75th St. CIP – P2

FY 2024–2025 National Railroad Partnership/Federal-State Partnership for Intercity Passenger Rail Grant Program

BENEFIT/COST ANALYSIS NARRATIVE

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BENEFIT/COST ANALYSIS

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I. INTRODUCTION

This report documents the Benefit/Cost Analysis (BCA) for the FY 2024-FY 2025 National Railroad Partnership/Federal-State Partnership for Intercity Passenger Rail (NRP-FSP) Grant Program due on February 6, 2026 utilizing the updated December 2025 U.S. DOT BCA Guidance. The BCA evaluates the benefits to American passenger rail and freight assets resulting from the Chicago Region Environmental and Transportation Efficiency (CREATE) Program improvements associated with the Rock Island Connection Project (P2) that align with the administration's priorities including (1) improving service performance (2) enhancing safety, (3) focusing on the American Family and (4) reducing the State of Good Repair (SOGR) backlog. The BCA demonstrates the cost effectiveness of the P2 Project measured in terms of a Benefit/Cost (B/C) ratio and Net Present Value (NPV).

1.1. Rock Island Connection Project (P2) Description

P2 is an independent project under the CREATE Program. The CREATE Program, which began in 2003, is improving the way passengers and goods move over rail in the Chicago Terminal. The CREATE Program is modernizing the region's rail network to add capacity, reduce travel times and improve safety. The funding requested for the P2 Project is the next phase of the 75th Street Corridor Improvement Project (75th St CIP). This Project is in final design and will construct a flyover bridge to eliminate a major chokepoint - Belt Junction - reducing freight and passenger train conflicts.

P2 supports the goals of the NRP-FSP Program by **improving performance and safety** in the nation's most congested rail terminal. The corridor carries 90 daily freight trains, while Amtrak operates six weekly *Cardinal* trains (serving 98,583 riders in fiscal year 2025)[1], and 30 weekday Northeast Illinois Regional Commuter Rail Corporation (d.b.a. Metra) runs SouthWest Service (SWS) revenue trains (serving 976,376 annual riders)[2]. Shared operations and passenger train prioritization cause delays of up to six hours daily, particularly affecting access to Norfolk Southern's (NS) Landers Intermodal Facility, which handled 352,775 lifts in 2024[3].

Chicago's Union Station (CUS), the busiest station in Amtrak's national network and a primary Midwest passenger rail hub, connects 17 intercity lines and serves over 17 million passengers annually. P2 will reroute 30 weekday Metra SWS revenue trains from CUS to LaSalle Street Station, **improving travel times, reducing freight conflicts, and enhancing intercity passenger rail service for traveling families**, including Amtrak *Cardinal* riders between Chicago and New York via Philadelphia, Washington D.C., Charlottesville, Cincinnati, and Indianapolis. Constructing the P2 flyover will eliminate severe chokepoints, reduce the state of good repair backlog and improve efficiency, reliability and safety for commuter, intercity passenger and freight rail within the nation's premier freight hub—handling nearly half of all U.S. intermodal units and one-third of rail cars—delivering measurable benefits to freight movement and passenger service.

[1] Amtrak Route Ridership (FY 25 vs. FY24)

[2] Regional Transportation Authority Mapping and Statistics - Metra Total Rail Ridership By Line (2024)

[3] Exhibit 3F. CMAP Facility Lift Counts

P2 will construct a flyover near W. 75th Street and S. Parnell Avenue to connect Metra's SWS with the Rock Island District (RID). This project will reconfigure BRC, NS and Metra tracks and grade separate Belt Railway Company of Chicago (BRC) and Metra tracks, enabling SWS trains to reroute to LaSalle Street Station, relieving train congestion in the Project area and at Chicago Union Station for future Amtrak service. The rerouting also reduces conflicts with Norfolk Southern freight and Amtrak operations on the Metra Chicago and Western Indiana (CWI) line (owned by Metra north of project from W 74th St to Control Point [CP] 21st Street near 23rd) north of the project area as shown in Figure 1.

The project will increase safety for riders and the overall system for commuter rail, intercity passenger rail, and freight rail in and north of the project corridor. Reconfiguring the lines east of the Belt Junction will create dedicated tracks—three for BRC, two for Metra, and one for NS—while grade separating Metra and BRC tracks. This improvement will eliminate conflicts between 90 daily freight and 30 weekday commuter revenue trains, reducing the risk of collisions to zero and ensuring safer, more reliable travel for over 976,000 annual Metra SWS riders. In addition, shifting 30 weekday Metra SWS revenue trains from NS and Metra CWI trackage to the RID will reduce freight, intercity passenger, and commuter rail conflicts along the Metra CWI line, north of the P2 project area, including trackage adjacent to the NS 47th Street Intermodal and Ashland Yards. The change eliminates conflicts with the two daily NS trains and additional unscheduled movements several times per week on Metra CWI line, as well as conflicts with six weekly Amtrak Cardinal trains serving over 98,500 annual riders.

The P2 Project includes:

- Track Work- East of Belt Junction, tracks will be reconfigured to six lines, divided into three alignments. The first alignment group includes three BRC tracks (the northernmost tracks), while the second alignment includes two new Metra tracks relocated to the south, and the third alignment is the new NS Landers Main as the southernmost track. The two new Metra tracks connect to Metra's RID tracks near 75th Street and S. Parnell Avenue and facilitate necessary train movements to continue to LaSalle Street Station. In total, nearly 4,200 feet of double track will be constructed,

  To support P2 improvements including the realignment of BRC tracks and the NS Landers Main, NS will implement track enhancements along the 75th St. east-west corridor, spanning Western Ave. and Union Ave., and the north-south corridor between 74th St. and 78th St. This includes the construction of approximately 8,200 feet of new track and shifting approximately 19,600 feet of track.

  These track improvements along with structure work (see Figure 2. Structures Work) will **reduce freight and passenger rail conflicts** with NS freight operations on Metra CWI line north of the Project area. In addition, conflicts at between 90 daily freight and 30 weekday commuter revenue trains at Belt Junction will be eliminated, **reducing the risk of collisions** and ensuring safer, more reliable travel for over 976,376 annual Metra SWS riders.

- Structures Work- The P2 flyover structure begins at the west along the Metra SWS tracks, between Peoria and Halsted Streets, rising to its maximum height over the BRC tracks near Union Ave. From there, it descends along a curve to the northeast, where it meets the existing Metra RID tracks, near Hamilton Park and 74th St. In addition, NS will install approximately 3,170 feet of new retaining walls from Aberdeen St. to the east of Union Ave. to support both the new track and the P2 flyover's western approach spans, along with approximately 1,720

