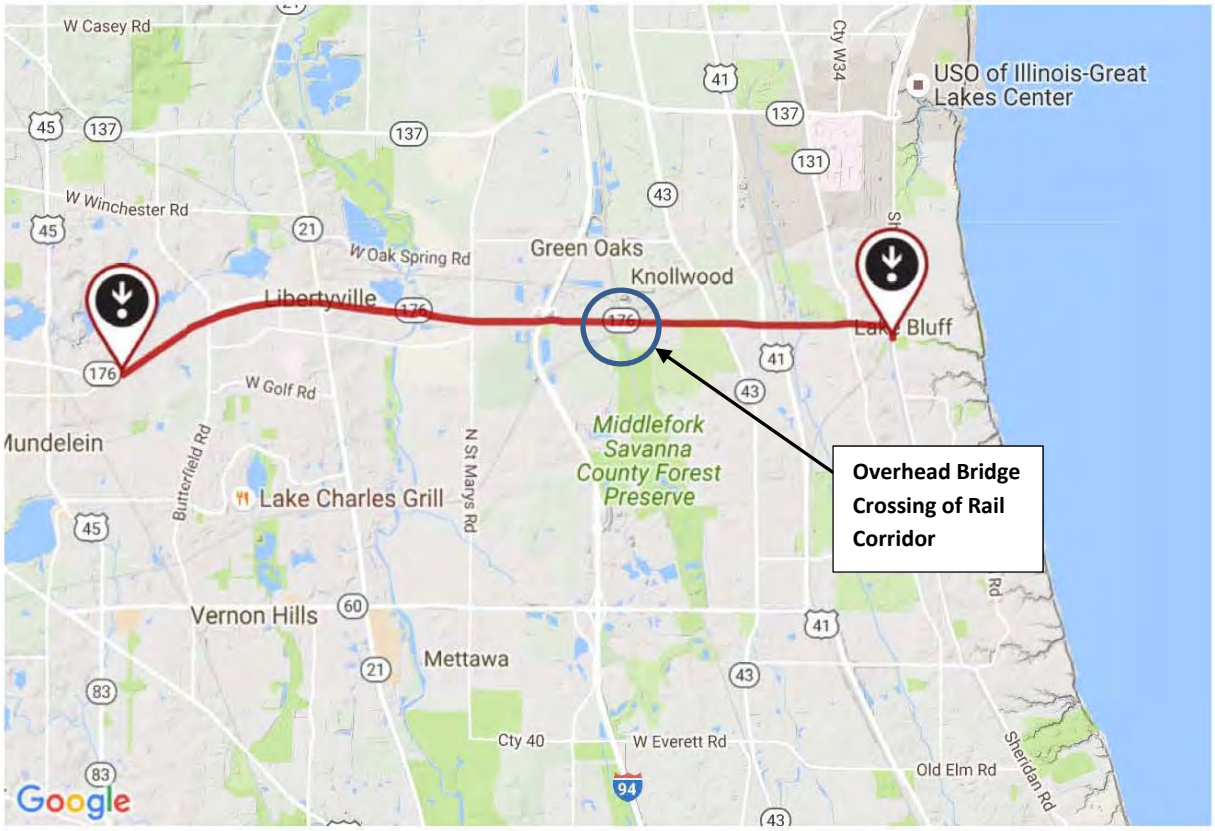


3.17.1.2.3 North Shore Bike Path

The North Shore Bike Path is a partially paved 7.7 mile trail that runs in an east-west direction adjacent to Illinois Route 176. On the east end, it merges with the north-south Robert McClory trail in Lake Bluff, IL. On the west end, the North Shore Bike Path links to the north-south Des Plaines River Trail in Libertyville,

IL. The trail runs on the south side of Illinois Route 176 and crosses the rail corridor on an overhead bridge. Figure 3-60 depicts the North Shore Bike Path in Lake County.[78]

Figure 3-60
North Shore Bike Path, Lake County, IL

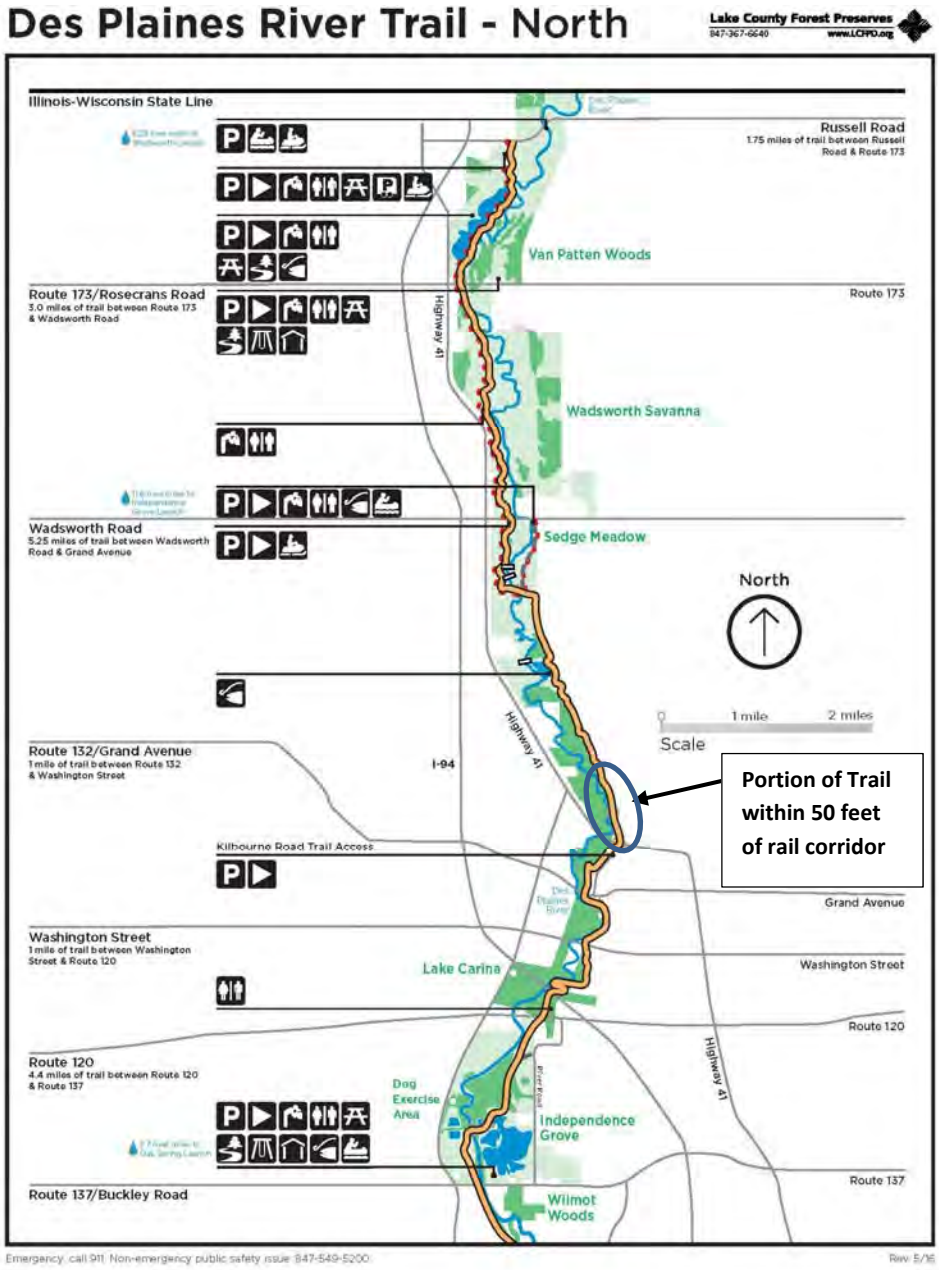


3.17.1.2.4 Des Plaines River Trail

The Des Plaines River Trail stretches 31 miles connecting Cook County forest preserves with local parks and communities along the Des Plaines River with those in Lake County. Bridges and underpasses allow travel through Lake County without crossing any major roads. A portion of this trail is within 50 feet of the rail corridor between Skokie Highway in Gurnee, IL and North Mill Creek, where the trail shifts west. Figure 3-61 depicts the northern portion of the Des Plaines River Trail in Lake County.[79]

[78] https://www.traillink.com/trail-maps/north-shore-bike-path.aspx
[79] http://www.lcfpd.org/assets/1/7/DPR-Trail-Map.pdf

