

# RECONFIGURING METRA'S RONDOUT INTERLOCKING FOR INCREASED SPEED, IMPROVED OPERATIONAL FLEXIBILITY, RESILIENCY, AND STATE OF GOOD REPAIR

US Department of Transportation  
FY 2017 Transportation Investment Generating Economic Recovery (TIGER)  
*Metra Commuter Railroad*



**Reconfiguring and Expanding Metra's Rondout Interlocking for Increased Speed, Improved Operational Flexibility, Resiliency, and State of Good Repair**

<b>Applicant</b>	<i>Metra Commuter Railroad</i>
<b>Project Partners</b>	<i>Illinois Department of Transportation Wisconsin Department of Transportation Amtrak Canadian Pacific Railroad Union Pacific Railroad</i>
<b>Contact Information</b>	<b><i>Thomas Weaver</i></b> <i>Sr. Director Grant Management &amp; Accounting 547 W. Jackson Boulevard Chicago Illinois 60661 312-322-6649 <a href="mailto:tweaver@metrarr.com">tweaver@metrarr.com</a></i>
<b>Project Type</b>	<i>Urban</i>
<b>Project Description</b>	<i>Upgrade and modernize the outmoded Rondout Interlocking; construct a new track connection to provide a means for increased operational fluidity and flexibility; construct a second track that will allow for simultaneous moves of commuter trains into and out of the Fox Lake Subdivision; and construct universal crossovers south of Conway Road at Lake Forest and upgrade the highway rail crossing at Conway Road.</i>
<b>Project Cost</b>	<i>\$29.5 million</i>
<b>TIGER Funds Requested</b>	<i>\$14.5 million</i>
<b>Match Sources(s) &amp; Amounts</b>	<i>\$4.1 million from Canadian Pacific, \$5 million from Metra, \$5.9 FTA Formula Funds. Totaling \$15 million Non-TIGER funding.</i>
<b>NEPA Status</b>	<i>The reconfiguration of Rondout is included as a project in the Federal Railroad Administration (FRA) supported Chicago to Milwaukee Environmental Assessment titled, "<u>Three Additional Frequencies to the Amtrak Hiawatha Service</u>" and will be covered by a forthcoming Finding of No Significant Impact (FONSI) related to this study. The Project would also qualify for a FTA or FRA Categorical Exclusion as the work is primarily rehabilitative in nature and primarily within the limits of the existing right of way.</i>
<b>Project Schedule</b>	<i>January 1, 2018 – June 30, 2020</i>
<b>Project Benefits</b>	<i>Modernization of one of Metra's most complex and operationally constrained interlocking with state-of-the art signal and track components and an optimized configuration will significantly improve passenger and freight movement on one of Chicago's busiest corridors. The project is designed for maximum fluidity of movement, significantly improves the state of good repair and reduces on-going maintenance costs. Upgraded crossing warning devices will increase safety for both rail and road traffic.</i>



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## COVER LETTER

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The Honorable Elaine L. Chao  
Secretary of Transportation  
U.S. Department of Transportation  
1200 New Jersey Avenue, SE  
Washington, DC 20590

Dear Secretary Chao,

Metra, the commuter rail agency for the metropolitan Chicago area serving Cook, DuPage, Will, Lake, Kane, and McHenry Counties, submits our project, *Reconfiguring Metra's Rondout Interlocking for Increased Speed, Improved Operational Flexibility, Resiliency, and State of Good Repair* for consideration of a TIGER 2017 discretionary grant award in the amount of \$14.5 million. Metra is a vital component of the transportation network for the Chicago region and is committed to providing safe, reliable, and efficient rail service, today and long into the future.

Today, the Rondout Interlocking presents an operational bottleneck that negatively impacts not only Metra's 50 weekday passenger trains serving the Fox Lake Subdivision on the Milwaukee District North line, but also Metra's corridor partners: 16 Amtrak trains and 25 Canadian Pacific freight trains. The Project will transform Rondout into a modern, fluid, flexible, and resilient interchange that can better accommodate the current heavy volume of rail traffic, and allow for significant anticipated growth in demand for passenger and freight traffic in the decades ahead.

The Rondout Interlocking reconfiguration incorporates multiple subprojects, the combined effects of which will vastly improve a key component of the region's rail infrastructure. Operational efficiency will be gained by modernizing interlocking components and adding new track to facilitate movement into the busy Fox Lake Subdivision. Additionally, three highway-rail grade crossings will be upgraded with state-of-the-art warning equipment, ensuring a safe interface between the railroad and drivers in the community. Combined, these improvements will enable better service for passengers and freight into Chicago, critical to expanding the region's economic vibrancy.

We believe that Metra's Rondout Interlocking reconfiguration project is a perfect candidate for a TIGER grant, and thank you for your consideration

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James M. Derwinski  
Incoming CEO/Executive Director, Metra





# 1 PROJECT DESCRIPTION

## 1.1 EXECUTIVE SUMMARY

Reconfiguring and expanding Metra’s Rondout interlocking for increased speed, improved operational flexibility, resiliency, and state of good repair is precisely the type of project for which the Transportation Investment Generating Economic Recovery (TIGER) program exists—this project will use a combination of federal, non-federal, and private funds to transform an operational bottleneck at a century-old rail junction into a modern, operationally fluid and resilient interchange, resulting in dramatic improvements to the condition of the heavily-used infrastructure, enhancements to both rail and auto safety, increased operational flexibility and resiliency for commuter, intercity and freight trains, and continued promotion of regional connectivity in one of the country’s busiest shared commuter, intercity, and freight rail corridors. This project also includes a significant investment from its private sector partner—Canadian Pacific is contributing over \$4 million to this project, or 14 percent of the total project cost.

The Rondout Reconfiguration and Expansion project (“the Project”) will build upon current efforts by Metra to modernize **one of** Metra’s most complex, dated, and operationally constrained interlocking. The Project will transform the Rondout Interlocking into a modern, fluid, flexible, and resilient interchange that can better accommodate today’s significant rail traffic of 66 weekday passenger and 25 freight trains per day. The Project will also allow for significant anticipated growth in demand for passenger and freight traffic in the decades ahead. Metra is already reconfiguring critical aspects of the interlocking in preparation for the implementation of Positive Train Control (PTC) and to replace antiquated signal and track components that are difficult to maintain. The Rondout Reconfiguration and Expansion project will build upon these efforts in four key areas:

Metra Statistics	
<b>Farebox Recovery Ratio</b>	55%
<b>On-Time Performance</b>	95.90%
<b>Route Miles</b>	487.5
<b>Track Miles</b>	1,155
<b>Average Weekday Passengers</b>	300,000
<b>Average Weekend Passengers</b>	110,200
<b>Annual Passenger Trips</b>	84,000,000
<b>Trains Scheduled per Weekday</b>	691
<b>Trains Scheduled per Weekend</b>	439

Table 1: Metra statistics

- (1) Upgrade and modernize the Rondout Interlocking to achieve a **state of good repair** and provide significantly improved operational fluidity and flexibility;
- (2) Construct a new track connection to the J-Line inside of the Rondout Interlocking to **provide improved operational flexibility and fluidity**;
- (3) Construct a second track north connecting to Metra’s Fox Lake Subdivision that will **allow for simultaneous movements** of commuter trains into and out of the Fox Lake Subdivision; and
- (4) Construct Universal Crossovers north of Conway Road at Lake Forest and **upgrade the heavily-used at-grade rail crossing at Conway Road**.

The total Project cost is \$29.5 million. Metra respectfully requests \$14.5 million in TIGER funding in support of this transformational project.