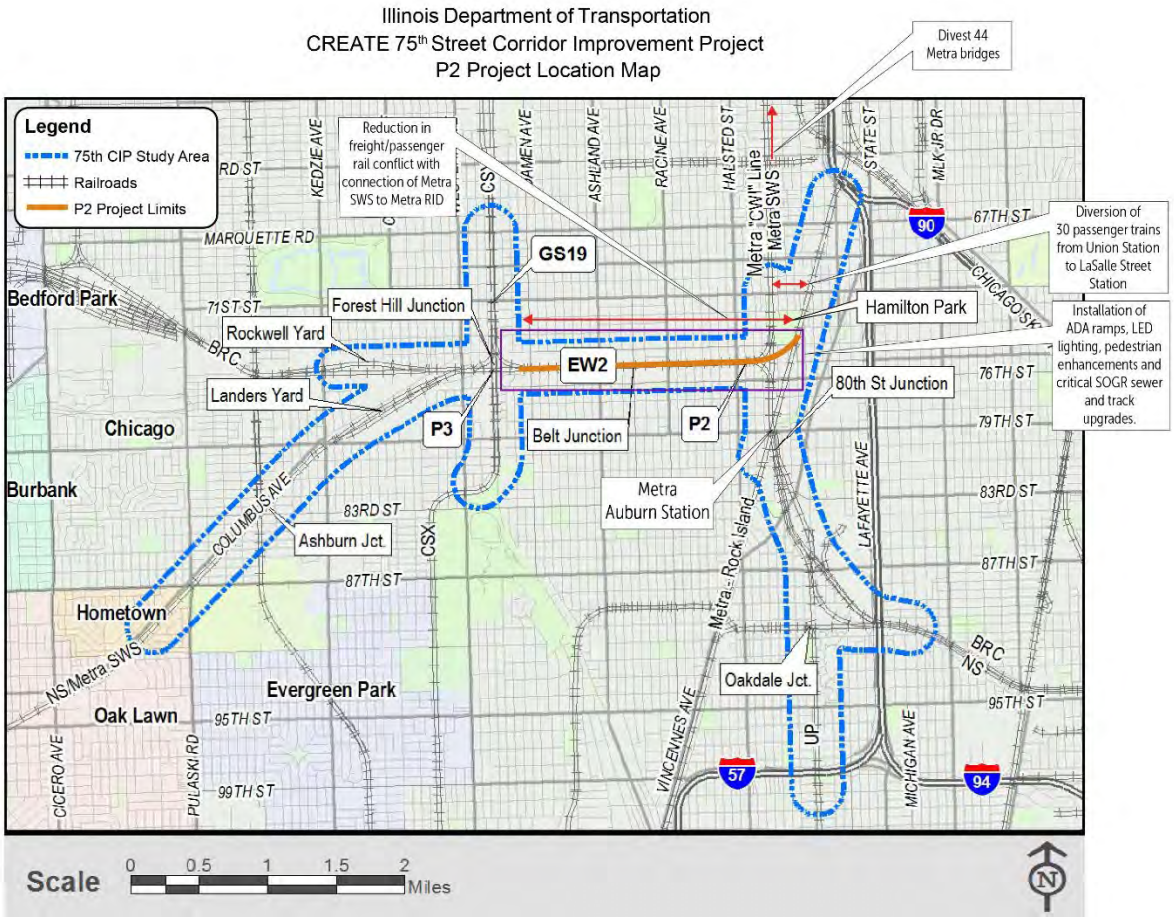
feet of noise barriers. The abutments at Peoria and Halsted Streets will extend to the south by about 25 feet with a new superstructure to accommodate the installation of the NS Landers Main.

1. Signal Work- New switches, signals, and bungalows will be added at seven locations on the existing and newly constructed segments along the corridor **improving safety and operations** along the corridor.

- Community Mobility Improvements- Installing **family friendly, community safety and mobility improvements** at six viaduct locations—73rd Street, 74th Street east of Normal Avenue, Normal Avenue north of 75th Street, 75th Street at Normal, Halsted Street, and Peoria Street—along the corridor and within the surrounding neighborhoods up to one-quarter (1/4) mile from the railroad work. Improvements including ADA ramps, LED lighting fixtures, sidewalk and pedestrian enhancements, pavement replacement, sewer upgrades, and landscaping that will improve safety and usability for pedestrians, motorists commercial vehicles and families walking and driving below the railroad bridges. At the 73rd Street viaduct, upgrades will also improve the pedestrian tunnel under the Metra RID to provide enhanced access to Hamilton Park from the east. These improvements will allow a more seamless travel experience within the project area and contribute to addressing SOGR needs.

2. Addressing infrastructure improvements to **improve critical SOGR needs** such as sewer upgrades and track installation, as well as shifting Metra traffic away from bridges that are in poor condition allowing for the divestment of the operations, maintenance, and ownership of those bridges.

Figure 1. P2 Project Overview Map



Source: Illinois Department of Transportation

Figure 2. Rendering of Proposed P2 Flyover (north facing view)

Source: Illinois Department of Transportation

1.2. Organization of BCA Memorandum.

Section II provides an overview of the project costs and benefits.

Section III describes the high-level BCA approach and key methodological assumptions

Section IV describes the detailed methodology for computing Project benefits, including sources for inputs and parameters, and an illustration of the benefits calculated for an example year for the Project.

Section V summarizes the BCA results and the resulting B/C ratio.

Section VI provides a sensitivity analysis which explores project outcomes under different assumptions.

II. PROJECT BENEFITS AND COSTS OVERVIEW

2.1. Project Benefits

P2 is expected to generate benefits through several mechanisms: service improvements, mode shift, maintenance cost savings, delay reduction, avoided freight diversion, and lighting and sidewalk improvements. The total discounted value of the expected benefits generated through these mechanisms is estimated at $761.9 million in 2024$. Discounted Benefits by category are summarized in Table 1 below:

Table 1. Benefit Cost Analysis Results Summary

Total Benefits	Discounted Value (2024$)
1a: Metra Passenger Travel Time Savings resulting from Service Improvements	$91,331,987
1b: Reduced Auto Use resulting from Metra Mode Shift	$84,944,802
1c: Metra O&M Cost Increase resulting from Service Improvements	-$28,319,482
2: Metra O&M Cost Savings resulting from Bridge Replacement Savings	$248,089,912
3a: Avoided Delay resulting from Typical Operations	$10,709,773
3b: Avoided Passenger Rail Cost resulting from Reduced Train Delay	$402,250
4a: Avoided Truck Diversion resulting from Network Congestion	$27,894,870
4b: Avoided Rail Diversion resulting from Network Congestion	$305,933,435
5a: Reduced Crashes resulting from Lighting and Sidewalk Improvements	$1,582,598
5b: Reduced Crime resulting from Lighting and Sidewalk Improvements	$54,118
Residual Value	$19,223,065
Net Benefits	$761,847,327
Total Costs	$253,114,530
B/C Ratio	3.01
Net Present Value	$508,732,797

The methodology for evaluating each of these benefits is discussed in Section IV.

Table 2. Project Matrix

Current Status / Baseline & Problem to be Addressed	The project reduces conflicts and congestion between freight trains, passenger rail, and roadway users in Chicago's South Side.
Change to Baseline / Alternatives	Build Scenario includes building a flyover structure to connect the Metra SWS to the Metra RID; constructing a second main track for Metra's SWS operations; and implementing community mobility improvements on surface streets throughout the corridor.
Type of Impacts	Reduced passenger train delay, reduced idling, travel time savings, reduced vehicle operating costs, reduced highway externalities, avoided maintenance costs, reduced crime, improved freight movement and economic vitality, and improved operational efficiency.
Affected Population	Daily local users and commercial through-traffic.
Economic Benefit	The BCA indicates that the Project will result in travel time savings, traffic delay savings, state of good repair benefits, and safety improvements.
Summary of Results	Benefit/Cost ratio greater than 1.0 indicates that the Project generates benefits to society that exceed its costs.

Qualitative Benefits

In addition to the benefit classes quantified in this analysis, the Project is expected to generate additional benefits including:

Benefits to Amtrak's *Cardinal* service which is included in FRA's Corridor Identification (CID) Program and is the only rail option for passengers between Chicago and New York via Philadelphia, Washington D.C., Charlottesville, Cincinnati and Indianapolis. Amtrak currently operates *Cardinal* train service through Chicago with three round trips; six trains per week, but has expressed an intention to increase service to one daily round trip. Rerouting Metra SWS trains to LaSalle Street Station though P2 construction will free 30 weekday slots at CUS, unlocking the capability to implement the FRA Midwest Regional Rail Plan and the 10 active CID studies within the "Midwest" Core" vincity listed in the project narrative. Increasing the *Cardinal* service to 7 days a week would improve ridership and result in associated mode shift because it would give passengers greater flexibility and reliability in their travel options. Higher service frequencies give passengers the ability to travel on their own schedules and thus reduce their reliance on personal vehicles.

Constructing P2 will yield substantial national benefits for Amtrak's intercity passenger service and improve travel for families. By redirecting 30 Metra SWS revenue trains to LaSalle St. Station, train traffic at CUS will decrease by 17%—primarily during peak hours. This makes P2 a foundational project for enhancing Amtrak service at CUS, and across the Midwest, including upgrading the *Cardinal* route from New York to Chicago from six weekly trains to daily service. Additionally, Metra's 976,375 annual SWS riders (2024)—an average of nearly 3,700 per day—will shift from the overcrowded CUS to the less utilized LaSalle Street Station, improving the station experience for SWS riders, as well as those of other Metra lines and Amtrak. LaSalle

Street Station serves only the RID and handled more than 3.1 million passengers in 2024[4], compared to CUS, which accommodated over 3.2 million Amtrak passengers in FY 2025[5] and 13.7 million Metra passengers in 2024[6].