Figure 3-61
Des Plaines River Trail, Lake County, IL



3.17.1.2.5 Oak Leaf Trail

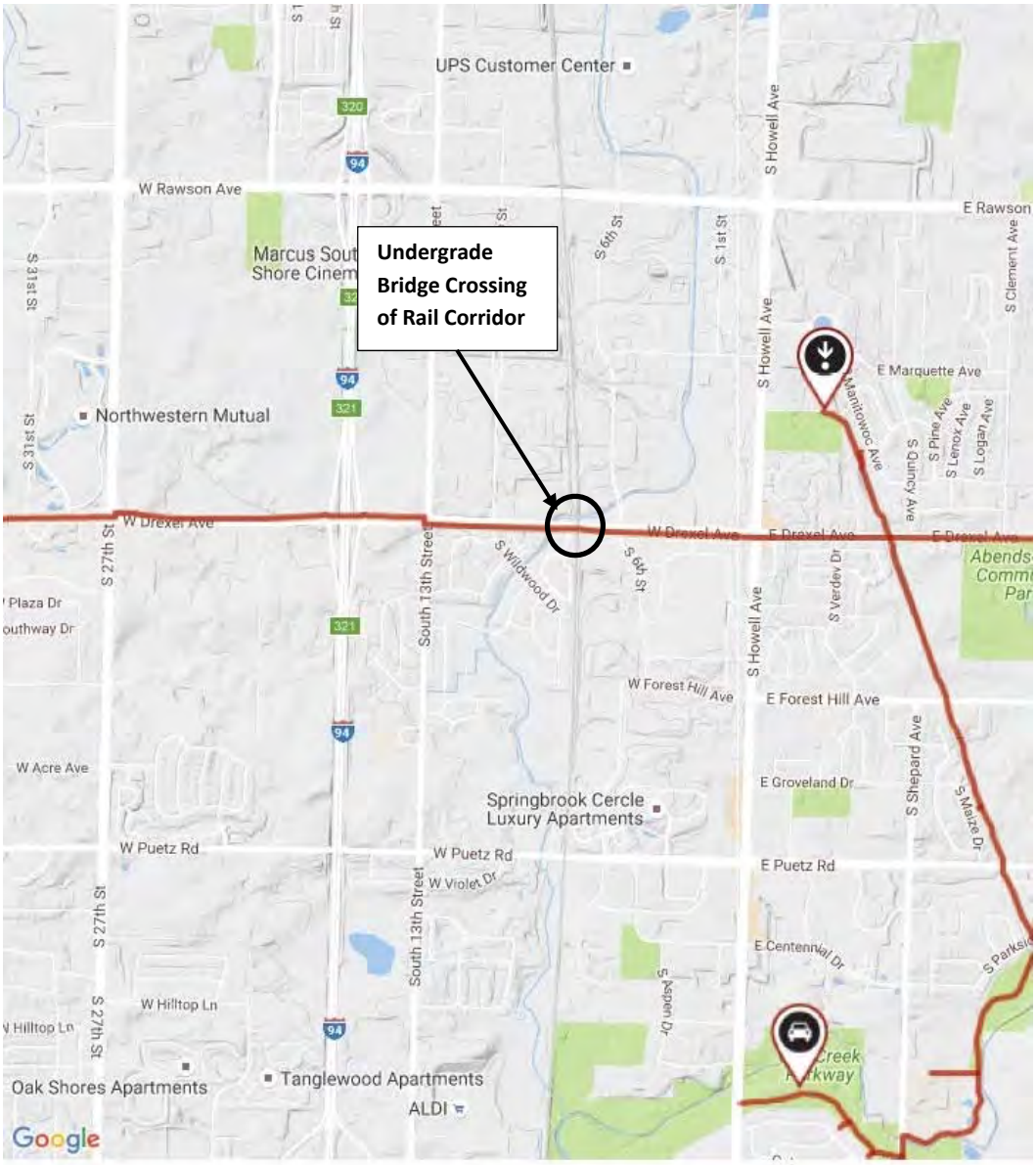
The Oak Leaf Trail is a system of off-street greenways and on-street marked lanes for recreational use traversing approximately 100 miles of Milwaukee County. Users of the on-street trails are primarily bicyclists. The Oak Leaf Trail crosses the rail corridor in five locations, all of which are grade separated

crossings; at W. Pittsburgh Avenue, 2nd Street, S. Kinnickinnic Avenue and S. Chase Avenue in Milwaukee, WI and W. Drexel Avenue in Oak Creek, WI. Figure 3-62 illustrates the portion of the Oak Leaf Trail in the vicinity of the rail corridor in Milwaukee. Figure 3-63 illustrates the portion of the Oak Leaf Trail that crosses the rail corridor in Oak Creek.[80]

[80] http://www.traillink.com/trail-maps/oak-leaf-trail.aspx

Figure 3-62
Oak Leaf Trail, Milwaukee, WI

Figure 3-63
Oak Leaf Trail, Oak Creek, WI



3.17.1.2.6 Hank Aaron State Trail

The Hank Aaron State Trail is a recreation trail that extends from the lakefront of Milwaukee to 94th Place on the west side of Milwaukee, and is planned to eventually connect to the Milwaukee/Waukesha county line. The Hank Aaron State Trail connects to several other trails including the Oak Leaf Trail and KK River Trail. On-street and off-street paved routes are provided for the Hank Aaron State Trail. In the vicinity of

the rail corridor, the Hank Aaron State Trail is operated on street, and crosses the corridor undergrade at W. Pittsburgh Avenue and 2nd Street. Figure 3-64 illustrates the east end of the Hank Aaron State Trail.[81]

Figure 3-64
Hank Aaron State Trail, Milwaukee, WI

3.17.1.3 Waterways

As discussed in Section 3.13 of this EA, one waterway adjacent to the project corridor has been listed on the Nationwide Rivers Inventory: the Des Plaines River. The rail corridor runs adjacent to the Des Plaines River from Grand Avenue in Gurnee, IL to the Illinois-Wisconsin border, a distance of 9 track-miles. The

[81] http://dnr.wi.gov/topic/parks/name/hankaaron/pdfs/hankaaronmap_print_friendly_3.pdf

ORVs identified for the Des Plaines River are for scenery and recreation.

The corridor also crosses two rivers in Wisconsin, the Kinnickinnic and the Menomonee, which are part of the Milwaukee Urban Water Trail. The trail is a canoe and kayak route that offers 25 miles of river access through urban Milwaukee, using portions of the Milwaukee, Menomonee, and Kinnickinnic Rivers.[82] Figure 3-65 shows the portion of the Milwaukee Urban Water Trail crossed by the rail corridor.

[82] http://milwaukeeriverkeeper.org/

Figure 3-65
Milwaukee Urban Water Trail, Milwaukee, WI

3.17.1.4 Historic Properties

Section 3.11 of this EA discusses the Cultural Resources located adjacent to or within the project corridor. Figure 3-32 identified four properties that are either NRHP or NRHP-eligible resources. A "no historic properties affected" or "no adverse effect" determination is made in accordance with Section 106 of the National Historic Preservation Act, with concurrence in writing from the State or Tribal Historic Preservation Officer (SHPO/THPO). If either determination is made, the project effects would not be

considered a "use" of a Section 4(f) property.

3.17.2 Potential Impacts

3.17.2.1 No-Build Alternative

The No-Build Alternative would not require the use of land from any Section 4(f) properties.

3.17.2.2 Build Alternative

The increase in *Hiawatha Service* frequencies would not require the use of land from any Section 4(f) properties. Property acquisition is included as part of two infrastructure projects: the Metra Fox Lake Second Track project and the Milwaukee Airport Rail Station project. The Metra Fox Lake project proposes to acquire 0.78 acres of property from three parcels in Green Oaks, Illinois. Two of the three parcels are owned by the Illinois State Toll Highway Authority and one parcel is owned by Abbott Laboratories. There are no Section 4(f) properties located in any of the three parcels. The Metra Fox Lake project would not require the use of a Section 4(f) property.

The Milwaukee Airport Rail Station requires 0.07 acres of property acquisition on the west side of the CP tracks to accommodate the construction of the new elevator tower, which would connect to the existing station by an overhead bridge. The property is occupied by a demolition and earthwork company and is owned through a living trust. There are no Section 4(f) properties located in the parcel. The Milwaukee Airport Rail Station project would not require the use of a Section 4(f) property.

The Build Alternative also would not require temporary occupancy of any Section 4(f) properties.

The Build Alternative would not require the direct or constructive use of parks, recreation areas, natural areas, recreation corridors, waterways, or historic properties within or adjacent to the corridor. Construction of the improvement projects needed to accommodate the increase in service may cause temporary impacts to these Section 4(f) properties including construction noise and dust. Mitigation measures to address these temporary impacts include requiring construction equipment that meets federal noise-level standards, requiring contractors to be responsible for dust-control measures, and prohibiting the parking of vehicles and storage of materials on recreational properties. Additionally, Best Management Practices for sedimentation control would be implemented to prevent construction materials from entering adjacent waterways. These commitments are included in the Environmental Commitments in Section 3.23.

3.18 Section 6(f) Properties

Section 6(f)(3) of Land and Water Conservation Act (LAWCA) requires that property acquired or developed with LAWCA funds shall not be converted to anything other than public, outdoor, or recreation uses.

3.18.1 Affected Environment

A search of the U.S. Department of Interior's website resulted in the finding that no public lands or waters that have received Land and Water Conservation Fund are located within or adjacent to the corridor.[83]

3.18.2 Potential Impacts

3.18.2.1 No-Build Alternative

The No-Build Alternative would not require the use of land from any Section 6(f) properties.

3.18.2.2 Build Alternative

The Build Alternative would not require the use of land from any Section 6(f) properties.

3.19 Energy Use and Climate Change

Climate change is any measured change in climate over a long time period. Climate change can be attributed to different causes, such as natural factors (for example, changes in the sun's energy or slow changes in the earth's orbit around the sun), natural processes within the climate system (for example, changes in ocean circulation), or human activities that change the atmosphere's makeup (for example, burning fossil fuels) and the land surface.

Over the past century, human activities have released large amounts of carbon dioxide and other greenhouse gases into the atmosphere. The majority of greenhouse gases come from burning fossil fuels to produce energy. Greenhouse gases trap energy in the Earth's atmosphere and cause it to warm. While this natural phenomenon, the greenhouse effect, supports life, the buildup of greenhouse gases can change Earth's climate. In the U.S., energy-related activities result in greenhouse gas (GHG) emissions, mostly in the form of carbon dioxide emissions from burning fossil fuels. More than half the energy-related emissions come from large stationary sources such as power plants, and in 2012, 28 percent came from transportation (EPA, 2014).

3.19.1 Potential Impacts

3.19.1.1 No-Build Alternative

The No-Build Alternative would not increase GHGs from train traffic; however, as private auto and truck use is expected to increase over the next 40 years in the corridor, there is anticipated to be an associated increase in GHG emissions. The No-Build Alternative would reequip the *Hiawatha Service* with new PRIIA 305 diesel locomotives, which are much more fuel efficient than the current P42 locomotives used on the *Hiawatha Service.* Energy use would decrease in the No-Build as compared to today.

[83] https://www.doi.gov/lwcf

3.19.1.2 Build Alternative

Energy impacts due to the implementation of the Build Alternative are estimated by calculating the change in energy consumption due to the diversion of trips from auto, bus, and air to rail and operation of three additional *Hiawatha Service* round trips per day. Energy consumption rates for auto, bus, and air travel in the Chicago-Milwaukee corridor were used to estimate the change in annual modal energy consumption due to the diversion of trips from those modes to rail. Because each of the four modes uses a different type of fuel, comparison of the energy consumed by each requires conversion to a common base unit. The British Thermal Unit (BTU) is the measure used to compare the change in total annual energy consumed by each mode.