## 1.2 BACKGROUND

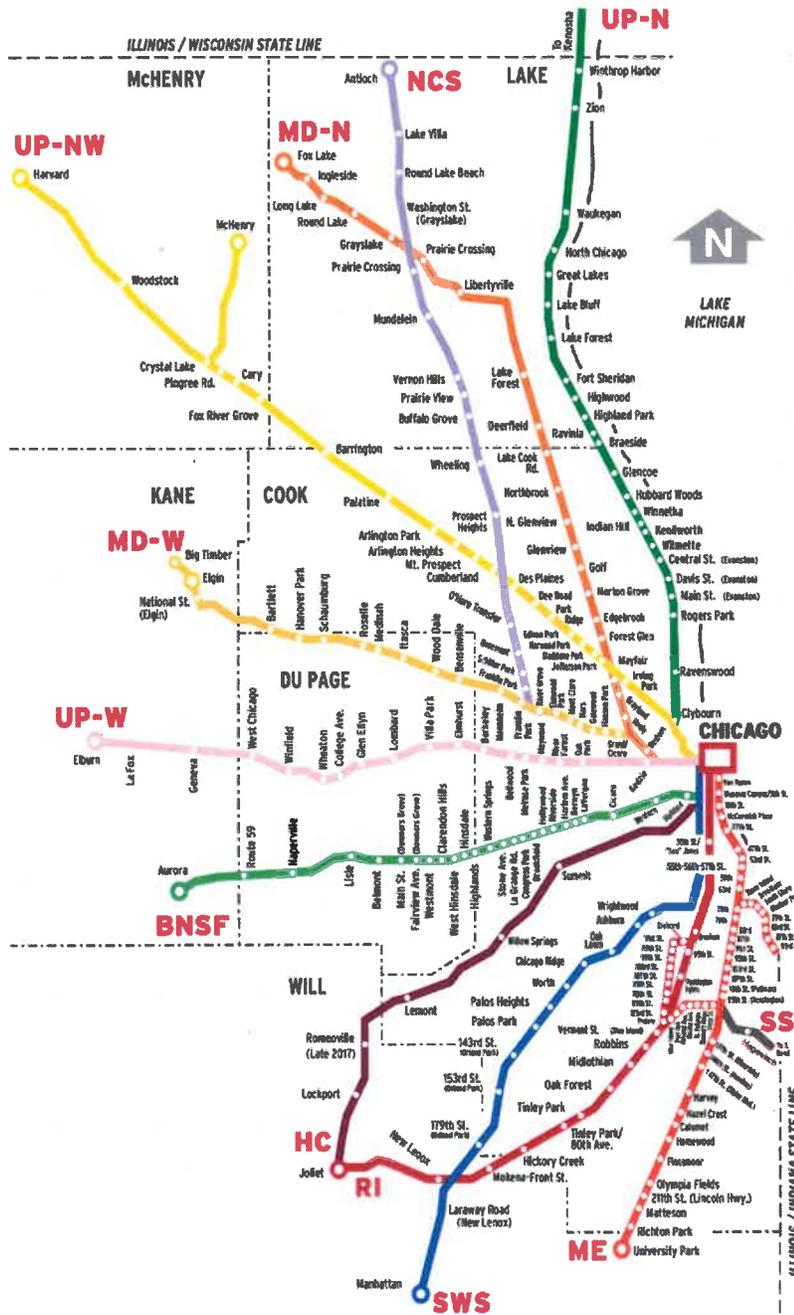


Figure 1: Metra system map

Metra, the commuter rail agency in the metropolitan Chicago area, serves the counties of Cook, DuPage, Will, Lake, Kane, and McHenry. As part of the regional transportation network, Metra provides safe, reliable, and efficient rail service that is critical to the economic and environmental health of Northeast Illinois. The Metra network is the fourth busiest commuter system in North America and includes 11 rail lines, 241 stations, 1,200 miles of track, nearly 500 route miles, and 691 weekday trains, serving more than 80.4 million passengers annually. The Metra system is shown in Figure 1.

The Chicago region is the densest rail hub in the United States—it is one of two locations in the country where six of the seven Class 1 railroads operate. Each day, more than 1,300 Metra, freight, and Amtrak trains operate in the region. Since these trains frequently share the same track, precise scheduling and close coordination among railroad partners is required to plan the complex interaction between 691 Metra revenue trains, 50 Metra non-revenue trains, 52 Amtrak, and 520 freight trains each day. The system map in Figure 1 and the statistics in Table 1 provide an overview of the Metra system.

## 1.3 PROJECT OVERVIEW

The Project focuses on infrastructure improvements to Metra's Milwaukee District North (MD-N) line at the Rondout Interlocking. Rondout is a complicated interlocking that controls movements on the Canadian Pacific (CP) Chicago and Milwaukee (C&M) Mainline, movements to and from the Fox Lake Subdivision, and movements to and from the (Elgin, Joliet and Eastern Railway) EJ&E (owned by CN), which intersects



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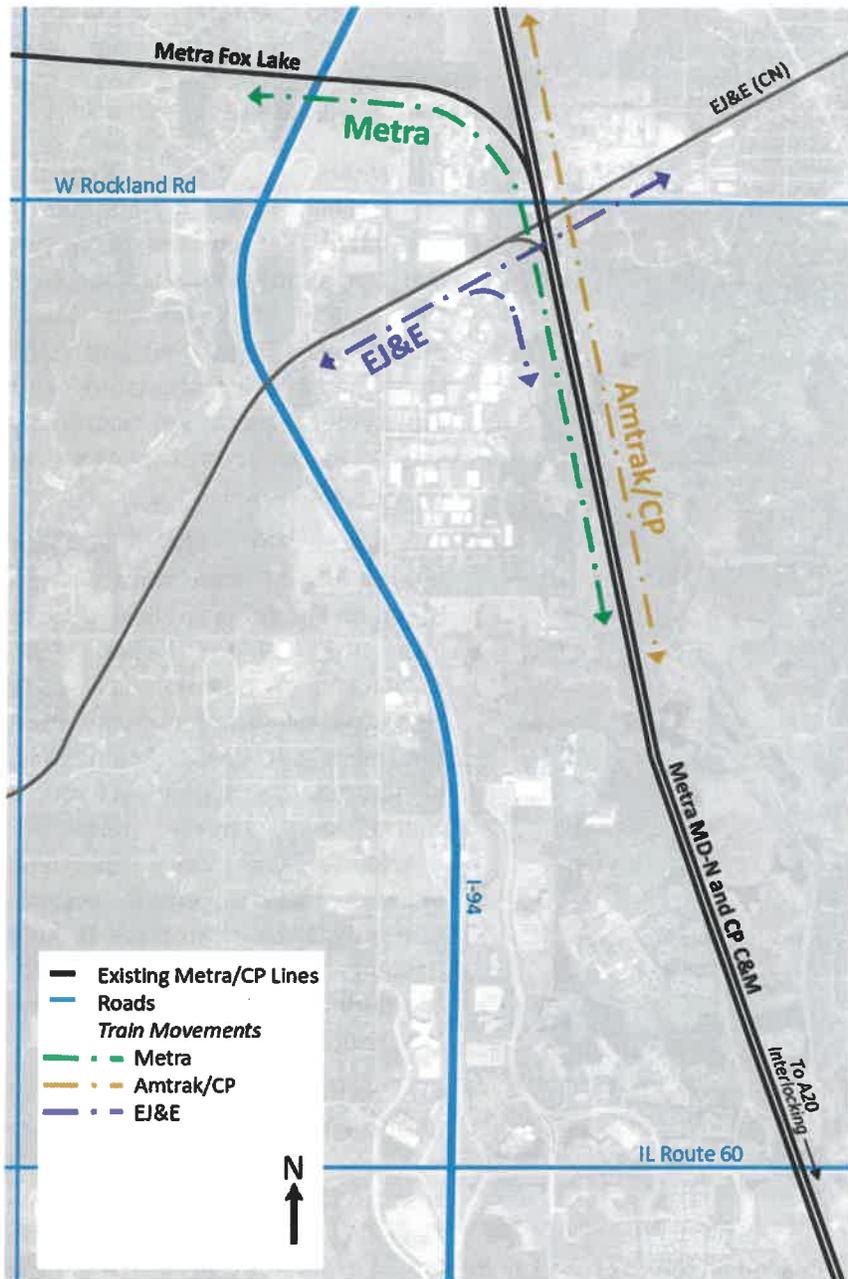


Figure 2: Operational context at the Rondout Interlocking

the CP C&M Subdivision just east of the Fox Lake Subdivision. MD-N is operated and maintained by Metra employees and is dispatched by CP, which operates freight service over the tracks.

This project will make track and signal improvements in and near Rondout junction, where 50 Metra MD-N trains traveling on the mainline move to and from the MD-N Fox Lake Subdivision each day. Fourteen Amtrak Hiawatha Service trains, 2 Amtrak Empire Builder trains, as well as 25 Canadian Pacific (CP)-operated freight trains, move through the junction daily as they travel between Chicago and Wisconsin.

From Chicago Union Station, Metra MD-N and Amtrak Hiawatha and Empire Builder trains use Metra's three main tracks for the five and a half miles between Chicago Union Station and the A-5 junction. At A-5, MD-N separates from the Milwaukee District West (MD-W) line. MD-N Metra and Amtrak trains operate on the CP Chicago & Milwaukee (C&M) Subdivision until Milepost 32.3 at the Rondout Interlocking. From there, Metra trains

diverge west onto the Fox Lake Subdivision and Amtrak trains continue west on the C&M Subdivision. CP trains enter and exit the C&M mainline at the A-20 interlocking and continue through Rondout on the C&M Mainline. Figure 2 depicts, at a conceptual level, this operational context.