2.2. Project Costs

Construction costs are estimated to be $479,971,223 in 2030$ (or $419,039,464 in 2024$) spent between 2028 and 2033.[7] The total estimated construction cost is based on an initial 2026 construction cost of approximately $326.5 million with a $50 million inflation contingency added to reflect cost escalation through 2030, the assumed midpoint of construction (equivalent to an average annual inflation rate of about 3.8%). This results in an inflation-adjusted construction cost of roughly $376.5 million. An additional 15% construction contingency and 10% allowance for professional services were then applied, bringing the total construction cost estimate to $479,971,223.

Construction will begin in mid-2028, and will be substantially complete by 2033. The Project is scheduled to open to traffic by January 2033. The vast majority of construction costs fall between four year (2029-2032), with construction start up and permitting and close-out costs in 2028 and 2033, respectively. These cost values are show in Table 3, with the assumed distribution over time displayed in Table 4.

Table 3. Project Costs

Year	Project Total	Units
P2	$479,971,223	*2030$*
P2 Real Cost	$419,039,464	*2024$*
Discounted Value	$253,114,530	*2024$*

Source: Cost estimates derived from the Exhibit 2D. Annual Financial Plan.

Table 4. Cost Distribution

Funding Source	Projected Expenditures						
	2028	2029	2030	2031	2032	2033	Total
Distribution	2%	24%	24%	24%	24%	2%	100%
Cost (2030$)	**$9,599,425**	**$115,193,094**	**$115,193,094**	**$115,193,094**	**$115,193,094**	**$9,599,422**	**$479,971,223**

[4] Metra Monthly Ridership, 2024 Rock Island District

[5] Amtrak EDW database (Table C_Train_Stop)

[6] Estimated Number of Metra Trips in 2024 beginning or ending at CUS based on February 2025 Metra Board Memo and Fall 2018 Boarding and Alighting Counts.

[7] Inflation adjustments to convert future dollar values to 2024$ was done using Congressional Budget Office CPI-U 10-year forecasts published in January 2025. https://www.cbo.gov/data/budget-economic-data#4

III.BCA APPROACH

The Benefit/Cost Analysis is based on freight rail, passenger rail, and traffic data in the Project area.

A spreadsheet-based BCA model was constructed for the purposes of this analysis. The model uses Rail Traffic Controller (RTC) modeling outputs for delay reduction scenarios, Simplified Trips-on-Project Software (STOPS) ridership forecasting outputs, City of Chicago data, outputs from a freight analysis performed by Cambridge Systematics for the CREATE Partners, and global parameters provided by the United States Department of Transportation (U.S. DOT) for BCAs.

Using both Project-specific inputs and global parameters, the BCA model calculates life-cycle costs, life-cycle benefits, the NPV of quantifiable costs and benefits, and the resulting B/C ratio, utilizing a methodology that aligns with U.S. DOT guidance for FY25 grant applications and fulfills requirements of the NRP-FSP NOFO.

3.1. Key Methodological Components

The BCA for the proposed project is conducted in accordance with the U.S. DOT's Benefit/Cost Analysis Guidance for Discretionary Grant Programs, released in December 2025.

- Construction is scheduled for 2028–2033; it will be substantially completed by 2033, allowing operation to begin in early January that same year (2033).
- Most costs will occur from 2029-2032; however, construction start-up and permitting expenses will begin in 2028, and project closeout costs will be incurred in 2033.
- Benefits were evaluated for a period of 30 years beginning with the opening of the Project in 2033 and ending in 2062.
- Per U.S. DOT BCA guidance, this analysis was conducted in constant 2024 dollars.
- All benefits and costs are discounted to 2024 at a 7% discount rate.

3.2. Build and No Build Scenarios

The analysis considered how the balance of costs and benefits resulting from the construction of the project would result in long-term benefits to its users and general society. This is accomplished by comparing the "Build" scenario relative to the "No Build" scenario.

- The **No-Build** scenario assumes passenger rail ridership and traffic will continue on their current trajectory, facing slower operational speeds and capacity constraints due to congestion at the existing corridor and CUS. It also assumes Metra-operated bridges along the Metra CWI line will deteriorate to the point of requiring costly reconstruction, causing significant delays and closures that impact operators and the public. Additionally, SWS is currently competing with heavy freight volume on the BRC/NS tracks at Belt Junction, which impacts reliability and increases delays for passenger traffic. Similarly, under this scenario, freight traffic will experience growing delays and capacity limitations from this congestion, eventually requiring partial diversion to alternative modes or routes to avoid the oversaturated corridor.

- The **Build** scenario ("P2") includes the addition of a second main track for Metra's SWS Service and the construction of a new flyover connection to the RID. This will allow for the diversion of 30 weekday passenger trains from the congested south concourse of CUS to LaSalle St Station, as the SWS route shifts to using the RID corridor for the final portion of its inbound routing. This shifts SWS to a corridor owned by Metra and exclusively controlled by Metra from 74th Street to the north. P2 eliminates shared-track conflicts with freight and passenger services. These improvements will boost SWS ridership, improve travel speeds, and reduce delays for Metra, Amtrak, and freight trains by alleviating corridor congestion. The diversion also allows Metra to divest from aging bridges, avoiding costly rehabilitation and replacement. Furthermore, by removing SWS from tracks currently shared with freight, the Project mitigates freight over-saturation risks by improving reliability and throughput, and reducing the potential for freight diversion to other rail lines or modes (truck). Finally, the P2 Project delivers community mobility upgrades at six viaducts or roadway segments, including ADA ramps, LED lighting, pedestrian enhancements, pavement replacement, sewer upgrades, and landscaping.

IV. BENEFITS

P2 generates substantial benefits by improving passenger rail service, enhancing network efficiency, and averting significant future costs. The Project allows for improved Metra SWS operations, producing meaningful travel time savings and attracting new riders, which in turn reduces automobile use and associated externalities such as congestion, poor air quality, noise, and safety risks (**Benefits 1a, 1b, 1c**). Furthermore, while still accommodating *Cardinal* service, shifting SWS operations onto the new P2 flyover structure, the Project also allows Metra to divest from the operation, maintenance, and ownership of 44 aging bridges that would otherwise require expensive rehabilitation and eventual replacement, resulting in major state-of-good-repair cost savings (**Benefit 2**). Additional network benefits resulting from easing overall congestion on the corridor include reduced passenger and freight rail delay and associated avoided fuel and air quality costs (**Benefits 3a and 3b**). Furthermore, reducing congestion ultimately prevents significant freight diversion to trucks or alternative rail lines that would be eventually necessary in the absence of the Project, maintaining Chicago's critical role as a primary rail interchange hub (**Benefits 4a and 4b**). The Project also supports safer communities through lighting, sidewalk, and viaduct improvements that reduce crashes and crime (**Benefits 5a and 5b**). Overall, these benefits produce more than $821 million in discounted value, far exceeding the Project's discounted costs of $253 million, as detailed in Table 1.

4.1. Metra Service Improvements

P2 allows Metra to improve their operations and increase service along the 75th Street CIP corridor. Ridership modeling was performed by Metra to consider changes to the service plan and the resulting change in ridership and incremental operating cost.

The No-Build service plan used in ridership cost modeling is based on the 2019 Metra schedule. The only adjustment made to the service plan is the addition of a planned new Metra station, Auburn Park, which is estimated to open in 2026 on the RID corridor.

The Build scenario reroutes the SWS to utilize a corridor that terminates downtown at the LaSalle Street station, rather than the heavily congested CUS. P2 allows for train speed improvements along the SWS line, which reduces travel time for riders. This analysis does not account for additional service optimization opportunities for Metra and Amtrak associated with improvements at CUS.