According to the Research and Innovative Technology Administration, Bureau of Transportation Statistics, the following energy consumption rates were used to calculate the change in annual consumption for auto, intercity bus, and air modes:[84]

- Automobile: 3,843 BTUs per passenger-mile
- Intercity Bus: 823 BTUs per passenger-mile
- Air: 2,597 BTUs per passenger-mile

Energy consumption for rail is calculated using forecasted fuel usage data provided by Amtrak as part of their Route and Service Evaluation titled *Route & Service Financial Evaluation for Ten Daily Round Trips on Hiawatha Service* dated August 15, 2014 (Revised August 26, 2014). The conversion of gallons to BTUs is 1 gallon to 137,381 BTUs.

Annual passenger-miles for each travel mode are calculated by multiplying the number of diverted trips by the length of each trip (assumed to be 86 miles). To determine the annual energy consumption savings as a result of auto, air, and bus trips diverted to rail, the BTU rates were multiplied by the corresponding annual passenger-miles in 2019 and 2040. Figure 3-66 summarizes these calculations and presents the total annual energy consumption savings in 2019 and 2040.

[84] U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics,* Table 4-20: Energy Intensity of Passenger Modes, 2013 data

Figure 3-66
Annual Energy Consumption Savings due to Diverted Trips in 2019 and 2040

Travel Mode	Diverted Trips in 2019	Diverted Annual Passenger-Miles in 2019	Annual Energy Consumption Savings in 2019 (billion BTUs)
Air	196	16,856	0.044
Bus	716	61,576	0.051
Auto	100,188	8,616,168	33.1
Total			**33.2**
Travel Mode	**Diverted Trips in 2040**	**Diverted Annual Passenger-Miles in 2040**	**Annual Energy Consumption Savings in 2040 (billion BTUs)**
Air	230	19,780	0.051
Bus	840	72,240	0.059
Auto	117,530	10,107,580	38.8
Total			**39.0**

The change in fuel consumption on the *Hiawatha Service* due to the increase in frequencies is calculated from data provided by Amtrak in their Route and Service Evaluation report. Fuel consumption in the No-Build and Build Alternatives are not anticipated to increase between 2019 and 2040 because the frequency of Amtrak service is not anticipated to change for either alternative. Figure 3-67 shows the change in fuel consumption.

Figure 3-67
Change in *Hiawatha Service* Energy Consumption due to Build Alternative in 2019 and 2040

Alternative	Fuel Consumption (gallons)	Energy Consumption (billion BTU)	Change in Annual Energy Consumption (billion BTUs)
No-Build	798,898	109.8	
Build	1,122,041	154.2	44.4

Although Figure 3-66 shows a decrease in annual energy consumption of 32.8 BTUs in 2019 and 38.5 BTUs in 2040 due to the diversion of air, bus, and auto trips to rail, the energy consumption due to the operation of additional frequencies, as shown in Figure 3-67, is 44.4 BTUs. Operation of the Build Alternative would cause a minimal net increase in energy consumption considering both Alternatives would be using new energy efficient locomotives.

During construction of the Build Alternative, additional energy would be expended beyond what would be used for normal rail operations. This additional energy would be consumed on a short-term basis during construction of improvements required to implement the Build Alternative.

3.20 Visual and Aesthetic Quality

3.20.1 Affected Environment

The visual environment of the Program corridor ranges from undeveloped agricultural land and dense forest preserve to industrial development and urban districts. In the century following the construction of the existing rail corridor, the Chicago and Milwaukee urbanized areas have expanded significantly, prompting almost continuous development along the rail line. Throughout all this change, the railroad has remained a constant. While the quantity and type of trains operating in the corridor have changed, the physical footprint of the railroad, and the associated visual quality, has remained largely unchanged since the 1920s.

3.20.2 Potential Impacts

3.20.2.1 No-Build Alternative

The No-Build Alternative would not impact the existing visual quality along the corridor.

3.20.2.2 Build Alternative

The increase in *Hiawatha Service* frequencies would not impact the visual quality of the existing rail corridor since the enhanced service would run on the same route it does today. There are three projects whose proposed infrastructure improvements could impact the visual quality for the areas immediately surrounding the projects. These projects are discussed below.

UPRR Siding Extension at A-20 Design Alternative 1

The UPRR Siding Extension Design Alternative 1 proposes the construction of 4,000 feet of retaining wall to support the new track on the west side of the existing UP mainlines starting at the Willow Road bridge and heading south. The retaining wall would vary in height from 10 feet to 20 feet. A residential neighborhood lies adjacent to the railroad right-of-way south of the Shermer Road bridge on the west side of the UP mainlines. A thick grove of trees exists between the neighborhood and the rail right-of-way, essentially blocking the view of the existing rail embankment and trains operating on the tracks from the neighborhood. It is possible that the neighborhood could be visually impacted by the proposed retaining wall, particularly in the winter when foliage would be absent from the trees buffering the rail right-of-way. Instead of viewing a dirt embankment, residents would see a concrete retaining wall. The proposed retaining wall would be located approximately 15 feet closer to the neighborhood than the top of the existing embankment and would look less "natural" than the existing embankment. The retaining wall would be designed in close coordination with the public to minimize visual impacts as much as possible. This commitment is included in the Environmental Commitments in Section 3.23.

UPRR Siding Extension at A-20 Design Alternative 2

Design Alternative 2 proposes the construction of 900 feet of retaining wall on the west side of the existing

UP mainlines and 3,600 feet of retaining wall on the east side of the existing UP mainlines to support the new track construction. As described under UPRR Siding Extension at A-20 Design Alternative 1, there is a residential neighborhood that lies adjacent to the railroad right-of-way south of the Shermer Road bridge on the west side of the UP mainlines. A thick grove of trees exists between the neighborhood and the rail right-of-way, essentially blocking the view of the existing rail embankment and trains operating on the tracks from the neighborhood. It is possible that the neighborhood could be visually impacted by the proposed retaining wall, particularly in the winter when foliage would be absent from the trees buffering the rail right-of-way. Instead of viewing a dirt embankment, residents would see a concrete retaining wall. The retaining wall would be designed in close coordination with the public to minimize visual impacts as much as possible. This commitment is included in the Environmental Commitments in Section 3.23.

A smaller section of residences on the west side of the tracks would potentially be impacted by Design Alternative 2 than by Design Alternative 1. Land use on the east side of the tracks is industrial, which is anticipated to be less sensitive to visual impacts than residential land uses.

Milwaukee Airport Rail Station Second Platform

A platform is proposed to be constructed on the west side of the CP mainlines at the existing Milwaukee Airport Rail Station. Elevator towers would be constructed on both sides of the platform and an overhead pedestrian bridge connect the two towers. Due to adjacent industrial and airport land uses and because there are several overhead highway bridges in the vicinity, the construction of these station structures is not anticipated to impact the visual quality of the adjacent land uses.

3.21 Other Construction Impacts

Construction impacts are integrated throughout the environmental resource sections above. The section below discusses only impacts related to invasive species and noxious weeds.

3.21.1 Invasive Species and Noxious Weeds

The Upper Midwest Environmental Sciences Center (an organization within the Midwest Region of the USGS) defines invasive species as "the subset of nonnative organisms that cause undesirable changes in the invaded ecosystem, spread widely, become overly abundant, or reduce native organisms." Human activities like "moving people and things from place to place and cultivating plans and animals result in the accidental or purposeful introduction of species outside their native range."[85] USGS lists Asian Red Carp, Eurasian Ruffe, Reed Canary Grass, Round Goby, Sea Lamprey, and Zebra Mussels as invasive species impacting Illinois. These species may be present within the corridor.

The U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) lists 10 plant species

[85] Upper Midwest Environmental Sciences Center, http://www.umesc.usgs.gov/invasive_species.html

as Illinois State-listed Noxious Weeds: common ragweed, giant ragweed, marijuana, musk thistle, Canada thistle, kudzu (2 varieties), perennial sowthistle, Columbus grass, and Johnson grass.[86] NRCS lists five plant species in Wisconsin that are Noxious Weeds: Canada thistle, field bindweed, leafy spurge, purple loosestrife, and multiflora rose.[87]

Kenosha, Racine, and Milwaukee Counties are identified as Emerald Ash Borer quarantined areas in Wisconsin. Quarantines are issued by DATCP for counties where an Emerald Ash Borer find is confirmed. During initial consultation with Wisconsin DNR, the potential for spreading the Emerald Ash Borer beetle for the three projects in Wisconsin was identified. Coordination with DATCP is required for the removal of ash material, the emerald ash borer, and hardwood debris out of the project areas to non-quarantined locations.[88]

Cook and Lake Counties are identified as Gypsy Moth quarantined areas in Illinois. The quarantine requires all nursery stock and firewood being shipped out of these counties to be inspected and certified.[89] During a conference call on June 17, 2016, the Illinois Department of Agriculture (IDA) explained that during construction of any of the improvement projects in Illinois, a visual inspection would occur to determine if any gypsy moth egg masses are located in the project areas. The contractor would report the finding to IDA and eradicate the egg.

During construction, best management practices would be used to control the spread of invasive species and noxious weeds. Measures include the inspection and cleaning of construction equipment, commitments to ensure the use of invasive-free mulches, top soils and seed mixes, and eradication strategies. Landscaping and erosion control included in the project would avoid the use of species listed as noxious weeds. Precautions would be taken to ensure the project does not result in noxious weed and/or invasive species impacts to Natural Areas and Nature Preserves.

3.22 Indirect and Cumulative Impacts

CEQ regulations require that indirect and cumulative impacts be evaluated for a proposed action. CEQ regulations define indirect impact as those that "are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems."[90]

CEQ defines cumulative impacts as those that "result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency

[86] U.S. Department of Agriculture, http://plants.usda.gov/java/noxious?rptType=State&statefips=17
[87] U.S. Department of Agriculture, http://plants.usda.gov/java/noxious?rptType=State&statefips=55
[88] Wisconsin DNR, http://dnr.wi.gov/topic/Invasives/NR40Permits.html
[89] Illinois Department of Agriculture, https://www.agr.state.il.us/gypsy-moth/
[90] 40 CFR Part 1508.8, https://ceq.doe.gov/nepa/regs/ceq/1508.htm#1508.8

(Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."[91]

According to American Association of State Highway and Transportation Officials (AASHTO), indirect effects include induced growth and related environmental impacts. An analysis of induced growth effects involves "tracing the chain of causation connecting a transportation project to future land use changes and then to the impacts of those changes."[92] The following questions should be considered:

- Does the project have the potential to increase mobility and/or accessibility?
- Is the increased accessibility likely to cause changes in development patterns?
- What impacts are likely to result from changes in development patterns that are caused by the project?