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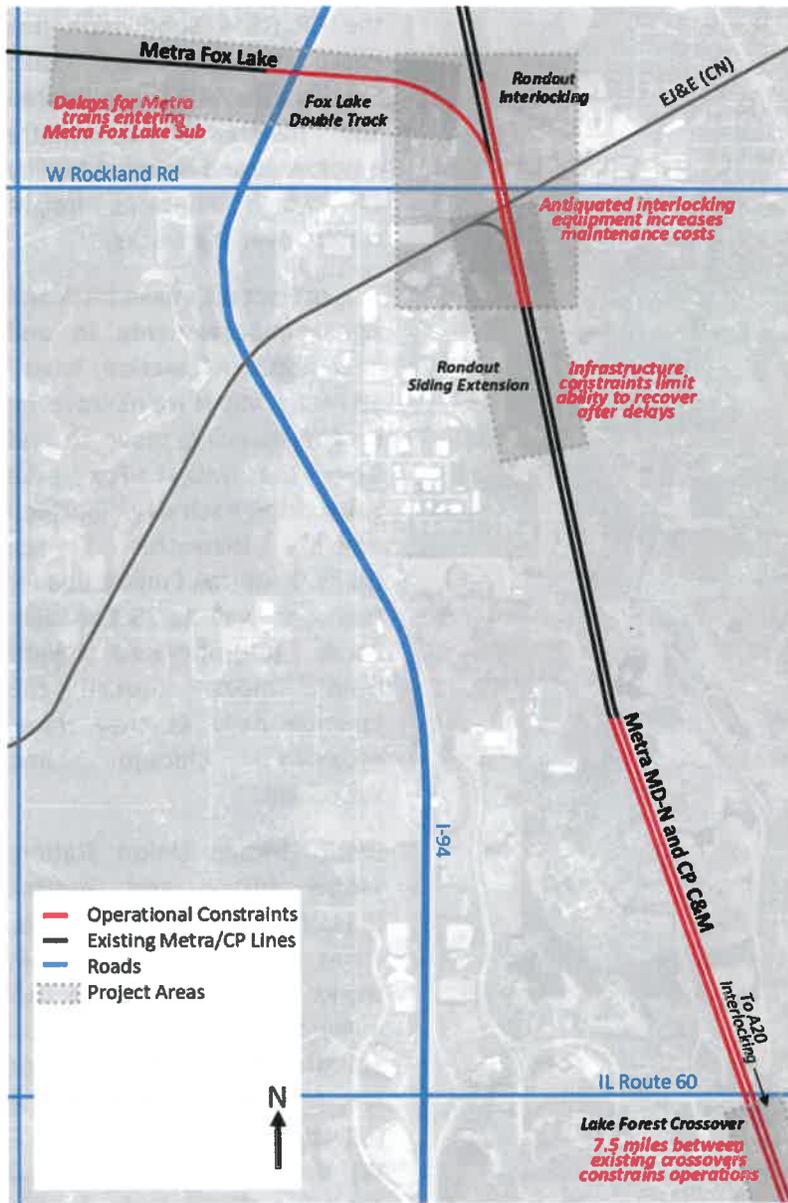


Figure 3: Operational challenges at the Rondout Interlocking

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 Subdivisions must hold on the main tracks for long periods of time; this results in cascading impacts to CP, Amtrak, and other Metra trains.

- (4) The universal crossover at Lake Forest will provide additional operational flexibility for Metra between Rondout and Lake Forest Station. Currently there are no crossovers for about 7.5 miles, with the next crossover south of Rondout being just north of Deerfield Station. This significantly reduces the capacity and fluidity of the line and creates cascading effects throughout the corridor when tightly scheduled operations are impacted by incidents. Adding the universal crossover at Lake Forest will cut the distance between crossovers roughly in half, mitigating these issues.

There are several operational challenges resulting from the existing configuration that the Project will resolve:

(1) Within the Rondout Interlocking, there are a number of out-dated and substandard signals and track configurations that limit the ability of trains to make movements. The signal and track components are antiquated, and replacement parts are extremely scarce as well as expensive to procure and install.

(2) South of the Rondout Interlocking, CP trains must wait on the main line for clearance to move into the Union Pacific (UP) Milwaukee Subdivision at A20, removing significant capacity from the main rail line. Additionally, disruptions to tightly scheduled Metra and Amtrak passenger operations can have cascading impacts to the entire system. Currently, there is no place to hold passenger trains to allow for reordering and recovery from delays to scheduled service.

(3) North of the Rondout Interlocking, current operations are significantly impacted by the fact that the 17-mile Fox Lake Subdivision has a single-track configuration. If an



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Additionally, railroads across the country are anticipating operational disruptions resulting from the implementation of PTC. The current constraints at the Rondout Interlocking, which already causes significant delays that cascade throughout the system, will be further exacerbated as PTC is installed, tested, and fully integrated into the Chicago rail network.

Figure 3 depicts, at a conceptual level, the challenges described above.

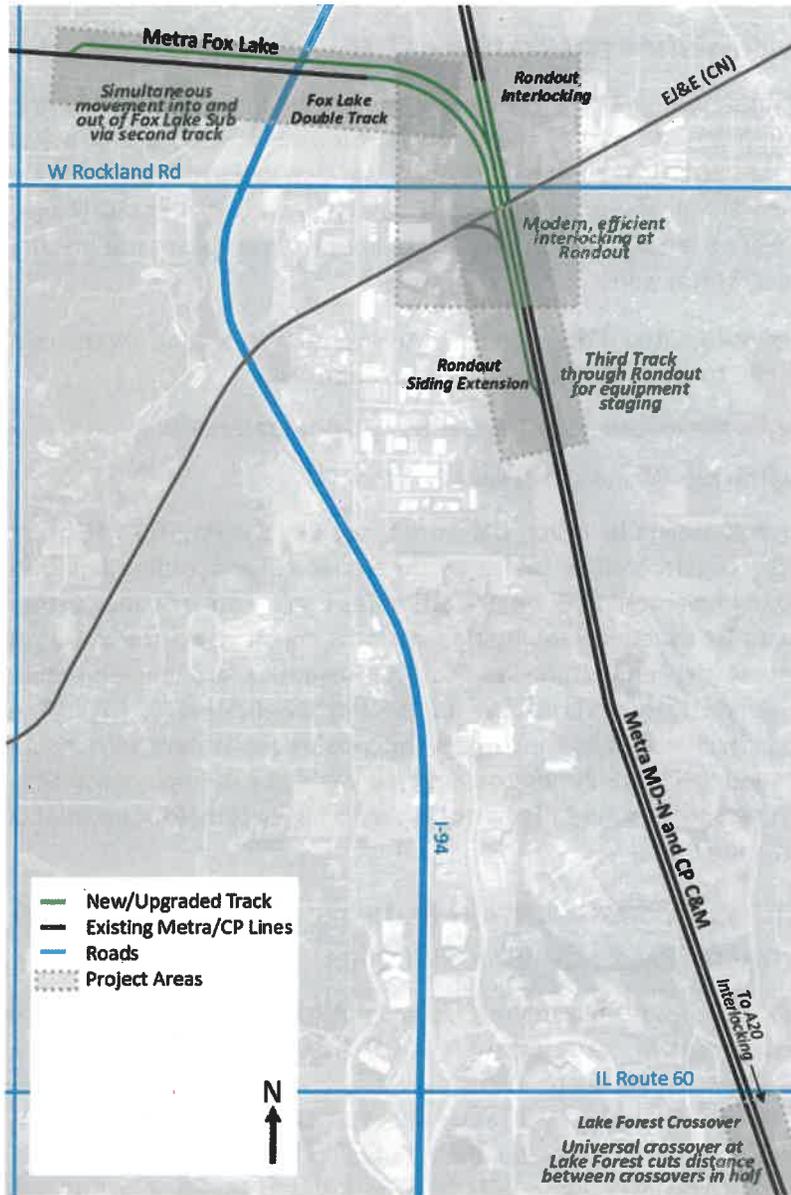


Figure 4: Proposed mitigations at the Rondout Interlocking

allow for simultaneous moves entering and exiting the Fox Lake Subdivision. The connecting track will be constructed parallel and to the east of the existing connecting track. The two tracks will be signaled through St. Mary's Road.

The Rondout Reconfiguration and Expansion project will address the challenges described above in four ways:

(1) **Modernize and upgrade the existing Rondout Interlocking** with state-of-the art signal and track components, and optimize the configuration for maximum fluidity of movements throughout the interchange. As part of the Project, Metra will install new signal bridges, turnouts, switches and PTC equipment, and will upgrade crossing warning devices at Rockland Road to accommodate the new interlocking arrangement. Additionally, a PTC-ready signal control system will be added.

(2) **Modify an existing siding inside the limits of Rondout interlocking.** This additional track will be used as a holding track for passenger trains should operational disruptions require the reordering of trains. Furthermore, the expanded siding will be used by Metra as a main track during maintenance windows on the mainline tracks.

(3) **Construct a second track connecting the Fox Lake Subdivision and the CP C&M Subdivision** between the Rondout Interlocking and St. Mary's Road to



- (4) **Construct Universal Crossovers north of Conway Road** to allow for trains to move between the two main tracks, providing increased flexibility for trains to be routed to passenger station platforms, significantly increasing the operational capacity and fluidity of the line and providing another relief point to mitigate and recover from impacts to the corridor's tightly scheduled operations.