The FTA Simplified Trips-on-Project Software (STOPS) model was used to forecast the ridership impact of the improved Metra SWS. General Transit Feed Specification (GTFS) files were developed to describe the Build and No-Build service plans and modeled using the regional STOPS model calibrated for Chicago. The model assumed no other changes to the region's transit network. The raw STOPS outputs for 2017 and 2037 were used in this analysis, including total corridor ridership and change in person miles traveled (PMT) by automobile as summarized in Table 5. The two data points provided here were used to linearly project outcomes on the timeline during which the project will realistically be implemented (i.e., operations in 2033). Note that the change in PMT presented assumes that each additional SWS passenger between the No Build and Build reflects a shift from driving, and that the average driving trip length is equivalent to the average SWS trip length (19.2 miles).

Table 5. Metra SWS Passengers under No Build and Build Scenarios

Factor	2017	2037
RIDERSHIP (SWS)[A]		
No Build Daily Weekday Passengers	7,786	9,055
Build Daily Weekday Passengers	14,293	15,972
Annualization Factor[B]	287	287
Average Trip Length	19.2	19.2
MODE SHIFT		
PMT Reduction	-124,934	-132,806

Source: A: STOPS Model Output.
B: 2024 NTD Agency Profile, Northeast Illinois Regional Commuter Railroad Corporation (Annual UPT/ Weekday UPT)

Benefit 1a: Time Savings due to Operational Efficiency

This benefit quantifies the travel time savings for Metra passengers due to improved operational speeds along the corridor allowed by the P2 Project. Furthermore, once P2 is complete, Metra will be able to improve its service offerings along the SWS corridors due to the new P2 flyover and second main track, resulting in increased ridership.

Table 6 summarizes estimated travel time savings as a result of the Project for the opening year 2033. Total discounted travel time saving benefits from service improvements over the 30 year analysis period are estimated at $91.3 million (2024$).

The travel time benefits are based on increased average operating speeds under the Build scenario, based on STOPS model output, and are estimated separately for existing and additional riders, with additional riders only receiving one-half of the quantified benefit, per U.S. DOT BCA Guidance.

Table 6. Metra SWS Passenger Travel Time Savings from Service Improvements

Input			2033 Value	Units
TIME SAVINGS[A]				
a	No Build Average Speed		27.0	*mph*
b	Build Average Speed		34.5	*mph*
c	Average Trip Length		19.2	*miles/passenger*
d	Average Time Savings per Passenger	((c/b)-(c/a))*60	9.3	*minutes/passenger*
e	No Build Daily Weekday Passengers		8,786	*passengers/weekday*
f	Build Daily Weekday Passengers		15,621	*passengers/weekday*
g	Annualization Factor[B]		287	*days*

Input			2033 Value	Units
ANNUAL TIME SAVINGS PER PASSENGER				
h	Existing Passengers	d *e* g / 60	384,491	*person-hours/year*
i	New Passengers	d * (f - e) * g / 60 / 2	149,572	*person-hours/year*
MONETIZATION[C]				
j	In-Vehicle Travel, All Purposes		$21.80	*2024$/year*
VALUE OF BENEFIT				
k	Existing Riders	h * j	$8,553,194	*2024$/year*
l	New Riders	i * j	$3,327,310	*2024$/year*
	All Riders	k + l	$11,880,504	*2024$/year*

Source: A: STOPS Model Output.
B: 2024 NTD Agency Profile, Northeast Illinois Regional Commuter Railroad Corporation (Annual UPT/ Weekday UPT)
C: U.S. DOT BCA Guidance, December 2025

Benefit 1b: Increased Ridership and Mode Shift

As shown in Table 5, increased service and ridership on Metra's SWS line are expected to reduce auto travel, as shown through reduce automobile passenger miles traveled (PMT). This assumes that each new train rider represents a shift from auto to rail, with a one-to-one relationship between the increase PMT on rail and the reduction in PMT for automobiles for those riders.

This mode shift from auto to rail provides benefits for both riders and society by reducing the negative externalities of low-occupancy automobile travel. Rider benefits are captured through lower vehicle operating costs, monetized on a per vehicle-mile traveled (VMT) basis. Societal benefits include reductions in highway congestion, noise, safety risks, and air pollution—all monetized using per-mile rates provided in the U.S. DOT BCA Guidance.

Table 7 summarizes the travel cost savings for Metra passengers and the reduction in externalities resulting from the Project in its opening year (2033). For benefits experienced by shifting users—such as vehicle operating cost savings—values are reduced by one-half to reflect the lower willingness to pay of new riders compared to existing Metra passengers. This adjustment recognizes that new riders were not previously willing to use Metra service before the improvements, indicating that their perceived benefit is lower than that of existing passengers. Total benefits over the 30 year analysis period are estimated to be $84.9 million in 2024$.

Table 7. Passenger Travel Cost Savings resulting from Mode Shift

Factor			2033	Units
PASSENGER MILES				
a	Passenger Miles Diverted from Vehicles[A]		131,193	*person-miles/weekday*
IMPACT				
b	Vehicle Occupancy (Passenger Vehicles)		1.52	*persons/automobile*

Factor			2033	Units
c	Vehicle Miles Diverted[C]	a/b	86,311	*vehicle-miles/weekday*
d	Annualization Factor[B]		287	*weekdays/year*
OPERATING COST[C]				
e	Light Duty Vehicles		$0.56	*2024$/vehicle-mile*
f	**Value of Benefit**	**c * d * e/2**	**$6,930,603**	**2024$/year**
EXTERNALITY COST[C]				
g	Congestion		$0.147	*2024$/vehicle-mile*
h	Noise		$0.002	*2024$/vehicle-mile*
i	Safety		$0.019	*2024$/vehicle-mile*
j	Emissions		$0.013	*2024$/vehicle-mile*
k	**Value of Benefit**	**c * d * (g + h + i + j) /2**	**$4,482,615**	**2024$/year**
	Total Annual Benefit	**f + k**	**$6,208,034**	**2024$/year**

Source: A: STOPS Model Output
B: 2024 NTD Agency Profile, Northeast Illinois Regional Commuter Railroad Corporation (Annual UPT/ Weekday UPT)
C: U.S. DOT BCA Guidance, December 2025

Benefit 1c: O&M Cost Increase from Additional Service

While increased and improved Metra service provides benefits to riders, there are increased O&M costs for Metra associated with the service, which were included as a disbenefit in the analysis.

To estimate the operating and maintenance costs required to run the improved service, 2019 data for Metra expenditures and service statistics by corridor were used to develop an O&M cost model. Each Metra expenditure was assigned to a cost driver in order to derive unit costs, which are used to estimate the incremental cost increase. To account for operational differences by Metra corridor, unit costs were derived at the corridor level. Five cost drivers were used to estimate the incremental O&M cost for SWS: dollars per train mile, dollars per car mile, dollars per train hour, dollars per train trip, and dollars per track mile. Unit costs and cost drivers are summarized in Table 8, along with the annual incremental O&M costs which reflect the increased cost drivers (i.e., service metrics) multiplied by the user costs. Annual increased operating costs are presented in Table 8 at just over $3.9 million; after discounting, O&M costs for increased Metra service over the full 30-year period is expected to be $28.3 million (2024$), reflected as a disbenefit in the analysis.

Table 8. Operating and Maintenance Cost Drivers and Unit Costs

Factor			SWS	Units
INCREASED COST DRIVERS				
a	Train Miles		53,839	*train miles*
b	Car Miles		398,408	*car miles*
c	Train Hours		-450	*train hours*
d	Train Trips		1,638	*train trips*

Factor			SWS	Units
e	Track Miles		17	*track miles*
UNIT COSTS				
f	Train Miles		$8.66	*2024$/train mile*
g	Car Miles		$4.77	*2024$/car mile*
h	Train Hours		$942.96	*2024$/train hour*
i	Train Trips		$209.53	*2024$/train trip*
j	Track Miles		$96,114.26	*2024$/track mile*
	Total Annual Incremental O&M	(a*f) + (b*g) + (c*h) + (d*i) + (e* j)	$3,921,185	*2024$/year*

Source: Metra O&M Model, 2019.

4.2. SOGR Benefits

Benefit 2: Avoided Bridge Reconstruction Costs

One of the primary benefits of the P2 Project is that constructing the new flyover will allow Metra train traffic to be redirected from aging bridge structures that have exceeded their useful life and would otherwise require costly replacement. The Build scenario would allow Metra to divest operations and maintenance from 44 bridge structures between 23rd Place to 74th Street when Metra transfers SWS operations to the RID.