AASHTO explains that an assessment of cumulative impacts "focuses on the combined effects of the proposed action and other actions on specific resources." The cumulative impact analysis summarizes the direct and indirect impacts of the proposed action on a resource; describes other actions and their effects on the resource; and estimates the combined effects of the proposed action and other actions on the resource.

3.22.1 Potential Impacts

3.22.1.1 No-Build Alternative

Under the No-Build Alternative, *Hiawatha Service* would continue to operate at existing levels of service on the existing rail infrastructure. The No-Build Alternative would not improve the level and quality of passenger rail service in the corridor. Congestion on corridor highways and roadways would continue to worsen. Delays to freight and commuter rail in the corridor would also continue.

3.22.1.2 Build Alternative

3.22.1.2.1 Indirect Impacts

The Build Alternative was examined for indirect impacts within the project corridor over a 20 year horizon period. Specifically, the Build Alternative was assessed for the potential to increase accessibility, for the potential to induce growth, and for the potential to impact sensitive resources. The Build Alternative would not increase accessibility within the corridor in that travel times would not change and new stations are not proposed to be added to the corridor, but it would provide more travel options and transportation choice.

[91] 40 CFR Part 1508.7, https://ceq.doe.gov/nepa/regs/ceq/1508.htm#1508.7
[92] AASHTO Practitioner's Handbook, *Assessing Indirect Effects and Cumulative Impacts Under NEPA*, April 12, 2011

Indirect Impacts on Passenger Stations

Indirect development may occur near *Hiawatha Service* stations due to the increase in frequencies planned as part of the Build Alternative. Growth around transit stations is referred to as transit-oriented development (TOD). As defined by the Federal Transit Administration, TOD creates "compact, mixed-use communities near transit where people enjoy easy access to jobs and services."[93] The potential for indirect TOD at each *Hiawatha Service* station is discussed below.

Chicago Union Station

Amtrak uses Chicago Union Station at Canal and Madison Streets as its central passenger terminal for long distance trains. The station has connections with CTA buses, Metra commuter rail and CTA 'El', Greyhound, Coach USA, and Megabus service, and is located blocks from other Greyhound and Indian Trial connections. Chicago Union Station services more than ten different Amtrak lines passing though as well as more than ten Metra rail lines. The areas surrounding the station are completely developed and it is unlikely that additional *Hiawatha Service* traffic would create land use changes in downtown Chicago.

Glenview

The Glenview Amtrak station is located in downtown Glenview. The station has municipal parking lots adjacent to the platform and along the rail right-of-way and is adjacent to retail, commercial, office, and residential units. The Village of Glenview released its Comprehensive Plan in July 2016. The plan provides a vision and framework for Glenview's future including policy recommendations for land use throughout the Village. The land use immediately surrounding the station is zoned as residential, commercial, and government. Future zoning re-designates the commercial and residential as Downtown Development, which creates a pedestrian-oriented district that allows a mix of residential and non-residential uses. The plan also identified the Downtown District as an area with opportunity for redevelopment. Working in connection with the 2006 Downtown Revitalization Plan, the Village will support redevelopment projects "which include a mix of uses near the train station; street-level activities along Glenview Road; parks, plazas, and enhanced environmental features; and connectivity to adjacent properties that support a live-work-play philosophy." The Village will also "encourage businesses to locate in vacant or underutilized lots, buildings or storefronts."[94] Opportunities are available for transit-oriented development in the Downtown Development zone of Glenview.

Sturtevant

The Sturtevant Amtrak station is located in the northern part of Sturtevant adjacent to zoned commercial areas to the west. East of the railroad tracks and station are high density residential and commercial

[93] Federal Transit Administration, https://www.transit.dot.gov/funding/funding-finance-resources/transit-oriented-development/transit-oriented-development
[94] Village of Glenview 2016 Comprehensive Plan: http://www.glenviewlookingforward.com/

zones. Vacant property exists immediately west and south of the station in the commercial zone. Opportunities are available for transit-oriented development in the area of the station.

Milwaukee Airport Rail Station

The Milwaukee Airport Rail Station is located on the far western edge of the airport grounds in the southeastern portion of the City of Milwaukee. The station is bound by the railroad to the west, the Airport Spur highway to the north, industrial uses to the south, and the General Mitchell International Airport to the east. The City produced its Comprehensive Plan for the Southeast Side of Milwaukee in October 2008. The area surrounding the airport and the station is located in the Airport Gateway Business Area District. The Comprehensive Plan identifies redevelopment opportunities in the Airport Gateway Business Area District, but because the station is not located adjacent to any of the proposed opportunities, there may not be a direct link between increased Amtrak service and transit-oriented development.[95]

Milwaukee

Amtrak's passenger terminal is the Milwaukee Intermodal Station in downtown Milwaukee. The City of Milwaukee adopted its ambitious Downtown Comprehensive Plan in 2010. To meet the broad goals of making downtown Milwaukee "more centered, place-oriented, connected, and dense," the Plan identifies numerous opportunities for redevelopment in Milwaukee's Central Business District and provides a framework for investment in the area of the Milwaukee Intermodal Station and nearby. The station is envisioned to be a Gateway to Milwaukee because it is the Milwaukee stop for Amtrak service and intercity bus service. The Plan understands that the current built environment around the station "does not lend itself as a destination or a place in which positive first impressions are made." The redeveloped "Station Plaza" is imagined as an expanded intermodal station campus that links a new streetcar network to intercity rail and intraregional bus services and to already-developed commercial and residential sites in the area. The Plan encourages office, residential, restaurants, neighborhood, and commuter-supporting land uses.[96] Opportunities are available for transit-oriented development near the station.

Summary of Indirect Impacts on Passenger Stations

In Glenview, the downtown area was re-zoned to provide pedestrian-oriented flow and housing and commercial redevelopment. Glenview's Plan does not discuss enhanced Amtrak service, so it can be assumed that induced growth in Glenview is not tied to the Build Alternative; rather, the growth is induced by Glenview's downtown amenities and walkability. The City of Milwaukee proposed major redevelopment in its Central Business District, including a Station Plaza, which would incorporate the existing Milwaukee Intermodal Station with a new streetcar network and intraregional bus system. The Plan encourages office, residential, restaurants, neighborhood, and commuter-supporting land uses. As

[95] http://city.milwaukee.gov/AreaPlans/Southeast.htm#.V5o7TFWDFBc
[96] http://city.milwaukee.gov/DowntownPlan#.V5o07lWDFBc

in Glenview, there is potential for induced growth near the Milwaukee Intermodal Station, but it is not tied to the Build Alternative. At the Sturtevant Station, vacant property exists adjacent to the station in the commercial zone. It is possible that the Build Alternative could induce growth and attract commercial businesses to the area. At all of these stations, expansion of the *Hiawatha Service* is compatible with proposed land use plans.

It is unlikely that the Build Alternative would induce growth near Chicago Union Station. The area around the station is completely built out, leaving little opportunity for growth due to the project. The Milwaukee Airport Rail Station is completely separated from residential and redevelopment opportunities identified in the Comprehensive Plan, and would likely not experience induced growth related to the Build Alternative.

The CEQ requires an indirect effects analysis to consider effects that are "likely" or "probable." Because the indirect impact on development near stations is not directly tied to the Build Alternative and because impacts on the Chicago-area rail network cannot be quantitatively and locationally defined, the indirect impact on sensitive resources due to the Build Alternative would be speculative.

Indirect Impacts on the Rail Network

The Build Alternative could result in positive indirect impacts on the Chicago-area freight and commuter rail network. Due to the significant improvements proposed to be constructed as part of the Build Alternative, capacity on the project corridor would be increased, allowing for fewer freight delays in the corridor. As discussed in Chapter 2 of the EA, each of the rail lines comprising the Chicago-area rail network are intrinsically tied together; capacity improvements on the project corridor could induce a ripple effect of reduced freight delays on other rail lines, including the UP Milwaukee Subdivision, which crosses the project corridor at A-20 in Northbrook, IL.

Construction of rail infrastructure in the project corridor would create indirect economic impacts. Indirect impacts accrue from construction and operation-related wages recycled in local economies for the day-to-day needs of employees.

These impacts are a result of construction and operation-related wages that are recycled in local economies for the day-to-day needs of employees.

3.22.1.2.2 Cumulative Impacts

It is anticipated that the Build Alternative would result in negligible cumulative impacts on the physical environment, ecological systems, and the human environment for the following reasons:

- The Build Alternative proposes infrastructure projects at various locations throughout the corridor and a majority of the impacts would be within the existing right-of-way and in previously disturbed areas.

- There are no severe noise, vibration, or air quality impacts anticipated as a result of the Build Alternative and would have a no cumulative effect when combined with any other project impact within the corridor.
- Any new service-related impacts outside the existing track right-of-way would be narrow, linear, and distributed over a relatively long distance (86 miles). As a result, the impact to any given resource within any given area is expected to be relatively small and would have a negligible cumulative impact when combined with any other project impact in the corridor.

Primary projects associated with cumulative impacts relative to the Build Alternative are the completion of the development of the Midwest Regional Rail System, construction of passenger flow improvements at Chicago Union Station, and the procurement of the Midwest's Next Generation equipment.

The buildout of the Midwest Regional Rail System (MWRRS) would provide 2,000 miles of intercity passenger rail throughout the Midwest. The MWRRS would operate over existing track and within existing rights-of-way and/or within previously disturbed areas. The MWRRS is expected to provide service to motorists who would otherwise travel within the Midwest by automobile. The shift in travel mode is anticipated to provide an overall cumulative benefit in terms of air quality (physical environment) by reducing overall vehicle emissions and on the transportation network (human environment) by reducing congestion. The cumulative effect of adding these impacts to the impacts associated with the Build Alternative would be positive.

The construction of improvements at Chicago Union Station would "open up the station's concourse area to improve passenger flows and to make it easier for passengers to navigate through the station."[97] The construction is limited to track and platform areas and to the station itself. Because the improvements would occur within the existing right-of-way, the cumulative effect of adding these impacts to the impacts associated with the Build Alternative are anticipated to be minimal.