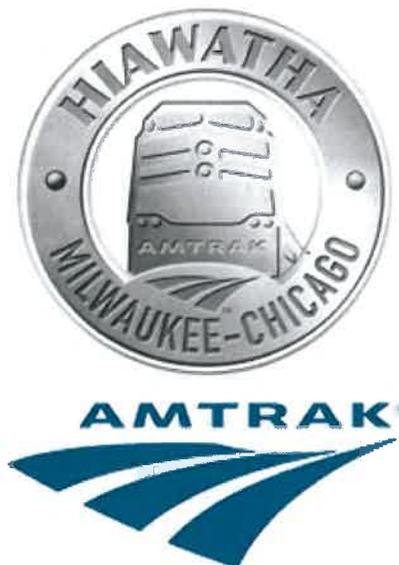
Figure 4 depicts, at a conceptual level, the proposed mitigations to the constraints described above.

### 1.4 COMPLEMENTARY PROJECTS: METRA'S IMPLEMENTATION OF PTC

Metra is in the process of updating and modernizing its system-wide signal system in preparation for the implementation of Positive Train Control (PTC). As part of these efforts, Metra was selected for a \$20 million US Department of Stransportation FY 2017 PTC grant to accelerate the installation of Positive Train Control (PTC) on the system's MD-W and MD-N lines. Installation of PTC along the MD-W and MD-N lines is the most complex PTC project Metra will undertake, and making these lines PTC compliant is a priority for Metra. Under the FTA-funded project, Metra will:

- Upgrade the century-old existing Automated Block Signaling (ABS) system to a Centralized Train Control (CTC) system to include PTC functionality on the Fox Lake Subdivision
- Reconfigure signals and prepare for the installation of PTC at the Rondout Interlocking
- Install wayside PTC signals along the MD-W and MD-N lines

The Rondout Reconfiguration and Expansion project builds on the work funded by the FY 2017 PTC grant by allowing planned improvements to be constructed at the same time or in close coordination with already programmed upgrades required to implement PTC. Metra estimates that **an entire construction season and approximately \$2 million can be saved** in mobilization costs by constructing the Rondout Reconfiguration and Expansion project at the same time as the PTC upgrades are implemented. Furthermore, Metra anticipates some delays to operations due to the implementation of PTC. The additional operational flexibility and capacity provided by the Project will provide the system with much-needed resiliency during the first few years of PTC implementation, testing and full integration into Chicago's highly complex operational environment.



### 1.5 COMPLEMENTARY PROJECTS: CHICAGO-MILWAUKEE INTERCITY PASSENGER RAIL PROGRAM

The Wisconsin Department of Transportation (WisDOT) and Illinois Department of Transportation (IDOT) have jointly contracted with Amtrak to operate the Hiawatha Service since 1989. The intercity passenger rail service currently operates seven round trips per day (during the week, six on Sundays) 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 is Amtrak's ninth-busiest route, and the railroad's busiest line in the Midwest. Ridership has been steadily increasing, with eight of the



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Figure 5: New Amtrak Diesel Electric locomotive

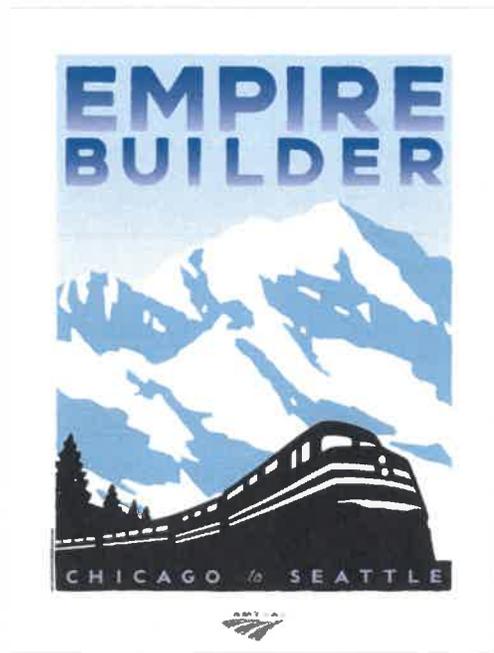
last nine years showing ridership increases as of 2013, and **there is a high level of interest between the two states to increase service levels to meet demand.**

The Hiawatha Service generally has a history of very good on-time performance (OTP). However, OTP has gradually decreased between 2004 and early 2016. According to Amtrak data, the top three causes of delay for Hiawatha Service for the period of October 2004 through September 2015 were commuter train interference (21.3 percent of all delay minutes); freight train

interference (9.9 percent); and, communications and signaling work due to defect (9.8 percent).

Approximately 40 percent of the causes of delays to Hiawatha Service over the past eleven years are related to other trains and infrastructure issues, indicating that there are significant reliability issues in the Hiawatha corridor. In addition to Amtrak's delays, CP and Metra 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. **WisDOT, IDOT, and Amtrak recognize that 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.** Through Rail Traffic Controller (RTC) modeling and working group meetings with the project team, WisDOT, IDOT, and Amtrak have worked closely with the railroad stakeholders for several years to identify and refine an infrastructure investment plan that could accommodate increasing Hiawatha Service at a future time. The Rondout Reconfiguration and Expansion project covers a significant portion of the investment plan required to achieve this increased service.

In addition to the Hiawatha Service, 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. With two trains, the Empire Builder operates once per day in each direction. 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. There have been on-going discussions between WisDOT, Amtrak and the Minnesota Department of Transportation (MnDOT) to increase the frequency of the Empire Builder between Chicago to Minneapolis-St. Paul by an additional round trip per day. The Rondout Reconfiguration and Expansion project would provide much needed flexibility and capacity on the southern portion of the Empire Builder's route.

## 2 PROJECT LOCATION

The Project is located within the Chicago, IL-IN and the Round Lake Beach urban areas, halfway between

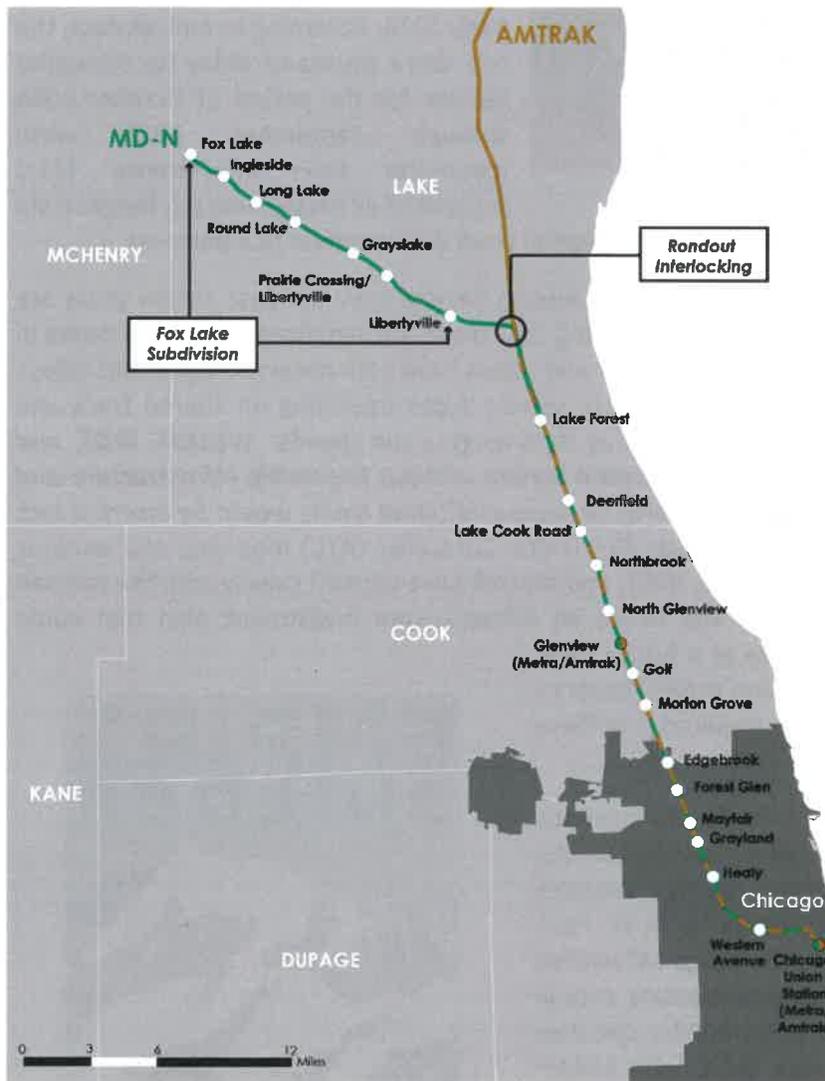


Figure 6: Metra's MD-N line and Amtrak route

the Libertyville and Lake Forest Metra stations along the MD-N line. The Rondout Interlocking is located approximately 31 miles northwest of downtown Chicago, and serves as the junction between the Metra MD-N and Fox Lake subdivisions for all of Metra's Fox Lake-bound trains. Figure 6 depicts Metra's MD-N and the location of the Rondout Interlocking.