This corridor includes 21 single-track bridges between 23rd Place and 43rd Street, and 23 double-track bridges between 45th Street and 74th Street. These structures currently accommodate Amtrak's *Cardinal* service (six trains per week), Metra's SWS (30 weekday trains), and two NS freight trains per day—though they are owned and maintained by Metra.

Under the Build scenario, Metra intends to divest from these structures, shifting SWS traffic to the RID and the P2 flyover. For the single-track segment between 23rd Place and 43rd Street, Metra would be able to fully divest its single main track, as Amtrak could reroute via adjacent NS mainline tracks from CP 21st St. to CP518. In the double-track segment from 43rd Street to 74th Street (CP518 to CP74th St), Metra can divest one of the two tracks due to the significant reduction in traffic, while still allowing Amtrak to operate on the remaining track. This approach was co-developed by Amtrak, Metra, and NS, emphasizing cost efficiency and corridor functionality for both public and private rail carriers.

In effect, across the full corridor, one track's worth of bridges can be completely divested, eliminating the need to maintain or eventually replace those structures and avoiding significant O&M costs associated with doing so. All 44 structures were identified by Metra as having exceeded their useful life, all built in or before 1917. Seven of the 44 bridges have never been rehabilitated, 12 were rehabilitated more than 70 years ago, and the remaining 25 were rehabilitated between 1998 and 1999. Given their age and condition, Metra expects all 44 bridges to need replacement within the next 30 years to keep the corridor operational.

The estimated capital cost of replacement is $10 million per single-track; including engineering, design and construction contingencies base costs are escalated 50%, to $15 million per track. Furthermore, any major bridge rehabilitations that would take place would cost an average of $7.5 million. These costs are reflected in 2026$.

Based on guidance from Metra regarding rehabilitation and replacement schedules, the following assumptions were made:

- The 19 bridges which have not received rehabilitation within the last 70 years will require replacement in the first 10 years of the analysis period. The 25 bridges which were rehabilitated within the last 70 years (i.e., those rehabilitated late 1990s), will be replaced in the final 20 years of the analysis.
- The 25 bridges which will undergo replacement in the final 20 years of the analysis (2043-2062), will require rehabilitations to stay in service during the initial 10 years of the analysis (2033-2042).

Total discounted benefits associated with avoiding single-track bridge replacement costs for the corridor from 23rd Place to 74th St for the 30-year analysis period is estimated at $248.0 million in 2024$. This total cost only accounts for the capital costs needed to replace the bridges. Other costs, such as travel time increases due to train traffic reroutes or service interruptions during reconstruction, are not captured, but would likely be substantial.

The parameters and assumption involved in estimating the avoided bridge rehabilitation and replacement cost are presented in Table 9. All cost estimates and replacement schedule assumptions are based on data provided by Metra in 2025.

Table 9. Avoid Bridge Rehab and Replacement Costs (Annual, First 10 Year and Last 20 Year)

Factor			Value	Units
	Number of bridge replacements avoided		44	*bridges/30 years*
a	Replacement Cost (Single Track Bridge)		$15,000,000	*$2026/bridge*
b	Rehab		$7,500,0000	*$2026/bridge*
c	Average number of single track bridge replacements a year (First 10 years)		1.90	*bridges/year*
d	Average number of single track bridge rehabilitations a year (First 10 years)		2.50	*bridges/year*
e	Average number of single track bridge replacements a year (Last 20 years)		2.50	*bridges/year*
	Average Annual Bridge Rehab and Replace Costs (First 10 years)	(a*c)+(b*d)	$47,250,000	*$2026/year*
	Average Annual Bridge Rehab and Replace Costs (Last 20 years)	a*e	$18,750,000	*$2026/year*
	Average Annual Bridge Rehab and Replace Costs (First 10 years)	Inflation adjustment	$45,120,585	*$2024/year*
	Average Annual Bridge Rehab and Replace Costs (Last 20 years)	Inflation adjustment	$17,904,994	*$2024/year*

Source: Metra Bridge Rehab and Replacement Data, 2025

4.3. Overall Network Efficiency

The Association of American Railroads (AAR) provided Rail Traffic Controller (RTC) modeling outputs for the P2 Project No-Build and Build Scenarios. The No-Build scenario describes the network under typical operations if the Project is not completed. The No-Build includes the presumed completion of all completed and funded CREATE projects to date, including the

CREATE EW2A project which received funding through the FY2025/2026 Multimodal Project Discretionary Grant (MPDG) Program. The Build scenario models the network after the P2 Project is also completed.

All model outputs are provided for the years 2022, 2027, 2032, 2037, 2042, and 2047. For the purposes of the model, all projects in the Build or No-Build scenarios are assumed to be completed for all model runs. This analysis interpolates values for all interim years to assess project benefits on an annual basis. Both scenarios account for the projected growth in rail volumes and their impact on the network using a consistent format.

The primary output of the model used in this analysis is delay reduction on the overall Chicago Terminal. Table 10 below presents the change in delay attributable to the P2 project for select years. It is important to note that this reflects reductions in overall delays due to congestion, whereas the time savings captured under Benefit 1a for Metra service correspond to reduced travel time due to improved SWS operating speeds. Improved SWS operating speeds due to P2 were not a consideration within the RTC modeling, hence double-counting was avoided.

Table 10. Rail Delay Time (hours/year)

Factor	2022	2027	2032	2037	2042	2047
NO-BUILD						
Passenger (Total)	1,679	1,536	1,654	1,624	1,997	1,769
Metra	1,434	1,366	1,417	1,429	1,800	1,459
Amtrak	244	169	237	194	197	310
Freight	26,923	35,536	40,951	48,482	61,169	74,092
BUILD						
Passenger (Total)	1,657	1,532	1,661	1,501	1,658	1,727
Metra	1,426	1,370	1,438	1,324	1,460	1,460
Amtrak	232	162	223	177	197	267
Freight	26,529	35,314	41,119	48,438	60,092	72,353
AVOIDED DELAY						
Passenger (Total)	22	4	-7	123	339	42
Metra	8	-4	-21	105	340	-1
Amtrak	12	7	14	17	0	43
Freight	394	222	-168	44	1,077	1,739

Source: AAR Chicago TerminalRTC Modeling, 2025

Benefit 3a: Avoided Delay from Typical Operations

This benefit is a function of the reduced delay time for passenger and freight trains when comparing the No-Build and Build conditions. This analysis assumes a passenger load of 224 persons per train based on the most recent Metra commuter rail ridership data. Amtrak trains typically carry more passengers per train than Metra, but the same occupancy is assumed for this analysis to be conservative. Travel time savings for Metra passengers uses All-Purpose travel monetization rate, whereas Amtrak passenger travel time savings use the Long Distance Intercity Personal travel rate, both from U.S. DOT BCA guidance. Reduced delay hour for freight trains are

monetized based on reduced O&M and emission costs for idling, also using rates from U.S. DOT BCA guidance.

Table 11 summarizes the estimation of the undiscounted benefit for the year 2033, the first year of benefits, as an example, as well as the monetization parameters applied to all years of the analysis. Note that 2033 is the only year included in the analysis for which these net benefits were estimated to be negative. The RTC model outputs showed a handful of years starting around 2030 where freight delay is higher under the Build scenario; 2033 was the only year where this disbenefit outweighed the benefit of reduced passenger delay. By 2037, both freight and passenger rail are expected to see delay reduction benefits. The total discounted benefits associated with this avoided delay for the full 30-year analysis period is estimated at $11.4 million in 2024$.