As part of the Next Generation equipment procurement, Wisconsin would receive two Tier IV locomotives that would replace the Amtrak-owned P42 locomotives that are currently employed on the *Hiawatha Service.* The use of next generation locomotives would reduce fuel consumption, operating and maintenance costs, and locomotive emissions for the *Hiawatha Service*. The cumulative impact of this project combined with the Build Alternative is negligible because while fuel consumption and emissions would be reduced using the new locomotives, an additional trainset is required to operate the Build Alternative, which negates any positive cumulative impact.

[97] Union Station Master Plan Study – Stage 2, Technical Memorandum No. 1, http://www.unionstationmp.com/wp-content/uploads/2013/12/Union-Station-Master_Plan_Tech-Memo-1-FINAL-12-20-2013.pdf

3.23 Environmental Commitments and Mitigation

An environmental commitment is a documented promise or obligation concerning an environmental issue made by WisDOT and IDOT to an entity outside WisDOT and IDOT. Through federal and state project reviews, environmental commitments have been identified. Figure 3-68 identifies to whom the commitment was made, lists the source document containing the commitment, and summarizes the commitment.

Figure 3-68
Summary of Environmental Commitments

Commitment-Identifying Agency	Source Document	Commitment
Illinois Department of Natural Resources	Natural Resource Review for the Rondout Extension/Metra Fox Lake Second Track Project; Appendix E	No work shall be conducted under the I-94 overpass from May 1 through August 15 of any construction year to protect nesting birds under the overpass.
		If the construction work under the I-94 overpass cannot be started until after May 1, netting or other obstructions should be placed under the overpass prior to April 1 to prevent birds from nesting under the overpass but so as not to interfere with train traffic.
		To protect the state and federally listed Northern Long-eared Bat, trees five inches or greater in diameter at breast height (dbh) to be cut within the project area shall be clearly flagged and/or marked and shall not be cut between the dates of April 1 through October 14.
		To protect the state-listed Iowa darter, there shall be no instream work at the North Branch to the Chicago River bridge during the dates April 1 through June 30.
		Strict adherence to best management practices for erosion and sedimentation control should be used to minimize the possibility of any adverse impacts to aquatic species, streams, Middlefork Savanna Nature Preserve, and wetlands in the vicinity of this project action.
		Direct coordination is needed at the appropriate time with Illinois Nature Preserves Commission staff to ensure avoidance of any impacts, direct or indirect, to the Middlefork Savanna Nature Preserve, up to and including permitting by INPC if necessary. Contact Kelly Neal, INPC Stewardship Project Manager, Kelly.neal@illinois.gov or by phone at 217/524-2415.
Wisconsin Department of Natural Resources	WDNR Initial Project Review; Appendix F	To protect developing fish eggs and substrate for aquatic organisms, all in-stream work that could adversely impact water quality should be undertaken between June 15 and February 28 of the calendar year.
		The project should either utilize measures to prevent nesting (e.g., remove unoccupied nests during the non-nesting season and install barrier netting prior to May 1) or construction should occur only between August 30 and May 1 (non-nesting season).
		Adequate precautions should be taken to prevent transporting or introducing invasive species via construction equipment, as provided under NR 40, Wisconsin Administrative Code.
		During final design, DNR requires submittal of the results of a 100-year flood analysis for any new structures. If the new structures

Commitment-Identifying Agency	Source Document	Commitment
		would create an increase of 0.01 feet or more in the 100-year backwater condition, DNR requires that all affected upstream landowners be notified, appropriate legal arrangements made, and the local floodplain ordinance must be amended.
		The project has the potential for spreading the Emerald Ash Borer beetle. Coordination with the Wisconsin Department of Agriculture, Trade, and Consumer Protection is required if certain materials are removed from EAB quarantined areas to non-quarantined areas.
		An Erosion Control Implementation Plan for the projects must be developed by the contractor and submitted to the DNR prior to the preconstruction conference.
		WDNR must be notified during construction if asbestos-containing material is found during inspection. The contractor would follow the DNRs regulations on asbestos abatement for removal and disposal of asbestos contained material.
Wisconsin Historic Preservation Office	Wisconsin SHPO Concurrence Letter; Appendix C	Regarding the Muskego Yard Signalization project: A qualified archaeologist would monitor the construction-related ground disturbing activities; site should not be used for borrow or waste disposal; site area not currently capped by asphalt/concrete should not be used for staging of personnel, equipment and/or supplies.
US Fish and Wildlife Service	Documentation of USFWS Coordination; Appendix G	Provide wetland maps near project sites to ensure proper mitigation for the EPFO. FRA will work with USFWS to identify mitigation for existing herbicide damage and develop a plan for the monitoring of EPFO prior to construction to ensure known locations of EPFO can be avoided.
Illinois Environmental Protection Agency and Wisconsin Department of Natural Resources	EA Section 3.9	State regulations for hazardous materials would be followed during construction of improvement projects.
Illinois Environmental Protection Agency and Wisconsin Department of Natural Resources	EA Sections 3.13, 3.14, and 3.16	Potential impacts to streams, water quality, and wetlands would be minimized through the use and enforcement of Erosion and Sedimentation Control policies and National Pollutant Discharge Elimination System permits that employ Best Management Practices (e.g., silt fences, check dams, and sediment basins) and construction activities would comply with all spill prevention control and countermeasures requirements. Permanent Best Management Practices installed following construction (e.g., permanent seeding and use of native vegetation) would further reduce impacts.
Illinois Department of Natural Resources	EA Section 3.15	At the time of final design, a 100-year flood analysis would be completed for any new structures. Floodplain mitigation would be identified as needed and coordinated with local officials.
Local jurisdictions who own Section 4(f) Properties	EA Section 3.17	Mitigation measures to address temporary impacts to Section 4(f) properties during construction include requiring construction equipment that meets federal noise-level standards, requiring contractors to be responsible for dust-control measures, and prohibiting the parking of vehicles and storage of materials on recreational properties. Additionally, Best Management Practices for sedimentation control would be implemented to prevent construction materials from entering adjacent waterways.
Village of Glenview and Adjacent Property Owners	EA Section 3.20	The retaining wall proposed for the UPRR Siding Extension at A-20 Design Alternatives 1 and 2 would be designed in close coordination with the public to minimize visual impacts as much as possible.

Commitment-Identifying Agency	Source Document	Commitment
Wisconsin Department of Agriculture, Trade and Consumer Protection	EA Section 3.21	Coordination with DATCP is required for the removal of ash material, the emerald ash borer, and hardwood debris out of the project areas to non-quarantined locations.
Illinois Department of Agriculture	EA Section 3.21	During construction, best management practices would be used to control the spread of invasive species and noxious weeds. Measures include the inspection and cleaning of construction equipment, commitments to ensure the use of invasive-free mulches, top soils and seed mixes, and eradication strategies. Landscaping and erosion control included in the project would avoid the use of species listed as noxious weeds. Precautions would be taken to ensure the project does not result in noxious weed and/or invasive species impacts to Natural Areas and Nature Preserves.

4 Agency Coordination and Public Involvement

4.1 Introduction

This chapter describes the efforts and events conducted for agency coordination, stakeholder coordination, public meetings, tribal coordination, and public involvement during the development of the Chicago-Milwaukee EA. The purpose of the coordination effort was to present the process, provide information, and gather input from stakeholders. Comments and concerns were incorporated into the development and analysis of the project purpose and need, alternatives analysis, and potential environmental impacts.

4.2 Project Team

A project team was formed to guide the Environmental Assessment process through its completion. Members of the project team include:

- Wisconsin Department of Transportation and Illinois Department of Transportation as lead state agencies
- Federal Railroad Administration as lead federal agency
- Amtrak as cooperating agency

Technical, operations, engineering, and environmental experts from the partner agencies provided on-going collaboration on the project, meeting bi-weekly to discuss project issues and review project documents.

4.3 Railroad Stakeholder Working Group

Initial railroad coordination occurred with CP, UP, and Metra (Chicago's commuter rail operator) to provide an overview of the project and discuss the project-level alternatives analysis. As purpose and need and alternatives analyses progressed, a formal working group consisting of railroad stakeholder operations personnel was created to provide streamlined coordination among the railroads and the project team. A Railroad Stakeholder Working Group was formed in early 2013 consisting of the following members:

- CP
- UP
- Metra

Meetings were held throughout the EA development process with the railroad stakeholders. Some meetings included all members of the working group, while others only included a few members. Figure 4-1 lists the railroad stakeholder working group meetings.

Figure 4-1
Railroad Stakeholder Working Group Meetings

Date	Coordination	Discussion
January 25, 2013	CP, UP, Metra, Amtrak, FRA, WisDOT, IDOT	Initial railroad stakeholder meeting
February 19, 2013	CP, Metra, Amtrak, FRA, WisDOT, IDOT	Working Group meeting #1 – outline path forward for identifying current and future capacity constraints
April 5, 2013	CP, UP, Metra, Amtrak, FRA, WisDOT, IDOT	Working Group meeting #2 –identify current and future capacity constraints and infrastructure improvements to mitigate the constraints
August 14 and August 30, 2013	CP, Metra, Amtrak, FRA, WisDOT, IDOT	Discuss Rail Traffic Controller (RTC) simulations of corridor produced by CP
September 20, 2013	CP, WisDOT	Discuss RTC modeling and get responses to FRA questions
October 11, 2013	UP	Discuss UP Siding Extension at A-20 project
December 16, 2013	CP, UP, Metra, Amtrak, FRA, WisDOT	Meeting to update railroad stakeholders on the status of the EA development
March 13, 2014	CP, WisDOT	Meeting to discuss proposed improvements at Muskego Yard
May 9, 2014	CP, WisDOT	Discuss Muskego Yard concept plans
September 4, 2014	CP, Metra, WisDOT, IDOT	Discuss proposed improvements for the Metra Fox Lake Second Track project, Rondout Siding Extension project, and Muskego Yard
September 22, 2014	CP, WisDOT, IDOT	Discuss existing operations and proposed improvements needed between Milwaukee Intermodal Station and Cut-Off
January 30, 2015	CP, WisDOT	Discuss phasing of improvement projects
February 27, 2015	CP, WisDOT	Further discussion on Muskego Yard
June 17, 2015	CP, FRA, WisDOT, IDOT	In-person meeting to update CP on infrastructure improvements and phasing plan
July 7, 2015	CP, WisDOT	Further discussion on Muskego Yard
August 6, 2015	CP, WisDOT	Further discussion on Muskego Yard
September 1, 2015	Metra, FRA, WisDOT, IDOT	Discuss Metra's proposed interim improvements at Rondout
October 9, 2015	Metra, FRA, WisDOT, IDOT	In-person meeting to discuss Metra's proposed interim improvements at Rondout
January 7, 2016	CP, WisDOT	Discussed path forward for completing Environmental Assessment and additional Muskego Yard improvements

4.4 Agency and Tribal Coordination

Potential agency stakeholders were identified early in the study and included agencies at the federal, state, county, and local levels. Figure 4-2 lists the stakeholders contacted for project participation.