As explained in Section 1, Rondout is a complex interlocking. Metra's MD-N territory is also CP's C&M subdivision, and the track continues as CP-operated territory north of the Rondout Interlocking. The EJ&E rail line, operated by CN, also passes through the complex exchange just south of the Rondout Interlocking from east to west. Additionally, Amtrak operates its Hiawatha Service and Empire Builder trains on CP's C&M subdivision; Hiawatha Service to Milwaukee, WI runs on the subdivision seven times a day (during the week, six on

Sunday) and Empire Builder runs two trains per day. Amtrak's route through the region is depicted in Figure 6.



### 3 GRANT FUNDS, SOURCES AND USES OF PROJECT FUNDS

Metra respectfully requests \$14.5 million in TIGER funding from USDOT to match \$15 million in State, local, private, and other federal funding to implement the Rondout Reconfiguration and Expansion project. Metra has committed to spend \$5 million in farebox revenues to cover 17 percent of the project costs, and Canadian Pacific will provide an additional \$4.1 million (14 percent) in funds (see letter of support in Appendix). Metra has also budgeted \$5.9 million in Federal formula funds for the project (20 percent of the total). In total, non-TIGER sources amount to 51 percent of the project funding. Total project costs, in 2017 dollars, and the breakdown between sources and uses of funding are included in Table 2.

Table 2: Project costs by source

	TIGER Request	Metra TIGER Match	Canadian Pacific	Other Federal Funds <sup>1</sup>	Total
Interlocking Improvements	\$6,164,704	\$2,138,775	\$1,761,344	\$2,516,206	\$12,581,029
Siding Extension	\$2,203,743	\$764,564	\$629,641	\$899,487	\$4,497,435
Fox Lake Second Track	\$3,833,205	\$1,329,888	\$1,095,202	\$1,564,574	\$7,822,868
Lake Forest Crossover	\$2,257,912	\$783,357	\$645,118	\$921,597	\$4,607,983
<b>Total Project</b>	<b>\$14,459,564</b>	<b>\$5,016,584</b>	<b>\$4,131,304</b>	<b>\$5,901,863</b>	<b>\$29,509,315</b>
<b>Percentage of Funding</b>	<b>49%</b>	<b>17%</b>	<b>14%</b>	<b>20%</b>	<b>100%</b>

As described in Sections 1.3 and 5.1.1, this project involves four main components: Interlocking Improvements, Siding Extension, Fox Lake Second Track, and Lake Forest Crossover. These components each have both track and signal elements. The total track-related costs are \$11.75 million, while the signal costs equal \$17.76 million. The total breakdown of costs by component and track/signal work is included in Table 3.

Table 3: Project costs by type of work

	Track	Signal	Total
Interlocking Improvements	\$1,762,500	\$10,818,529	\$12,581,029
Siding Extension	\$3,525,000	\$972,435	\$4,497,435
Fox Lake Second Track	\$5,287,500	\$2,535,368	\$7,822,868
Lake Forest Crossover	\$1,175,000	\$3,432,983	\$4,607,983
<b>Total Project</b>	<b>\$11,750,000</b>	<b>\$17,759,315</b>	<b>\$29,509,315</b>

If awarded this TIGER grant, Metra is capable of managing the funds, as demonstrated by Metra's long history of receiving and managing federal grants. Since 2011, Metra has managed \$98 million in discretionary grants, and each year receives more than \$170 million in formula funds from the FTA.

<sup>1</sup> This column includes FTA Formula Funds funds that have already been programmed for budget approval on November 15, 2017.



## 4 MERIT CRITERIA

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### 4.1 PRIMARY SELECTION CRITERIA

#### 4.1.1 Safety

The Project will improve safety by replacing outdated equipment and lessening the risk of future equipment failure. The signaling and track operating equipment at the Rondout Interlocking dates to the 1960s and, given its age, is highly susceptible to failure. Additionally, as discussed further in Section 4.1.2: State of Good Repair, the infrastructure enhancements resulting from the Project will be better able to withstand damage from natural disaster events, such as tornadoes and floods.

Upgrading the Rondout Interlocking, in combination with extending the siding and constructing the second Fox Lake track, will lead to more efficient train movements with fewer instances of trains stopped at grade crossings for extended periods of time. This will minimize the possibility of delayed emergency vehicle responses, which will increase safety for the surrounding community as ambulance, police and fire vehicles can reach their destinations more quickly. The Project will also include upgrades to three highway-rail grade crossings at Rockland Road, Conway Road, and St. Mary's Road. The introduction of new warning devices at these highway crossings will lead to greater safety for drivers; the modern crossing equipment that will be used is much more reliable than the current system and integrates a better understanding of human factors to reduce crossing accidents.

As the Project is expected to reduce delays within the corridor, increases in ridership are also expected. Rail travel is considerably safer than travel by automobile, and adding passengers who would otherwise commute by automobile decreases the risk of vehicle traffic incidents and any associated injuries, fatalities, and property damage. Improvements to the Rondout Interlocking are expected to decrease automobile vehicle miles travelled (VMT) by approximately three million annually, resulting in one fewer deaths, 86 fewer injuries, and 231 less properties damaged over 30 years.

#### 4.1.2 State of Good Repair

The proposed infrastructure enhancements at the Rondout Interlocking will result in numerous long-term quantifiable public and private benefits compared to the current state of good repair and operations.

The existing signal and track operating equipment dates to the 1960s, and this outmoded equipment and existing track configuration severely limit operating flexibility and fluidity. The Project will replace the current equipment with **modern signal and interlocking equipment** in a configuration that supports current and expected future freight and passenger movements.

**Maintenance costs will also be reduced** once the Project is complete. Following the completion of the Project, the new interlocking will require an average of \$230,000 in 2016 dollars in annual maintenance and repair costs over the first 30 years of operation. Maintenance and repair costs for the existing Rondout Interlocking would be higher, requiring an average of \$488,000 in 2016 dollars annually over the same time period. Over the 30-year analysis period, the net maintenance and repair cost for the project is about \$7.7 million in undiscounted 2016 dollars (or \$1.8 million when discounted at a 7 percent rate). As a result of these reduced maintenance and repair costs, the net Project cost—including the capital construction cost for the Project (\$28.9 million in 2016 dollars)—in undiscounted 2016 dollars is \$22.7 million



To ensure that a state of good repair is maintained, the Project is appropriately capitalized and the ongoing operating costs represent a very small portion of Metra's annual multi-million dollar operating budget. Additionally, Metra uses current asset management approaches for infrastructure such as the Rondout Interlocking. Existing rail and ties will be replaced with 136-pound premium welded rail on wood ties, together with new 136-pound turnouts. All new signal and interlocking equipment will be remotely controlled, and the new signal systems will be compatible with PTC to advance Metra's efforts to achieve PTC compliance by the 2018 federally mandated timeline. The improvements funded by this application will **greatly reduce life-cycle costs of the track and signal equipment** and improve the operating speeds of both passenger and freight services.

The Project will **increase on-time reliability** by reducing conflicts between passenger and freight trains and improving efficiency by increasing the operating capacity of the Rondout Interlocking. If the interlocking is not reconstructed, the slow speed of both passenger and freight trains will continue to limit capacity, increase conflicts and impact on-time performance. The current speed restrictions at the Rondout Interlocking increase passenger travel times and freight times making rail a less competitive mode of transit. The Project will address this and improve the overall reliability of the rail transportation system. All rail traffic through the Rondout Interlocking, which includes Metra, Amtrak, and CP, will operate more reliably as a result of modernized infrastructure and improved dispatch control.

Finally, the Project improves the rail corridor's ability to **withstand an emergency or major disaster**, providing much **greater resiliency** to the complicated rail system. The Project provides state-of-the-art signal and track technology at the interlocking. Control of operations will be located in CP's central control facility in Minneapolis, Minnesota. This reduces susceptibility to the risk of disruption from natural disasters because the CP facility is more secure and provides state of the art technology to minimize risk of service interruptions. At the Rondout Interlocking, new switch heaters will be installed at all switch locations. Some of the existing switches do not have heaters or ice melting equipment which leads to operating issues in winter weather. Both of these proposed improvements will allow the Rondout Interlocking to continue to operate more effectively during winter storms.

The Project will improve rail as a mobility option, already a preferred alternative to air or auto. Making rail more reliable will make it more competitive with driving as an alternative transportation choice and relieve traffic congestion. With fewer vehicles traveling on the road, particularly auto travel using the Interstate 94 corridor to travel north to south, road conditions will deteriorate at a slower rate further contributing to the regional infrastructure's state of good repair.