Table 11. Avoided Rail Delay under Typical Operations

Input			2033 Value	Units
DELAY [A]				
No Build Delay				
	Passenger (Total)	a + b	1,647	*hours/year*
a	Metra		1,419	
b	Amtrak		228	
c	Freight		42,357	*hours/year*
Build Delay				
	Passenger (Total)	d + e	1,627	*hours/year*
d	Metra		1,414	
e	Amtrak		213	
f	Freight		42,488	*hours/year*
Avoided Delay				
	Passenger (Total)		20	*hours/year*
g	Metra	a - d	5	
h	Amtrak	b - e	15	
i	Freight	c - f	-131	*hours/year*
MONETIZATION[B]				
g	Passenger Train Occupancy [C]		224	*persons/train*
Passenger				
h	Value of Time		$21.80	*2024$/person-hour*
Freight				
i	O&M		$259.00	*2024$/train-hour*
j	Non-CO2		$799.00	*2024$/train-hour*
VALUE OF BENEFIT				
l	Passenger	e * g * h	$120,192	*2024$/year*
m	Freight	f * (i + j + k)	-$139,058	*2024$/year*
	Total	**l + m**	**-$10,262**	***2024$/year***

Source: A: AAR Chicago Terminal RTC Modeling, 2025
B: U.S. DOT BCA Guidance, December 2025
C: Average Metra SouthWest Service Ridership per Train (2022 conductor counts)

Benefit 3b: Avoided Passenger Rail Operating Costs and Emissions from Reduced Delay

This benefit estimates the additional cost savings to passenger rail providers resulting from the reduction in idling time. The analysis considers the costs associated with fuel, emissions, and crew costs, as summarized in Table 12 for the year 2033. The monetization rates applied come from the U.S. DOT BCA guidance. Total discounted benefits associated with avoided operating and emissions costs from reduced delay is estimated at $0.4 million (2024$), over the 30 year analysis period.

Table 12. Avoided Passenger Rail Costs Resulting from Delay

Input			2033 Value	Units
a	Avoided Metra Delay[A]		5	*train-hours/year*
b	Avoided Amtrak Delay[A]		15	*train-hours/year*
RAIL VEHICLE EMISSIONS DAMAGE COSTS[B]				
c	Non-CO2 Emissions Costs		$109	*2024$/train-hour*
e	Total Avoided Emissions Cost	(a + b)* (c + d)	$2,201	*2024$/year*
OPERATING COST (FUEL AND LABOR)[B]				
f	Commuter Train		$281	*2024$/train-hour*
g	Amtrak Long-Distance		$723	*2024$/train-hour*
h	Total Avoided Fuel Cost	b * (f + g)	$12,324	*2024$/year*
	Total	e + h	**$14,525**	*2024$/year*

Source: A: AAR Chicago Terminal RTC Modeling, 2025
B: U.S. DOT BCA Guidance, 2025

4.4. Avoided Freight Diversions

The Chicago Terminal is the most congested rail gateway in the country, where six Class I railroads connect and interchange traffic. In 2024, Chicago's rail system handled approximately 48 percent of the nation's intermodal units and 29 percent of all rail car shipments—roughly 500 freight trains and 800 passenger/commuter trains daily.[8, 9] The CREATE Program projects are critical to reducing this congestion and ensuring the long-term viability of Chicago as a rail gateway. Based on a freight diversion analysis performed by Cambridge Systematics for the CREATE Partners, without CREATE Program projects including P2, the existing infrastructure is at risk for degraded performance and reduced capacity, resulting in the diversion of some regional freight to trucks and other less efficient rail routes. This freight diversion analysis is consistent with the analysis used for the CREATE EW2A project which received funding through the FY2025/2026 Multimodal Project Discretionary Grant (MPDG) Program. Assumptions specific to P2 include that, without separation of freight and passenger trains and the reduction in congestion attributable to P2, potential freight diversion will begin by 2048, as

[8] Intermodal Association of North America, Intermodal Volume Analyzer, 2025-11; 2024 Chicago Metropolitan Agency for Planning (CMAP) Railroad Data

[9] https://www.createprogram.org/about-create/

shippers and rail operators would feel the effects of the overly congested Chicago terminal and would divert a percentage of traffic via other modes or gateways.

Benefit 4a: Avoided Truck Diversion from Network Congestion

This benefit captures the value of avoided external impacts associated with truck diversions that would occur under the No-Build scenario if the P2 project were not completed, constraining the capacity in the Chicago Terminal for freight operations. By 2048, the Chicago Terminal is projected to face significant freight rail capacity constraints if P2 is not constructed, leading to up to an estimated 8% of freight rail volumes traveling to and from Chicago and nearby Midwest markets (e.g., Minneapolis, Nashville, Omaha) diverting to trucks by 2060. The analysis assumes that by the year 2048, the network congestion will reach the point where additional regional growth in freight traffic can no longer be accommodated and a percentage of that traffic shifts to truck.

To estimate avoided truck VMT under the Build scenario, the analysis conservatively considers only the volume of regional freight movements most likely to divert—freight traffic to or from Chicago and Midwest markets located within 500 roadway miles, or one day's driving distance—when capacity is constrained under the No-Build Scenario. It is assumed by 2048, the Chicago Terminal is projected to face significant freight rail capacity constraints if P2 is not constructed, leading to a percentage of projected growth in freight rail markets within 500 roadway miles of Chicago over the 2048 baseline diverting to truck. This corresponds to up to 8% of annual freight traffic moving to and from Chicago and nearby Midwest markets, diverting to truck by 2060. A weighted average trip length of 255 miles is applied to avoided diverted trips to calculate reduced VMT from avoided truck trips.

Between 2048 and 2062, over 558 million vehicle miles traveled are avoided due to completion of P2 and avoidance of the diversion described above, leading to a reduction in truck-related externalities, such as congestion, noise, emissions, and safety related. Table 13 summarizes the benefit in year 2048. Over the 30 year analysis period (with these benefits occurring only in the final 15 years), total discounted benefits from avoided truck diversions are estimated to reach $27.9 million (2024$).

Table 13. Externality Reduction Benefits From Avoided Truck Diversion

Factor			2048 Value	Units
a	Vehicle Miles [A]		4,029,012	*Miles*
MONETIZATION[B]				
b	Emissions Unit Value		$0.038	*2024$/VMT*
c	Congestion Unit Value		$0.367	*2024$/VMT*
d	Noise Unit Value		$0.047	*2024$/VMT*
e	Safety Unit Value		$0.017	*2024$/VMT*
VALUE OF BENEFIT				
f	Emissions Benefit	a * b	$153,102	
g	Congestion Benefit	a * c	$1,478,647	*2024$/year*
h	Noise Benefit	a * d	$187,349	*2024$/year*
i	Safety Benefit	a * e	$68,493	*2024$/year*
j	Annual Externality Reduction Benefits	f + g +h + i	$1,734,490	*2024$/year*

Source: A: Cambridge Systematics analysis of IDOT S&P 2019 Transearch data, STB Confidential Waybill Sample, & FAF 5
B: U.S. DOT BCA Guidance, December 2025

Benefit 4b: Avoided Rail Diversion from Network Congestion

This benefit measures the value of avoided external impacts associated with rail-to-rail rerouting that would occur under the No-Build Scenario if the P2 Project were not completed, constraining the capacity in the Chicago Terminal for freight operations. The analysis assumes that by the year 2048, the network congestion is to the point where additional non-intermodal (carload) growth in rail freight traffic can no longer be accommodated and a percentage of that traffic shifts to other Class I gateways, resulting in longer rail trips and higher costs.

The analysis used the Surface Transportation Board (STB) public use waybill sample to examine U.S. non-intermodal rail traffic between markets west of the Mississippi (STB Freight Territories 3, 4, and 5) and the northeastern U.S. (STB Freight Territory 1). Due to distance and observed volumes, Chicago is the primary gateway for interchanging between UP or BNSF and NS or CSX (and vice versa).

In the analysis, rerouting begins in 2048, when network congestion will reach a point where additional regional growth can no longer be accommodated. These capacity constraints could ultimately shift up to 8% of traffic to and from Chicago and nearby Midwest markets to divert to truck by 2060 as described in Benefit 4a and additionally push up to 5% of non-intermodal rail traffic onto longer alternative routes through St. Louis or Kansas City.

AAR provided a conservative assumption of 5% of non-intermodal traffic that would assume to divert away from the Chicago Terminal in a congested scenario. In the analysis, diversion begins at 1% in 2048, and increases linearly until 5% is reached in 2052, after which a flat 5% diversion rate is assumed. Empty equipment movements are excluded. The estimate of avoided non-intermodal tonnage is based on the volume of freight moving through Chicago and a conservative cumulative annual growth rate of 0.8% for through carload rail traffic.[10] The diversion distance reflects the minimum rerouting distance, based on the average non-intermodal movement through Chicago, resulting in rerouting over the distances shown in Table 14.