Figure 4-2
Agency Stakeholders

Agency Stakeholders	Contact Person	Address
Federal		
U.S. Army Corps of Engineers	Ms. Rebecca Graser	20711 Watertown Road, Suite F Waukesha, WI 53186
U.S. Army Corps of Engineers	Mr. Anthony Jernigan	20711 Watertown Road, Suite F Waukesha, WI 53186
U.S. Army Corps of Engineers	Ms. Leesa Beal	111 North Canal Street, Suite 600 Chicago, IL 60606
U.S. Fish & Wildlife Service	Mr. Peter Fasbender	2661 Scott Tower Drive New Franken, WI 54229
U.S. Fish & Wildlife Service	Mr. Shawn Cirton	1250 S. Grove Avenue, Suite 103 Barrington, IL 60010
U.S. Coast Guard, Ninth District	Mr. Scot Striffler	1240 E. Ninth Street Cleveland, OH 44199
U.S. Department of the Interior	Mr. Nick Chevance	National Park Service 601 Riverfront Drive Omaha, NE 68102
Environmental Protection Agency, Region 5	Mr. Kenneth Westlake	NEPA Implementation Section Mail Code E-19 77 W. Jackson Blvd. Chicago, IL 60604
Federal Aviation Administration, Great Lakes Region	Agency Representative	2300 East Devon Avenue Des Plaines, IL 60018
State		
Wisconsin Department of Natural Resources	Ms. Kristina Betzold	2300 N. MLK Drive Milwaukee, WI 53212
DNR Liaison in Kenosha	Mr. Craig Webster	141 NW Barstow Room 180 Waukesha, WI 53188
Wisconsin State Historic Preservation Office	Ms. Kimberly Cook	816 State Street Madison, WI 53706
Wisconsin Department of Agriculture, Trade and Consumer Protection	Ms. Alice Halpin	2811 Agriculture Drive Madison, WI 53718
Wisconsin Historical Society	Mr. Michael Stevens	816 State Street Madison, WI 53706
Wisconsin Bureau of Aeronautics	Mr. Justin Hetland	PO Box 7914 Madison, WI 53707
Wisconsin Department of Administration (Coastal Zone)	Ms. Kate Angel	PO Box 8944 Madison, WI 53708
Natural Resources Conservation Service	Ms. Brandi Richter	1012 Vine Street Union Grove, WI 53182
Illinois Department of Transportation – Bureau of Design and Environment	Dr. Ken Runkle	2300 South Dirksen Parkway Room 330 Springfield, IL 62764
Illinois Historic Preservation Agency	Ms. Anne Haaker	1 Old State Capitol Plaza Springfield, IL 62701
Illinois Historic Preservation Agency	Mr. David Halpin	1 Old State Capitol Plaza Springfield, IL 62701
Illinois Department of Agriculture, Bureau of Land & Water Resources	Ms. Terry Savko	State Fairgrounds PO Box 19281

Agency Stakeholders	Contact Person	Address
		Springfield, IL 62794
Illinois Environmental Protection Agency	Mr. Alan Keller	1021 N. Grand Avenue East Springfield, IL 62794
Illinois Department of Natural Resources	Mr. Steve Hamer	1 Natural Resources Way Springfield, IL 62702
Illinois Department of Natural Resources	Mr. Patrick Malone	1 Natural Resources Way Springfield, IL 62702
Illinois Department of Natural Resources	Ms. Tara Kieninger	1 Natural Resources Way Springfield, IL 62702
Tribes		
Bad River Band of Lake Superior Chippewa Indians of Wisconsin	Ms. Edith Leoso, THPO Mr. Robert Blanchard, Chair	PO Box 39 Odanah, WI 54861
Forest County Potawatomi Community of Wisconsin	Ms. Melissa Cook, THPO Mr. Harold Frank, Chair	Tribal Office PO Box 340 Crandon, WI 54520
Ho-Chunk Nation	Mr. Bill Quackenbush Mr. Wilfrid Cleveland, President	Executive Offices 405 Airport Road Black River Falls, WI 54615
Lac Vieux Desert Band of Lake Superior Chippewa Indians of Wisconsin	Giiwegiizhigookway Martin, THPO Mr. James Williams, Jr., Chairman	Ketegitigaaning Ojibwe Nation PO Box 249 Watersmeet, MI 49969
Menominee Indian Tribe of Wisconsin	Mr. Dave Grignon, THPO Ms. Joan Delabreau, Chairperson	PO Box 910 Keshena, WI 54135
Prairie Band Potawatomi Nation	Mr. Warren Wahweotten, Jr., THPO Ms. Liana Onnen, Chairperson	16281 Q Road Mayetta, KS 66509
Prairie Island Indian Community Minnesota Mdewakanton Sioux	Mr. Art Owen, THPO Ms. Shelley Buck, Chair	5636 Sturgeon Lake Road Welch, MN 55089
Red Cliff Band of Lake Superior Chippewa Indians of Wisconsin	Mr. Larry Balber, THPO Mr. Bryan Bainbridge, Chair	88385 Pike Road, Highway 13 Bayfield, WI 54814
Sac and Fox Nation of Oklahoma	Ms. Sandra Massey, NAGPRA Rep. Ms. Kay Rhoads, Principal Chief	920883 S. Highway 99 Stroud, OK 74079
Sac and Fox of the Mississippi in Iowa	Mr. Johnathan Buffalo, NAGPRA Rep. Mr. Troy Wanatee, Chair	349 Meskwaki Road Tama, IA 52339
Sac and Fox Nation of Missouri in Kansas and Nebraska	Mr. Gary Bahr Mr. Edmore Green, Chairperson	305 North Main Reserve, KS 66434
Sokaogon Chippewa Community Mole Lake Band	Mr. Chris McGeshick, Chairman	3051 Sand Lake Road Crandon, WI 54520
Miami Tribe of Oklahoma	Mr. George Strack Mr. Douglas G. Lankford, Chair	202 S. Eight Tribes Trail Miami, OK 74354
Hannahville Indian Community	Mr. Kenneth Meshigaud, Chairperson	N14911 Hannahville Boulevard Road Wilson, MI 49896
Pokagon Band of Potawatomi	Mr. Marcus Winchester, THPO Mr. John Warren, Chairman	58620 Sink Road Dowagiac, MI 49047
Citizen Potawatomi Nation	Dr. Kelli Mosteller, THPO Mr. John A. Barrett	1601 S. Gordon Cooper Drive Shawnee, OK 74801
County		
Milwaukee County, WI	Mr. Chris Abele	901 N. 9th Street, Room 306 Milwaukee, WI 53233
Racine County, WI	Mr. James Ladwig	730 Wisconsin Avenue, 10th Floor Racine, WI 53403
Kenosha County, WI	Mr. Jim Kreuser	1010 56th Street

Agency Stakeholders	Contact Person	Address
		Kenosha, WI 53140
Lake County, IL	Ms. Paula Trigg	600 W. Winchester Road Libertyville, IL 60048
Cook County, IL	Mr. John Yonan, P.E.	69 W. Washington, 23rd Floor Chicago, IL 60602
Municipalities		
City of Milwaukee, WI	Mr. Jeff Polenske	Infrastructure Division 841 N. Broadway, Room 701 Milwaukee, WI 53202
Village of Sturtevant, WI	Ms. Mary Cole	2801 89th Street Sturtevant, WI 53177
Village of Wadsworth, IL	Mr. Moses Amidei	14155 W. Wadsworth Road Wadsworth, IL 60083
Village of Gurnee, IL	Mr. Patrick Muetz	325 N. O'Plaine Road Gurnee, IL 60031
Village of Waukegan, IL	Mr. Scot Prindiville	100 Martin Luther King Jr. Avenue Waukegan, IL 60085
Village of Green Oaks, IL	Ms. Elaine Palmer	2020 O'Plaine Road Green Oaks, IL 60048
City of Lake Forest, IL	Mr. Robert Kiley	220 E. Deerpath Road Lake Forest, IL 60045
Village of Bannockburn, IL	Ms. Maria Lasday	2275 Telegraph Road Bannockburn, IL 60015
Village of Deerfield, IL	Mr. Kent Street	850 Waukegan Road Deerfield, IL 60015
Village of Northbrook, IL	Mr. Richard A. Nahrstadt	1225 Cedar Lane Northbrook, IL 60062
Village of Glenview, IL	Mr. Donald Owen Mr. Jeff Brady Mr. Todd Hileman	1225 Waukegan Road Glenview, IL 60025
Village of Golf, IL	Mr. Bob Der Avedisian	1 Briar Road Golf, IL 60029
Village of Morton Grove, IL	Mr. Ryan Horne	6101 Capulina Avenue Morton Grove, IL 60053
Village of Skokie, IL	Mr. John Lockerby	5127 Oakton Street Skokie, IL 60077
Village of Niles, IL	Mr. George R. Van Geem	000 Civic Center Drive Niles, IL 60714
City of Chicago, IL	Ms. Karen Weigert Mr. Aaron Joseph	121 N. La Salle Street, Room 406 Chicago, IL 60603
City of Chicago, IL	Mr. Jeffrey Sriver	30 N. La Salle Street, 5th Floor Chicago, IL 60602
Other Agencies		
General Mitchell International Airport	Mr. John Moore	5300 South Howell Avenue Milwaukee, WI 53207
Southeastern Wisconsin Regional Planning Commission (SEWRPC)	Mr. Ken Yunker	W239 N1812 Rockwood Drive Waukesha, WI 53187

An initial agency stakeholder webinar was conducted on November 19, 2012 to inform the stakeholders about the project, request comments, and outline future public outreach activities. The initial purpose

and need and alternatives analysis activities were discussed.