#### **4.1.3 Economic Competitiveness**

The Project, in conjunction with Metra's current efforts to prepare its system for PTC, will enhance the region's economic competitiveness by **improving the movement of both passengers and freight throughout this critical corridor**. Improving the infrastructure at the Rondout Interlocking will enhance rail mobility in the corridor and relieve traffic congestion on Interstate 94, which runs parallel to the corridor. Approximately 98.6 percent of the 14.5 million annual person trips made in the Chicago - Milwaukee corridor are made in personal automobiles, and while rail is the preferred option for many origin/destination trips within the corridor, more frequent, efficient, and reliable Metra and Amtrak service will provide a competitive alternative to interstate highway travel. It is estimated that Metra carried 6.9 million and Amtrak Hiawatha Service carried 815,000 passengers on the corridor in 2016. This project provides much of the required infrastructure to enable additional Amtrak service, which could result in an Amtrak ridership increase of more than 100,000 passengers per year.



The Project will significantly increase the economic competitiveness of the area's freight rail network by reducing daily freight train delays for CP trains in and out of the Chicago area. These improvements benefit the wide range of freight traffic served by and/or passing through the Rondout Interlocking, which currently totals 25 freight trains per day. Within this total flow there are intermodal trains, coal trains, metallic ores traffic, chemical-haulage, finished automobiles and auto parts trains, grain-haulage and farm products traffic. The expectation is that the overall freight traffic flow will continue to increase over the next 20 years and that this will require a comprehensive program of physical plant improvements to manage the differing demands of these traffic flows. The types of physical plant improvements that can be expected will include additional investments in signaling, installation of additional crossovers and the addition/expansion of sidings and other connecting tracks.

Improvements in freight movements, such as those outlined by the Project at the Rondout Interlocking, generally result in long-term job creation. This will increase the competitive advantage to attract freight traffic from trucks on the parallel Interstate 94 corridor.

The Chicago-Milwaukee corridor is busy, not just from a rail perspective but also on the highways. Of the three crossings the project will affect, Rockland Road is busiest with just over 18,000 cars per day. Vehicle delays at the three highway-rail grade crossings are projected to be reduced as the Project will lessen the total duration of gate closings. This will improve the fluidity of the area highway network, and provide improved access to jobs and activity centers for area workers and residents. Improving the rail network at the Rondout Interlocking will also reduce the amount of freight traffic using the highway network. This will lead to reduced overall transportation highway maintenance costs, lessen highway congestion and the need for highway capacity expansion projects, and decrease overall vehicle emissions.

#### **4.1.4 Environmental Sustainability**

The Project supports environmental sustainability as passenger and freight rail services are already more energy efficient than any other available alternatives, such as automobile and air travel, within the Chicago-Milwaukee corridor.

Completion of the Project will also create additional environmental and sustainable impacts. The level of air pollutants and carbon dioxide emissions will be reduced as both freight and passenger rail fuel consumption and motor vehicle idling time at rail crossings decline due to faster rail operations. It is estimated that the Project will reduce carbon dioxide emissions by 19,000 tons and result in a 3.3 million gallon reduction in gasoline consumption from passengers who favor Metra or Amtrak as an alternative to driving.

#### **4.1.5 Quality of Life**

Improvements at the Rondout Interlocking resulting from the Project will enhance passenger safety and reduce delays, providing more timely and reliable trips for Metra and Amtrak riders. As mentioned in Section 4.1.3, residents and workers will have more reliable transportation choices when traveling around the region or between Chicago and Milwaukee. Metra also offers an affordable alternative to driving; it is estimated that using Metra between Libertyville and Union Station can save passengers \$3,900 annually over driving alone in a private vehicle.<sup>2</sup>

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<sup>2</sup> Cost of driving assumes 240 round trips annually, at trip distance of 40 miles each way, using 1.78 gallons at a gasoline cost of \$2.30 per mile, maintenance and repair costs of 5.3 cents per VMT and tire costs of 1 cent per VMT, and a monthly downtown parking rate of \$289. Cost of riding Metra represents the cost of a monthly pass for travel from Zone H to Zone A, at a cost of \$228 per month, for 12 months.





Given that essential services, such as medical facilities, grocery stores, and community centers, are located throughout the corridor, the need for efficient and frequent rail service is integral to ensuring connectivity. As discussed in Section 4.1.3, the Project supports economic competitiveness in the region by improving the fluidity of the transportation network. In addition to providing improved access to jobs and activity centers, this fluidity will also improve the quality of life for residents and workers. Vehicle delays at grade crossings will be reduced and trains will run more efficiently and frequently, making it easier for people to move about the region.

## **4.2 SECONDARY SELECTION CRITERIA**

### **4.2.1 Innovation**

The Project will modernize and upgrade the existing Rondout Interlocking with state-of-the art signal and track components. Metra will install new signal bridges, turnouts, switches and switch machines, and will upgrade crossing warning devices at Rockland Road to accommodate the new interlocking arrangement. Given Metra’s current efforts to implement PTC, the new signal and interlocking systems will incorporate PTC as required by federal regulation. These updates will incorporate the latest developments in railroad technology and significantly improve operational fluidity and flexibility as well as improve safety, reliability and resiliency. Given that CP, Amtrak, and Metra trains all pass through the Rondout Interlocking, improving the operational efficiency and performance of passenger and freight trains is essential to reducing delays and scheduling conflicts at this key location within the heavily rail congested region.

### **4.2.2 Partnership**

The Project will continue the longstanding relationships between Metra, CP, Amtrak, IDOT, and WisDOT and provide benefits to all. All parties have worked together to identify the project components required to improve service in the MD-N corridor, and all parties are supportive of the Project. CP co-owns the tracks involved and operates approximately 25 trains through the corridor daily. In addition to the 50 Metra MD-N trains that pass through each day, Amtrak operates seven roundtrip trains Monday through Saturday and six roundtrip trains on Sunday through the Hiawatha corridor along with two daily Empire Builder trains. Amtrak, WisDOT and IDOT are eager to expand service to up to 10 roundtrips per day; which this Project’s infrastructure improvement would help support.



## 5 PROJECT READINESS

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Metra and its project partners are ready and eager to complete this Project upon receipt of a TIGER grant award. Metra is already completing PTC improvements, and adding the Project improvements described in this document will achieve efficiencies and cost savings compared to completing a similar project at a later date.

### 5.1 TECHNICAL FEASIBILITY

Metra has a long history of executing complex infrastructure projects, and will use all its knowledge from previous projects to ensure the Rondout Project is completed efficiently and safely.

Metra has completed preliminary design work for the Project, including generating signal drawings for the affected areas, and Metra has identified the tasks that need to be performed to complete the project.

#### 5.1.1 Statement of Work

##### ***Task 1: Technical Consultant***

Metra will hire a technical consultant team to develop a Detailed Work Plan, Budget, and Schedule, as well as assist with the completion of all work outlined in Tasks 2 and 3. This team will support Metra's in-house team. Metra's project manager will directly oversee the technical consultant team.

The Detailed Project Work Plan, Budget, and Schedule will be submitted for review and approval by the US Department of Transportation (US DOT) modal administration responsible for overseeing the TIGER grant. Metra acknowledges that work on subsequent tasks will not commence until the Detailed Project Work Plan, Budget, and Schedule have been completed, submitted to US DOT, and Metra has received approval in writing from US DOT, and that the US DOT will not reimburse Metra for costs incurred in advance of this requirement.

##### ***Task 2: Final Design, Utility Relocation, Construction Staging Plan and Procurement***

During Task 2, Metra and the technical consultant will finalize the design of the four subprojects. During the final design phase, Metra and its consultants will also develop a construction phasing plan that will minimize track outages and balance the impacts of construction on rail operations. Metra will work closely with the other rail operators to ensure impacts to operations for both freight and passenger services are carefully managed. Metra will also develop a procurement plan and utility relocation plan, as Metra recognizes these items are often critical path components of any construction project and any delays to the procurement of items or the relocation of utilities can have significant impacts to the schedule and budget. With permission from US DOT, Metra may undertake some utility relocation and materials procurement during this task in order to ensure this risk is mitigated. Metra's technical consultant will provide engineering services during this phase, and will work with Metra to procure all necessary materials.

##### ***Task 3: Project Construction***

Under Task 3, Metra will relocate all remaining utilities and procure all remaining materials, and construct the project in accordance with the phased construction plan.



In general, the Project will modernize all existing equipment with state-of-the-art technology. For all switches affected by the project, new hot air blowers will be installed to ensure safe and efficient operation of switches during the winter months. All track and signal circuits and cable will be renewed.