Between 2048 and 2062, over 41 billion ton-miles of freight rail shipment diversion would be avoided, saving an average of $172 million annually in shipper costs and externality costs. Here, shipper costs refer to the rates charged to shippers per ton-mile for transporting goods by rail. Under the No Build scenario, shippers face higher due to longer less efficient diversion routes. Avoiding these additional shipper costs in the Build scenario therefore constitutes an operating cost saving, which USDOT BCA Guidance recognizes as a standard and allowable benefit category. External rail costs represent the negative impacts borne by the general public per additional ton-mile of freight rail travel, including pavement damage at grade crossings, congestion, emissions (such as PM and NO_x), and safety risks. The inclusion of avoided externalities due to mode or route shifts is also standard practice within the USDOT BCA framework. Both externality and shipper costs values were obtained from a 2015 Congressional Budget Office working paper titled *"Pricing of Freight Transportation to Account for External Costs."* Over the full 30 analysis period (with these benefits occurring only in the final 15 years

[10] FHWA FAF5 Carload Rail Through Traffic 2019-2050

of analysis), total benefits from avoided freight diversions are estimated to reach $305.9 million, discounted to 2024$.

Table 14 summarizes the benefits from avoided rail diversion in the year 2048, the first year of assumed rail diversion. In 2048, diversion begins at 1%, however the analysis assume that by 2052, diversion will impact 5% of applicable freight traffic.

Table 14. Reduced Costs from Avoid Rail Diversions

Factor			2048 Value	Units
DIVERSION PARAMETERS[A]				
a	Avoided Tons—BNSF/CSX		28,859,242	*tons/year*
b	Avoided Tons—BNSF/NS		26,192,461	*tons/year*
c	Avoided Tons—UP/CSX		21,103,219	*tons/year*
d	Avoided Tons—UP/NS		21,103,219	*tons/year*
e	Distance Rerouted—BNSF/CSX		325	*miles*
f	Distance Rerouted—BNSF/NS		274	*miles*
g	Distance Rerouted—UP/CSX		1,019	*miles*
h	Distance Rerouted—UP/NS		844	*miles*
VALUE OF BENEFIT				
i	Percent Rerouted		1	*percent*
j	Shipper Cost[B]		$0.0611	*2024$/ton-mile*
h	External Rail Cost[C]		$0.0057	*2024$/ton-mile*
	Annual Benefit	(a*e + b*f + c*g + d*h) * i * (j+h)	$37,296,877	*2024$/year*

Source: A: Cambridge Systematics Analysis of STB Public Use Waybill Sample, 2019. AAR Analysis of Class I railroads, 2019.
B: Congressional Budget Office, 2015. Table A-4 (Carload/Truckload Rail rate, inflated to 2024$) https://www.cbo.gov/sites/default/files/114th-congress-2015-2016/workingpaper/50049-Freight_Transport_Working_Paper-2.pdf
C: Congressional Budget Office, 2015. Table 1 (Pavement Damage, Traffic Congestion, Accident Risk, and Emissions: PM and NOx midpoint cost value, inflated to 2024$) https://www.cbo.gov/sites/default/files/114th-congress-2015-2016/workingpaper/50049-Freight_Transport_Working_Paper-2.pdf

4.5. Safety Benefits

As presented earlier in the BCA, the project generates safety benefits through reductions in both automobile and truck traffic, as passenger travel shifts from driving to rail, and freight shipments are able to remain on rail rather than diverting to truck. These changes reduce overall vehicle-miles traveled, thereby lowering exposure to crash risk for the individuals shifting modes as well as for remaining roadway users who benefit from less congestion and fewer conflict points. These safety improvements are captured in Benefits 1b and 4a, alongside other reductions in highway externalities.

In addition to these mode-shift–related safety benefits, the project introduces further safety improvements through the installation of enhanced lighting at viaduct locations along the corridor and in surrounding communities. Improved illumination is widely associated with

reductions in both crashes and crime, particularly in areas where visibility is currently limited. These additional benefits, which fall outside traditional roadway operating impacts, are presented and analyzed in the sections that follow.

Benefit 5a: Reduced Crashes from Lighting and Sidewalk Improvement

To estimate the benefits associated with lighting improvements, crash history was collected at the locations to be improved, as summarized in Table 15. The analysis applies a crash modification factor of 0.68, based on the CMF Clearinghouse value for lighting improvement (CMF ID:11026).

Table 15. Improvement Area Crash History (average annual incidents, 2019-2023)

Factor	Crashes	Injuries	Fatalities
73rd St (West of Stewart Ave)	0.00	0.00	0.00
74th Street (Normal to Eggleston)	2.00	1.00	0.00
75th Street (Normal to Eggleston)	0.40	0.60	0.00
S Normal Ave (74th to 75th)	1.40	0.00	0.00
S Halsted Street	5.60	0.80	0.00
S Peoria Street	1.40	0.00	0.00
Total	10.80	2.40	0.00

Source: City of Chicago Data Portal. Traffic Crashes, from https://data.cityofchicago.org/Transportation/Traffic-Crash-es-Crashes/85ca-t3if/

To monetize the reduction in injuries resulting from lighting improvements, the KABCO-scale "Injury (Unknown Severity)" rate from U.S. DOT BCA Guidance was applied (see Table 16 below). To monetize the reduction in overall crashes, an average number of vehicles per crash was estimated using 2023 National Highway Traffic Safety Administration data.[11] The reduction in vehicles involved in crashes was then monetized using a Property Damage Only (PDO) cost per vehicle, calculated by dividing the U.S. DOT BCA guidance PDO crash cost by the assumed number of vehicles per PDO crash (177, as stated in the Guidance). The resulting per-vehicle rate is essentially equivalent to the KABCO "No Injury" rate.

The benefit estimates for the reduction in crashes in the project area resulting from the improved lighting under viaducts are summarized in Table 16 for year 2033. Over the 30 year analysis period, crash reduction benefits are estimated at $1.6 million, discounted to 2024$.

Table 16. Reduced Crash Benefits

Input			2033 Value	Units
EXISTING CRASH RATES [A]				
a	Fatalities		0.00	*persons/year*
b	Injuries		2.40	*persons/year*

[11] Total national crashes for 2023 were obtained from the NHTSA Traffic Safety Facts: *Summary of Motor Vehicle Traffic Crashes* (October 2025), available at: https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813762.

Data on total vehicles involved in crashes were sourced from NHTSA Traffic Safety Facts: *Large Trucks* (April 2025), available at: https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813717.pdf, and *Passenger Vehicles* (May 2025), available at: https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813723.pdf.

Input			2033 Value	Units
c	Property Damage		10.80	*crashes/year*
CRASH REDUCTION				
d	Crash Modification Factor		0.67	
e	Average Vehicles per Crash [B]		1.86	*vehicles/crash*
Avoided Crashes				
f	Fatalities	a * d	0.00	*persons/year*
g	Injuries	b * d	0.77	persons/year
h	Property Damage	c * d * e	6.46	*vehicles/year*
CRASH UNIT VALUE [C]				
i	Fatalities		$13,700,000	*2024$/person*
j	Injuries		$238,500	2024$/person
k	Property Damage		$5,480	*2024$/vehicle*
VALUE OF BENEFIT				
l	Fatalities	f * i	$0	*2024$/year*
m	Injuries	g * m	$183,740	2024$/year
n	Property Damage	h * k	$35,390	*2024$/year*
	Total	**l + m + n**	**$219,130**	***2024$/year***

Source: A. City of Chicago Data Portal. Traffic Crashes, from https://data.cityofchicago.org/Transportation/Traffic-Crash-es-Crashes/85ca-t3if/
B: Estimated from crash data from the National Highway Traffic Safety Administration.
C: U.S. DOT BCA Guidance, December 2025

Benefit 5b: Reduced Crime from Lighting and Sidewalk Improvement

To estimate the crime reduction benefits associated with lighting improvements under viaducts, crime history was collected at the locations to be improved, as summarized in Table 17. The analysis assumes a 4% crime reduction based on a University of Chicago study of crime reduction through street lighting in New York City.[12]