On December 2, 2014, a follow-up agency stakeholder webinar was held to discuss refinement of the alternatives analysis and identification of proposed improvement projects. Prior to the webinar, draft concept plans and project descriptions for the proposed improvement projects were provided to each of the invited stakeholders, including Native American Tribes. Comments, anticipated impacts, and potential mitigation were requested to be provided to the project team by December 31, 2014.

Four agencies provided comments on the proposed project based on materials sent for the webinar. Figure 4-3 summarizes the correspondence received by the project team.

Figure 4-3
Agency Stakeholder Correspondence

Agency	Date	Coordination
Wisconsin Department of Transportation – Bureau of Aeronautics	November 13, 2014	Reviewed the concept plans and proposed scope of work and has no issues from a Bureau of Aeronautics standpoint
Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP)	December 9, 2014	Provided letter stating that an Agricultural Impact Statement is not required for the project.
Wisconsin Department of Natural Resources (WDNR)	December 23, 2014	Provided a letter of Initial Review that identified project concerns
U.S. Coast Guard	December 23, 2014	Provided email stating that the scope of work for the work to the Menomonee River Bridge, which is within the jurisdiction of the Coast Guard, does not require a bridge permit

WDNR identified an initial list of concerns after reviewing the proposed scope and concept plans for the infrastructure improvements associated with the increase in *Hiawatha Service* frequencies to 10 round trips per day. Figure 4-4 lists the comments, with responses by the project team.

Figure 4-4
Wisconsin Department of Natural Resources Initial Project Review

WDNR Comment	Response
Potential for wetland impacts to occur as a result of this project and wetland impacts must be avoided and/or minimized to the greatest extent possible	Wetlands were delineated as part of the Natural Resources Review and impacts to wetlands quantified. State and Federal permits and approvals must be attained prior to construction.
No Endangered Resources or suitable habitat that could be impacted by this project are known or likely to occur in the project area or its vicinity.	Federal requirements for screening for the presence of or suitable habitat for the Northern Long-Eared Bat in the project areas have been followed.
In-stream work at the Menomonee River Bridge that could adversely impact water quality should be undertaken between June 15th and February 28th of the calendar year	No work is anticipated to occur on the structure of the Menomonee River Bridge. Rail resurfacing and tie replacement are above-ballast activities that are proposed. If any dredging of the banks is to occur, work should be undertaken between June 15 and February 28.
Structures are potential migratory bird nesting places. Project should utilize measures to prevent nesting or work should only occur between August 30 and May 1 (non-nesting season). Must coordinate with US Fish & Wildlife Service if using either method	No destruction of nests is anticipated to occur on the structure of the Menomonee River Bridge because all proposed work would be above-ballast; however, if nets are used to prevent birds from nesting on the Bridge, the nets must be put up prior to May 1 (when nesting season starts).
Adequate precautions should be taken to prevent transporting or introducing invasive species via construction equipment	During construction, proper protocols to prevent transporting and introducing invasive species via construction equipment and the disinfection of construction equipment would be followed as defined by the NR 40, Wis. Administrative Code and the STSP 107-055 Environmental Protection – Aquatic Exotic Species Control.
A determination must be made as to whether the project lies within a mapped/zoned floodplain	FEMA flood hazard maps were reviewed for the project areas. Within the Muskego Yard project area, the 1% flood event is confined to the Menomonee River channel – work on the bridge would not affect the hydrologic storage of the land adjacent to the river. West of 27th Street, the 1% flood event inundates the railway. During final design, a 100-year flood analysis must be undertaken to determine whether the work would create an increase of 0.01 feet or more in the 100-year condition. FEMA regulations apply.
Potential for spreading the Emerald Ash Borer beetle	Kenosha, Racine, and Milwaukee Counties are identified as Emerald Ash Borer quarantined areas. During construction, WI Department of Agriculture, Trade and Consumer Protection provisions would be followed for the removal of ash material, the emerald ash borer, and hardwood debris out of the project areas to non-quarantined locations.
Must address erosion control/stormwater methods in construction plans	During final design and construction, an Erosion Control Implementation Plan would be prepared that discusses construction methods for protecting bank areas within project areas. No structures would be removed as part of the project; coordination with the DNR on bridge demolition is not necessary.
Address asbestos during construction	WDNR must be notified during construction if asbestos contained material is found during inspection. The contractor would follow the DNRs regulations on asbestos abatement for removal and disposal of asbestos contained material.

A follow-up call was held January 12, 2016 with WDNR to discuss the concerns outlined in the initial review letter and the responses outlined in Figure 4-4. Coordination and commitments summarized in Figure 4-4 are included in the Environmental Resource chapter of this EA. WDNR provided a letter on January 12, 2016 stating that the comments and concerns identified in the initial review have been addressed. WDNR has no further comments on the content of the Environmental Assessment at this time, but will circulate the EA for staff review during the public comment period.

A follow-up call was held on June 10, 2016 with DATCP to discuss updates to the concept plans that resulted in the identification of land acquisition within an area determined to be prime farmland. DATCP was consulted on potential impacts to the 0.07 acre property adjacent to the Milwaukee Airport Rail Station Second Track project. Because the land that is proposed to be acquired is not currently farmed, it does not fall under DATCP's jurisdiction. The project does not need to further coordinate with DATCP and an Agriculture Impact Statement is not needed.

On June 10, 2016, the Illinois Department of Agriculture (IDOA) and NRCS were consulted for potential impacts to the 0.78-acre property adjacent to the Metra Fox Lake Second Track project. IDOA determined that the project would be exempt from further review because it requires less than 3 acres per mile of land acquisition for the entire project in accordance with the IDOT-IDOA Cooperative Working Agreement on the protection of Illinois farmland. Because of the parcel's size (0.78 ag acres) and its location adjacent to the railroad's existing ROW, IDOA and NRCS determined the project complies with the IL Farmland Preservation Act and the federal Farmland Protection Policy Act.

On June 22, 2016, the Wisconsin Coastal Management Program provided email confirmation that it does not have any comments on the proposed project and will not conduct a federal consistency review for the project.

On October 3, 2016, the Illinois OWR provided confirmation over the phone that it will not conduct a federal consistency review for Coastal Management on the project.

4.5 Local Agency Coordination

Local agency participation has been encouraged throughout the EA process, starting with the agency stakeholder meeting held on November 19, 2012. Attendees were invited to comment on the proposed purpose and need and alternatives analysis during the meeting and the contact information for various members of the project team was provided at the conclusion of the meeting for further correspondence. It was originally anticipated that the EA would be released within 6 months of the agency stakeholder meeting, but due to unexpected, significant delays in the railroad coordination process, the project schedule was extended. As described in Section 4.4, a second agency stakeholder meeting was held on December 2, 2014 to update the stakeholders on all project elements. As during the first agency stakeholder meeting, the project team requested comments.

All local agencies had equal opportunity to participate in meetings and provide comments, and only one

local agency requested additional coordination. The Village of Glenview requested a meeting with FRA, WisDOT, and IDOT on January 6, 2015 to express concern over the proposed increase in frequencies traveling through their community, the proposed crossover in Glenview, and the UP Siding Extension at A-20 project. The Village submitted a list of comments on February 16, 2015 and March 11, 2015, to which the project team responded. An additional meeting was held on March 19, 2015 to further discuss the A-20 project, listen to the Village's concerns, and discuss the need for the UP Siding Extension project. The project team discussed in detail the constraints of the existing rail network, the operational benefits of the proposed project, and the lack of alternatives that would produce similar benefits. The team also stressed that the proposed project would not increase freight traffic on the route. After the March 19, 2015 meeting, the Deputy Village Manager of Glenview provided the following summary of Glenview's position on the A-20 project:

On July 4, 2012, 32 fully loaded Union Pacific freight cars carrying coal derailed from the Union Pacific track just south of Shermer Road/Willow Road intersection causing loss of life and a 2-year closure of Shermer Road while a new, safer, state-of-the-art bridge was designed, manufactured and installed. In addition to the immeasurable pain that the families of the individuals who were killed had to endure, the residents and businesses of Glenview and Northbrook suffered greatly and it will take many years to recover from the tragedy. To our communities, it is unthinkable that IDOT, WisDOT, and the FRA would consider another project in this same location that will have another enormous negative impact on the residents and businesses. Glenview and Northbrook most stridently request that all efforts, including financial commitments, be made by IDOT, WisDOT, and the FRA to identify an alternate solution to A-20 as this is not feasible by any measure for our communities.

Village representatives requested that the project team perform an alternatives analysis on the UP Siding Extension at A-20 project to identify an alternate solution. The project team agreed. A team comprised of FRA, WisDOT and IDOT environmental leads produced an alternatives analysis methodology and identified a range of reasonable alternatives to the A-20 project. The five alternatives, including the original, were selected for their ability to provide the same operational benefit to freight and passenger rail service that the original A-20 design did. The alternatives were evaluated using the following criteria: safety, order of magnitude capital costs, environmental impacts, feasibility, railroad operations, and meeting the overarching project purpose and need. Alternatives that did not meet the evaluation criteria were removed from consideration. The remaining alternatives were evaluated in the EA. Two of the five alternatives sufficiently met the evaluation criteria and were further evaluated in Chapter 3 – Environmental Resources Analysis.

4.6 Other Project Coordination

Since the inception of the project in 2012, WisDOT has supported and participated in a number of activities to promote, seek input on, and provide general awareness of the project. These activities include presentations at various conferences, a television panel session, a public hearing for the Wisconsin State

Rail Plan, and presentations to agency/stakeholder groups at their request. Figure 4-5 summarizes the activities that occurred and the date and location of each activity.