**Task 3.1 Rondout Interlocking Construction:** To address the out-dated and substandard signals and track configurations that currently exist at Rondout, the existing interlocking system will be completely overhauled. This includes:

- Removing two antiquated signal bridges and replacing them with a four-track signal bridge between Abbott Park and Rondout for east-bound home signals, and a two-track signal bridge south of Rondout for west-bound home signals.
- Installing eight new turnouts and switch layouts to facilitate train movements and improve operational flexibility.
- Upgrading the crossing warning system at Rockland Rd. to accommodate the new interlocking arrangement and improve safety and ease-of-use for highway users. This includes the latest in constant warning time train detection technologies to provide the safest and most reliable protection for the general public.
- Upgrade rail to accommodate new interlocking arrangement.
- Upgrade the signal system by installing new DC track circuits within interlocking limits, CBR track circuits on all main track approaches, and Type C track circuits on all non-signaled approaches.

**Task 3.2 Fox Lake Double Track Construction:** This subtask includes:

- Installing 7,000 feet of new track between Rondout and St Mary's Road with 136RE rail and wood ties.
- Installing a new #20 turnout and switch layout between the new and existing tracks.
- Installing new ground- and mast-mounted signals at the junction of Fox Lake at Rondout Interlocking (6R and 6L) and at the St. Mary's Rd. control point (2L and 2R).
- Upgrading the crossing warning system at St. Mary's Rd. to improve safety and ease-of-use for highway users. This includes the latest in constant warning time train detection technologies to provide the safest and most reliable protection for the general public.

**Task 3.3 Siding Extension Construction:** This subtask includes:

- Installing two new split point details on the existing EJ&E (CN) tracks.
- Installing a third track across the existing EJ&E (CN) tracks at Rondout Interlocking between signals 6L and 10R with 1175' of 136RE rail and wood ties.
- Relocating existing crossover switches (23A and 23B) further south to make room for new #13 switch and track layout and install new #15 crossover and switch layouts.
- Installing a new #20 turnout and switch layout between the new and existing tracks.
- Installing a new ground-mounted signal (10R).



**Task 3.4 Lake Forest Crossover Construction:** This subtask includes:

- Installing a new #20 crossover and switch layouts (1A/B and 3A/B) between the two main tracks.
- Installing new ground-mounted signals (2L, 2R, 4L and 4R).
- Installing a new signal house to contain all signal equipment.
- Upgrading the crossing warning system at Conway Road to improve safety and ease-of-use for highway users. This includes the latest in constant warning time train detection technologies to provide the safest and most reliable protection for the general public.

## 5.2 PROJECT SCHEDULE

The Project schedule is expected to begin in 2018 and is scheduled for completion in 2020. This schedule allows the funds to be obligated well in advance of the September 30, 2020 deadline as well as spent long before the September 30, 2025 deadline. A description of the work to be completed and the anticipated schedule is included in Figure 7.

## 5.3 REQUIRED APPROVALS

The reconfiguration of Rondout is included as a project in the Federal Railroad Administration (FRA) supported Chicago to Milwaukee Environmental Assessment for Three Additional Frequencies to the Amtrak Hiawatha Service and will be covered by a forthcoming Finding of No Significant Impact (FONSI) related to this study.

Based on initial assessments, if Rondout were to advance prior to the issuance of the FRA FONSI, Metra anticipates that this Project would require categorical exclusion documentation under the National Environmental Policy Act (NEPA). No additional permits or approvals are required because the work is primarily rehabilitative in nature and primarily within the limits of the existing right of way.

## 5.4 ASSESSMENT OF PROJECT RISKS AND MITIGATION STRATEGIES

Metra's technical consultant will be responsible for managing risk through monthly updates of scope, schedule, and budget. These updates will identify project risks, describe cost and schedule impacts, propose mitigation measures, determine the person and/or team responsible for mitigation, and document when the risk is resolved and closed.

Metra also holds bi-weekly meetings. At each meeting, Metra will review the schedule and all design and construction statuses, evaluate any risks, and analyze any constructability issues and construction impacts. These meetings involve the technical consultant and other stakeholders that will help to address risk and mitigation strategies.

Another critical tool for managing project risks will be the master project schedule and budget. Thirty days after the notice to proceed, Metra's technical consultant will be responsible for developing the risk register and master budget and schedule. After Metra has accepted and approved the initial schedule, the technical consultant will be required to update the schedule and budget monthly. The schedule will account for items such as review and comment periods, deliverables, milestones, and the critical path which will be distinguishable from non-critical activities. It will also depict activities, descriptions, durations, start and finish dates, and the logical relationships between activities.



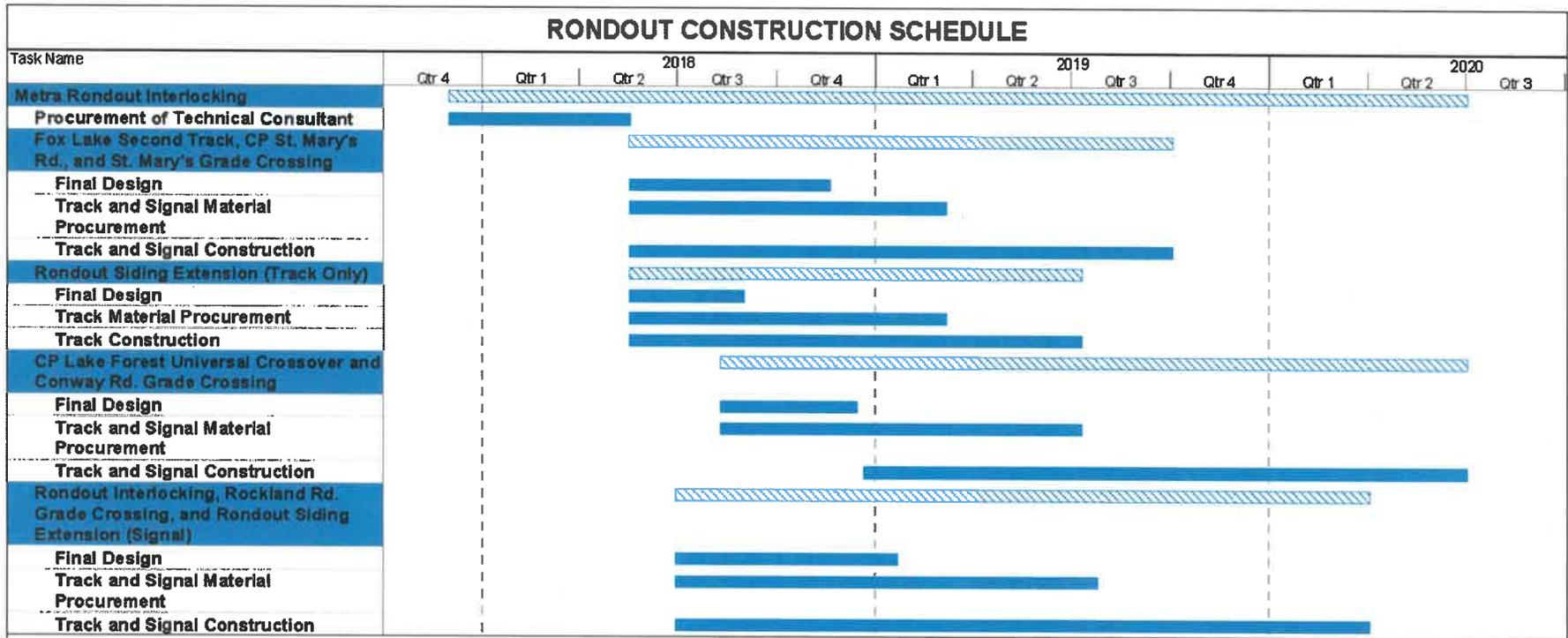


Figure 7: Project schedule



## 6 BENEFIT COST ANALYSIS

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A benefit-cost analysis (BCA) was conducted for the Rondout Reconfiguration and Expansion Project (“the Project”) for submission to the U.S. Department of Transportation (U.S. DOT) as a requirement of a discretionary grant application for the TIGER 2017 program. The analysis was conducted in accordance with the benefit-cost methodology as outlined by U.S. DOT in the 2017 TIGER/INFRA Benefit-Cost Analysis Guidance. The period of analysis corresponds to 32 years and includes two years of construction and 30 years of benefits after operations begin in 2020.

The Project will build upon current efforts by Metra to modernize Metra’s most complex, dated, and operationally constrained interlocking. The Project will transform an operational bottleneck to a modern, fluid, flexible, and resilient interchange that can better accommodate today’s significant rail traffic of 66 weekday passenger and 25 freight trains per day. The Project will also allow for significant anticipated growth in demand for passenger and freight traffic in the decades ahead. Metra is already reconfiguring critical aspects of the interlocking in preparation for the implementation of Positive Train Control (PTC) and to replace antiquated signal and track components that are difficult to maintain. The Project will build upon these efforts in four key areas:

- (1) Upgrade and modernize the Rondout Interlocking to achieve a state of good repair and provide significantly improved operational fluidity and flexibility;
- (2) Construct a new track connection to the J-Line inside of the Rondout Interlocking to provide a means for passenger trains to stage in order to recover from delays to scheduled service;
- (3) Construct a second track north connecting to Metra’s Fox Lake Subdivision that will allow for simultaneous moves of commuter trains into and out of the Fox Lake Subdivision; and
- (4) Construct Universal Crossovers north of Conway Road at Lake Forest and upgrade the rail crossing at Conway Road.