Table 17. Improvement Area Crime History (average annual incidents, 2019–2023)

Factor	Burglary	Auto Theft	Larceny	Robbery	Murder	Rape	Assault
73rd St (West of Stewart Ave)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74th Street (Normal to Eggleston)	0.00	0.20	0.00	0.40	0.00	0.00	0.40
75th Street (Normal to Eggleston)	0.00	0.00	0.20	0.00	0.00	0.00	0.00

[12] Chalfin & Parker. " Reducing Crime Through Environmental Design: Evidence from a Randomized Experiment of Street Lighting in New York City." University of Chicago Crime Lab. January 2021. https://crimelab.uchicago.edu/resources/reducing-crime-through-environmental-design-evidence-from-a-randomized-experiment-of-street-lighting-in-new-york-city/

Factor	Burglary	Auto Theft	Larceny	Robbery	Murder	Rape	Assault
S Normal Ave (74th to 75th)	0.00	0.40	0.20	0.20	0.00	0.00	0.40
S Halsted Street	0.00	0.20	0.00	0.20	0.00	0.00	0.00
S Peoria Street	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Source: City of Chicago Data Portal. Crimes, from https://data.cityofchicago.org/Public-Safety/Crimes-2001-to-Pres-ent-Map/ahwe-kpsy/

To convert benefits for reduced crime, the unit values provided by the Federal Emergency Management Agency (FEMA) were inflated to 2024 dollars, as summarized in Table 18 below.

Estimated benefit from this assumed reduction in crime in the project are summarized in Table 18 below for year 2033. Over the 30 year analysis period, crime reduction benefits are estimated at just over $50,000, discounted to 2024$.

Table 18. Reduced Crime Benefits

	Input		2033 Value	Units
EXISTING CRIME RATES[A]				
a	Burglary		0.00	*incidents/year*
b	Auto Theft		0.80	*incidents/year*
c	Larceny		0.40	*incidents/year*
d	Robbery		0.80	*incidents/year*
e	Murder		0.00	*incidents/year*
f	Rape		0.00	*incidents/year*
g	Assault		0.80	*incidents/year*
CRIME REDUCTION				
h	Crime Reduction		4.0%	
AVOIDED CRIME				
i	Burglary	h * a	0.00	*incidents/year*
j	Auto Theft	h * b	0.03	incidents/year
k	Larceny	h * c	0.02	incidents/year
l	Robbery	h * d	0.03	incidents/year
m	Murder	h * e	0.00	incidents/year
n	Rape	h * f	0.00	incidents/year
o	Assault	h * g	0.03	*incidents/year*
VALUE OF BENEFIT[B]				
p	Burglary		$9,333	2024$/incident
q	Auto Theft		$15,558	2024$/incident
r	Larceny		$5,101	2024$/incident
s	Robbery		$61,108	2024$/incident
t	Murder		$12,973,985	2024$/incident
u	Rape		$347,752	2024$/incident
v	Assault		$154,948	2024$/incident
	Total	**(i*p) + (j*q) + (k*r) + (l*s) + (m*t) + (n*u) + (o*v)**	**$7,493**	***2024$/year***

Source: A. City of Chicago Data Portal. Crimes, from https://data.cityofchicago.org/Public-Safety/Crimes-2001-to-Pres-ent-Map/ahwe-kpsy/
B: FEMA Benefit/Cost Analysis Re-engineering (BCAR). 2011. Accessed at https://files.hudexchange.info/course-content/ndrc-nofa-benefit-cost-analysis-data-resources-and-expert-tips-webinar/FEMA-BCAR-Resource.pdf

4.6. Residual Value

The Residual Value of the P2 Project flyover assumes that the original value of the structure depreciates in a linear manner over its service life. The flyover bridge is an asset with an expected useful life of 75 years and would thus retain 60 percent of its value after 30 years in service (the analysis period). The estimated CREATE P2 Project construction cost is $419.0 million in undiscounted 2024 dollars. After 30 years, 60% or $251.4 million in undiscounted value would remain, which is equivalent to $19.2 million discounted to 2024$.

V. BENEFIT/COST ANALYSIS RESULTS

The BCA indicates that the Project will result in avoided delay for passenger and freight rail, avoided rail idling, increased passenger rail ridership and an associated reduction in passenger vehicle travel, reduced O&M costs associated with aging bridge structures, avoided freight diversion due to network congestion, reduced crashes, and reduced crime. All values are discounted at 7%, per U.S. DOT Guidance.

The Project produces a Benefit/Cost ratio of 3.01 shown in Table 19, indicating that the benefits to society exceed the Project's costs, with a net present value of over $500 million.

Table 19. Benefit Cost Analysis Results Summary

Total Benefits	Discounted Value (2024$)
1a: Metra Passenger Travel Time Savings resulting from Service Improvements	$91,331,987
1b: Reduced Auto Use resulting from Metra Mode Shift	$84,944,802
1c: Metra O&M Cost Increase resulting from Service Improvements	-$28,319,482
2: Metra O&M Cost Savings resulting from Bridge Replacement Savings	$248,089,912
3a: Avoided Delay resulting from Typical Operations	$10,709,773
3b: Avoided Passenger Rail Cost resulting from Reduced Train Delay	$402,250
4a: Avoided Truck Diversion resulting from Network Saturation	$27,894,870
4b: Avoided Rail Diversion resulting from Network Saturation	$305,933,435
5a: Reduced Crashes resulting from Lighting and Sidewalk Improvements	$1,582,598
5b: Reduced Crime resulting from Lighting and Sidewalk Improvements	$54,118
Residual Value	$19,223,065
Net Benefits	$761,847,327
Total Costs	**$253,114,530**
B/C Ratio	3.01
Net Present Value	$508,732,797

VI. SENSITIVITY ANALYSIS

A sensitivity analysis helps identify which variables have the greatest impact on the BCA results. This analysis estimates how changes to key variables from their preferred value affect the results and how sensitive the results are to these changes. This allows for the assessment of the strength of the BCA, including whether the results reached using the preferred set of input variables are significantly different by reasonable departures from those values. summarizes the key variables that have been evaluated for sensitivity and the results of this analysis.

First, a sensitivity analysis was conducted by reducing the one of the driving benefits of the project, avoided bridge reconstruction costs, by 50%, resulting in a BCR of 2.52:1 and an NPV of $384.7. This indicates that even under a significantly more conservative assumption regarding these avoided costs, the BCA has a favorable outcome.

Second, the primary benefit of this analysis, avoided rail diversion, was tested based on a significantly more conservative assumption regarding the maximum percentage of rail traffic expected to divert under the no-build scenario, reducing the assumption from 5% to 1% (an 80% reduction in assumed diversion, which reflects a roughly 80% reduction in avoided rail diversion benefits as a whole). Under the 1% maximum diversion assumption, diversion begins in 2048 at 0.2% and grows to 1% by 2052.This change reduced the BCR to 2.04:1 and the NPV to roughly $264.0 million.

Third, the shipper costs used to monetize the benefit of avoided rail diversion were adjusted. The analysis originally applied the average rate per ton-mile for Carload traffic, under the assumption that this is the most likely type of freight to divert. In the sensitivity analysis, this was replaced with the overall average rate across all service types (Carload, Bulk, Intermodal, and Auto), which is approximately 10% higher than the Carload-only rate. Using this higher shipping cost increased the benefit-cost ratio to 3.10:1 and raised the net present value to $532.6 million.

Finally, a sensitivity was assessed by increasing the cost of the project by 20%. The resulting discounted BCR was **2.51:1**, with an NPV of $458.1 million.

Table 20. Sensitivity Testing

Sensitivity Variable	Sensitivity Value	New BCR (Discounted 7%)	New NPV (Millions of $2024)
Benefit 2: Avoided Bridge Reconstruction Costs	-50%	2.52	$384.7
Benefit 4b: Rail Diversion Rate	-80%	2.04	$264.0
Benefit 4b: Shipper Cost Rate	+10%	3.01	$532.6
Capital Costs	+20%	2.51	$458.1