Figure 4-5
WisDOT Project Coordination Activities

Activity	Date	Location	Purpose
Wisconsin DOT Freight Rail Conference	November 14, 2012	Madison, WI	Provided project update to conference attendees
	November 13, 2013	Madison, WI	Provided project update to conference attendees
	November 12, 2014	Madison, WI	Provided project update to conference attendees
	November 17, 2015	Madison, WI	Provided project update to conference attendees
Wisconsin Association of Rail Passengers Meetings	October 26, 2013	La Crosse, WI	Provided project update to meeting attendees
	March 29, 2014	Wisconsin Dells, WI	Provided project update to meeting attendees
	October 25, 2014	Milwaukee, WI	Provided project update to meeting attendees
	March 29, 2015	Madison, WI	Provided project update to meeting attendees
	October 24, 2015	Wisconsin Dells, WI	Provided project update to meeting attendees
All Aboard Wisconsin and Wisconsin Urban and Rural Transit Association's Minnesota/Wisconsin Public Transportation Conference	October 20, 2015	Duluth, MN	Provided project update to meeting attendees
Television panel session on "Wisconsin Eye"	January 23, 2014	http://www.wiseye.org/Video-Archive/Event-Detail/evhdid/8369	Described purpose of rail study
Wisconsin Rail Plan 2030 Public Hearing and Open House	December 10, 2013	Madison, WI	*Hiawatha Service* expansion is included in the Wisconsin Rail Plan 2030 short term projects; provided project update
American Planning Association's Upper Midwest Planning Conference	September 25, 2012	Madison, WI	Made presentation: *Intercity Passenger Rail Projects, Plans & Prospects in the Midwest*
Meeting with Racine Area Business group	June 14, 2013	Racine, WI	Discussed potential *Hiawatha Service* expansion
Meeting with City of Milwaukee public transportation review board	October 11, 2013	Milwaukee, WI	Provided project update to meeting attendees
Milwaukee Mitchell International Airport stakeholder meeting	February 4, 2016	Milwaukee, WI	Provided project update to meeting attendees

4.7 Public Involvement

Public Involvement is an important part of the NEPA process that FRA encourages at each stage of the process. FRA Procedures for Considering Environmental Impacts[98] state that "evidence of consultation with appropriate Federal, State, and local authorities is especially desirable as a part of the environmental assessment." The procedures do not further specify public involvement requirements. FRA issued additional guidance when the High-Speed Intercity Passenger Rail (HSIPR) Program was created as part of the Passenger Rail Investment and Improvement Act of 2008 to strategically invest in passenger rail corridors. FRA identified its approach for melding the NEPA process with the HSIPR program in its Compliance with the National Environmental Policy Act in Implementing the High-Speed Intercity Passenger Rail Program Guidance in 2009. According to FRA's HSIPR NEPA guidance, "while public and agency involvement is often more structured in connection with preparing an EIS because of its specific requirements for a scoping process, formal circulation of draft and final documents, and possible public hearing or meeting, it is equally important in connection with preparation of an EA."[99] For an EA, FRA requires evidence of consultation with appropriate federal, state, and local authorities, as well as opportunities for the public to be involved.

4.7.1 State Requirements for Public Involvement Meetings

Public involvement procedures will draw upon state requirements for number of meetings, notification of meetings, and the type of materials provided at the meetings. The following sections describe the Wisconsin and Illinois public involvement requirements and guidelines.

4.7.1.1 Wisconsin

WisDOT's Facilities Development Manual – Chapter 6, *Public Involvement*, provides information on the state requirements of public meetings held in Wisconsin. The following requirements and guidelines were used to develop the public involvement process for the project:

- 28 CFR 36 – *Americans with Disabilities Act* requires government programs to be accessible to people with disabilities.
- Wisconsin Statute 985, *Publication of Legal Notices; Public Newspapers; Fees* defines legal notice class-types, publishing requirements, and identifies the official state newspaper.
- Public meetings should be announced two to three weeks in advance of the meeting and citizens and groups should be informed of the public meeting's purpose, date, and time with a meeting notice published in local newspapers.
- For projects that may involve the acquisition of right-of-way interest, a notice of the meeting should be mailed to all property owners adjacent to the project.

[98] https://www.fra.dot.gov/eLib/details/L02561
[99] https://www.fra.dot.gov/Page/P0262, *Compliance With The National Environmental Policy Act In Implementing The High-Speed Intercity Passenger Rail Program,* August 13, 2009

- Use standardized public involvement forms and templates provided on the WisDOT website when preparing materials for public meetings

4.7.1.2 Illinois

IDOT's Bureau of Design and Environment (BDE) Manual – Chapter 19, Public Involvement Guidelines provides information on the requirements of public meetings held in Illinois. The following requirements and guidelines were used to develop the public involvement process for the project:

- IDOT will hold at a minimum one public information meeting at the time of completion of an EA to inform the public of a project's environmental documentation and other applicable updates.
- The *Open Meetings Act* (5 ILCS 120/1 et. seq.) provides that a "meeting" of a "public body," must be open to the public and held at times and locations that are convenient and open to the public.
- Illinois Executive Order (EO) #5 (1979) requires that all meetings or conferences conducted by IDOT be held in a public or private place which is accessible to persons with a disability. The event location must be consistent with the Accessibility Standards prepared by the Capital Development Board (CDB), unless compelling reasons dictate otherwise. Notices of these events must advise persons with a disability to promptly inform those responsible for conducting the meeting or conference of their anticipated attendance. Upon notification, event organizers should provide qualified interpreter services for the hearing-impaired and should make essential materials available in a form usable by the visually impaired, as needed.
- Each public involvement activity conducted by IDOT is subject to a minimum of two notices to the public. The first notice of a public involvement meeting for an EA will be published at least 15 days in advance. The second notice will be published three to seven days before the meeting.
- Notifications should be advertised via the news media, posters, mailing lists, or other media, as needed.

4.7.2 Informing and Notifying the Public

4.7.2.1 Notice of Public Comment Period and Availability of the EA

A notice of the start of the public comment period and availability of the EA will be published in local newspapers and on the project website. The notice will identify where the EA will be available for public review, how the public can provide input, and who to contact with comments or for additional information. The EA will be available in electronic format on the project website and hard copies will be available at the following locations:

- Wisconsin Department of Transportation Library, Office of Policy, Finance and Improvement, 4802 Sheboygan Ave., Room 100A, Madison, WI
- Wisconsin Historical Society, 816 State Street, Madison, WI
- Wisconsin Legislative Reference Bureau, 1 East Main Street, Suite 200, Madison, WI

- Southeast Wisconsin Regional Planning Commission, W239 N1812 Rockwood Drive, Waukesha, WI
- Milwaukee Public Library, 814 W. Wisconsin Avenue, Milwaukee, WI
- Racine Public Library, 75 Seventh Street, Racine, WI
- Kenosha Public Library, 821 56th Street, Kenosha, WI
- Harold Washington Library Center, 400 S. State Street, Chicago, IL
- Glenview Public Library, 1930 Glenview Road, Glenview, IL
- IDOT, 69 W. Washington, Chicago, IL

4.7.2.2 Public Meetings for the Environmental Assessment

Once FRA approves the EA document for public and agency review, the draft Environmental Assessment will be circulated to the public for a minimum 30-day comment period (see previous section). To provide opportunities for the public to participate in the project, three public meetings will be held after the public comment period has begun. A public hearing will be held in Wisconsin and two public involvement meetings will be held in Illinois. Dates and locations for the public involvement meetings on the Draft EA are as follows:

- October 27, 2016, 4-7 p.m., Washington Park Senior Center, 4420 W. Vliet Street, Milwaukee, WI
- November 1, 2016, 4-7 p.m., Chicago Union Station, 500 W. Jackson Blvd., Chicago, IL
- November 2, 2016, 5-8 p.m., Park Center, 2400 Chestnut Street, Glenview, IL

The content of the meetings will focus on the following project elements:

- NEPA process
- Purpose and need of the project
- Definition of alternatives and analysis
- Summary of environmental evaluation
- Next steps

The purpose of the meetings is to provide project information to the public and to solicit public input on project alternatives and on the environmental resources potentially impacted by the alternatives.

The meetings will be held on weekdays during the early evening to encourage people to stop by on their way home from work. Meeting locations will be ADA–accessible, and have strong access to public transportation and adequate parking in the vicinity of the meeting location. The meetings will be held in an open house format and will include an informal project presentation, a series of display boards with project team members present to answer questions, and the ability to provide public comments. After the public meetings have occurred, the materials will be posted to the project website.

4.7.2.3 Project Website

A project website was developed by WisDOT in 2012 to provide information on the purpose of the project, outline the documents that would be published as part of the project, disseminate information related to planned meetings, and allow interested parties to contact the project leads. The website address is: http://chi-milwrailstudy.wi.gov.

The website will provide announcements on the notice of public comment period and availability of the environmental assessment and the dates/times/locations of the public meetings. After the public meetings, documents from the meetings will be uploaded to the website. Comments will also be accepted through the website.

4.7.2.4 Outreach to Environmental Justice Groups

Targeted outreach efforts will be made to minority and low-income population organizations along the project corridor as part of the Chicago-Milwaukee EA. A notice of the public comment period and availability of the EA and notification of public involvement meetings will be sent to contacts for minority and low-income population organizations and community groups along the corridor. As part of public involvement, interpreters will be provided at public meetings by request and public materials can be made available in Spanish. As discussed under Section 4.7.2.2, public meetings will be held in public transportation-friendly and ADA-accessible locations and a hotline will be provided to receive public comments.

Environmental Justice resources in Wisconsin were provided by SEWRPC, who maintains a list of contacts for minority and low-income population organizations through their Public Involvement and Outreach Division and/or Environmental Justice Task Force. Similar organizations were identified in Illinois. A complete listing of the minority and low-income population organizations in the corridor is included in Appendix J.

4.7.3 Opportunity for Public Comment

Comments and suggestions will be solicited from interested parties throughout the process. The following methods will be used to collect comments from the general public throughout the NEPA process:

- Mail-in Comment Forms distributed at the Public Meetings
- Telephone: (608) 261-6123
- E-mail: DOTChicagoMilwaukeePassengerRailEA@dot.wi.gov
- Project website which includes both the telephone number and a direct link to the email address

Comment forms will be provided at the public meeting to encourage public input and to gather feedback. Comments from the meetings will be considered for inclusion in the FRA decision document as appropriate.