### 6.1 COSTS

The capital cost for this Project is expected to be \$28.9 million in undiscounted 2016 dollars through 2020. At a seven percent real discount rate, these costs are \$24.5 million, while at a three percent discount rate, they are \$26.9 million. Operations and maintenance/repair costs are projected to average \$230,000 per year in the long term, less than costs under the No Build scenario of \$488,000 per year. Over the entire 30-year analysis period these costs accumulate to \$6.9 million in undiscounted 2016 dollars, or \$2.1 million when discounted at seven percent and \$4 million when discounted at three percent.

### 6.2 BENEFITS

In 2016 dollars, the Project is expected to generate \$24.1 million in discounted benefits using a seven percent discount rate, or \$43.7 million using a three percent discount rate. The project creates these benefits in three primary ways: by generating O&M Cost savings; by reducing delays; and by potentially enabling additional Amtrak service, which leads to a mode shift from automobile to rail service and thereby reduces fuel consumption, emissions, traffic incidents, and vehicle operating costs.

This leads to an overall project Net Present Value (NPV) of -\$2.5 million and a Benefit Cost Ratio (BCR) of 0.91, using a seven percent discount rate, or a NPV of \$12.8 million and a BCR of 1.42 using a three percent discount rate. The overall project benefit matrix can be seen in Table 4.





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Reconfiguring Metra's Rondout Interlocking for Increased Speed, Improved Operational Flexibility, Resiliency, and State of Good Repair

Table 4: Project impacts and benefits summary (monetary values in 2016 dollars)

Current Status/Baseline & Problem to be Addressed	Change to Baseline/ Alternatives	Type of Impact	Population Affected by Impact	Economic Benefit	Summary of Results (at 7% discount rate)	Summary of Results (at 3% discount rate)	Page Reference in BCA
<b>Signal system infrastructure at Rondout Interlocking has become obsolete and replacement parts have been difficult to find</b>	Modernize and upgrade Rondout interlocking with state-of-the-art signal and track components	Improve State of Good Repair	Metra	O&M Cost Savings	\$3,890,013	\$7,875,643	11
<b>Lack of second track prevents other trains from move around stopped trains, causing cascading delays</b>	Second track connecting to the Fox Lake Subdivision and new track connection to J-line inside Rondout interlocking provide flexibility	Reduce delays	Metra and Amtrak Riders; Freight	Passenger Time Savings	\$215,794	\$394,275	12
<b>Outdated and insufficient infrastructure limits capacity</b>	New infrastructure will allow Amtrak to add service on Hiawatha line, and will also lead to additional induced Metra ridership	Ridership increase and corresponding reduced automobile VMT	Amtrak and Metra, Amtrak and Metra Riders, Wider Study Region	Reduced traffic incidents	\$6,455,546	\$11,635,518	<b>Error! Bookmark not defined.</b>
				Reduced emissions	\$693,574	\$720,643	<b>Error! Bookmark not defined.</b>
				Reduced fuel consumption	\$2,759,927	\$4,899,969	<b>Error! Bookmark not defined.</b>
				Reduced vehicle operating costs	\$10,073,824	\$18,157,125	<b>Error! Bookmark not defined.</b>

The overall Project impacts can be seen in Table 5, which shows the magnitude of change and direction of the impact categories.

Table 5: Project impacts (cumulative 2020-2049)

Category	Unit	Quantity	Direction
<b>Vehicle-Miles Traveled</b>	VMT	98,353,033.33	▼
<b>Fuel Consumed</b>	gallons	3,156,604.88	▼
<b>Fatalities</b>	#	0.93	▼
<b>Injury Accidents</b>	#	85.57	▼
<b>Property Damage Only (PDO)</b>	#	231.09	▼
<b>CO<sub>2</sub> Emissions</b>	tons	18,164.41	▼



<b>NO<sub>x</sub> Emissions</b>	tons	3.10	▼
<b>PM<sup>10</sup></b>	tons	0.14	▼
<b>SO<sub>x</sub></b>	tons	0.35	▼
<b>VOC</b>	tons	5.37	▼

## 7 COST SHARE

As described in Section 3: Grant Funds, Source, and Uses of Project Funds, Metra will use multiple funding sources to complete the Project. Table 6, which has also been presented in Section 3, outlines these funding sources and the breakdown between federal and non-federal sources; all amounts are in 2017 dollars.

*Table 6: Federal and non-federal cost share*

	Federal Funds <sup>3</sup>	Canadian Pacific	TIGER Request	Metra TIGER Match	Total
Interlocking Improvements	\$2,516,206	\$1,761,344	\$6,164,704	\$2,138,775	\$12,581,029
Siding Extension	\$899,487	\$629,641	\$2,203,743	\$764,564	\$4,497,435
Fox Lake Second Track	\$1,564,574	\$1,095,202	\$3,833,205	\$1,329,888	\$7,822,868
Lake Forest Crossover	\$921,597	\$645,118	\$2,257,912	\$783,357	\$4,607,983
<b>Total Project</b>	<b>\$5,901,863</b>	<b>\$4,131,304</b>	<b>\$14,459,564</b>	<b>\$5,016,584</b>	<b>\$29,509,315</b>
<b>Percentage of Cost Share of the Project</b>	<b>20%</b>	<b>14%</b>	<b>49%</b>	<b>17%</b>	<b>100%</b>

Funds contributed by Canadian Pacific and Metra comprise 31 percent of the total project cost. This includes \$4.1 million from Metra's private partner, Canadian Pacific and just over \$5 million from Metra. Federal funding of the project will total 69 percent. Of this 20 percent -or \$5.9 million - will come from FTA Formula Funds already awarded to Metra. The rest will be funded by this TIGER request.

In addition to the capital costs outlined above, Metra will integrate all maintenance costs associated with the Project into its annual budget. Completing the Project will reduce maintenance costs for the Rondout Interlocking. It is estimated that the new interlocking will require approximately \$156,000 in 2016 dollars in annual maintenance costs. This figure is lower than the \$202,000 it requires to maintain the existing Rondout Interlocking. While maintenance costs are expected to increase with age, the rate of increase will likely be higher in the absence of the Project. Over 20 years, the net rehabilitation cost for the project is about \$1.3 million in 2016 dollars. As a result of these reduced maintenance and rehabilitation costs, which includes the \$28.9 capital construction cost for the Project, the net Project cost in undiscounted 2016 dollars is \$22.7 million.

<sup>3</sup> This column includes FTA formula funds that have already been programmed for budget approval on November 15, 2017.





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*Reconfiguring Metra's Rondout Interlocking for Increased Speed, Improved Operational Flexibility, Resiliency, and State of Good Repair*

Absent TIGER funding, this transformational project will not be able to progress to construction as scheduled, thereby losing the economies of scale that can be realized by completing this project in parallel to PTC implementation. It is estimated that completing this project separately would take an additional construction season and cost an additional \$2 million in mobilization costs. Metra is respectfully requesting \$14.5 million in TIGER funding to move forward with reconfiguration of the Rondout interlocking project.





## 8 FEDERAL WAGE RATE CERTIFICATION

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CERTIFICATION  
TIGER Discretionary Grants  
Subchapter IV of Chapter 31 of Title 40, United States Code  
As Required by the FY 2017 Appropriations Act

Name of Applicant: Metra Commuter Railroad

Authorized Representative: Thomas Weaver

Metra hereby certifies that it will comply with the requirements of United States Code Title 40, Chapter 31, Subchapter IV, Federal Wage Rate Requirements.

This certification is made pursuant to TIGER 2017 Discretionary Grant (National Infrastructure Investments) requirements found in the Federal Register, Vol. 82, Thursday, September 7, 2017, on page 42426.

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

### FEDERAL WAGE RATE CERTIFICATION

Metra certifies that it will ensure compliance with the requirements of Subchapter VI of Chapter 31 of Title 40, United States Code (federal wage rate requirements), as required by the Consolidated Appropriations Act, 2017 for any projects that will receive federal funding under the 2017 TIGER IX program.

\_\_\_\_\_  
Thomas Weaver  
Senior Director, Grants Management and Accounting  
Metra Commuter Railroad

\_\_\_\_\_  
Date



## 9 APPENDICES

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- Benefit Cost Analysis
- Letters of support
- Documentation of non-federal funding commitments
  - Funding agreement with CP T00640-Amdt-Rond

(2014-03-27)  
T00640-Amdt-Rond

