U.S. Department
of Transportation

BUDGET ESTIMATES

FISCAL YEAR 2025

FEDERAL RAILROAD ADMINISTRATION

SUBMITTED FOR THE USE OF
THE COMMITTEES ON APPROPRIATIONS

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FY 2025 PRESIDENT'S BUDGET JUSTIFICATION

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DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

ADMINISTRATOR'S OVERVIEW

The Federal Railroad Administration's (FRA) mission is to enable the safe, reliable, and efficient movement of people and goods for a strong America, now and in the future. FRA oversees the safety of the U.S. railroad industry by carrying out a robust regulatory enforcement and technical assistance program that combines rigorous data analysis, continuous stakeholder engagement, and the expertise of a highly skilled and dedicated workforce. FRA also administers a broad portfolio of grants aimed at improving the safety and condition of the Nation's rail infrastructure, while enhancing the operating performance of both intercity passenger and freight rail service. These investments enable the introduction of new and upgraded intercity passenger rail corridors that help to connect communities, combat climate change, and grow an inclusive, equitable, and sustainable economy. FRA's railroad safety and investment programs are supported by research and development initiatives that drive technology innovations and new practices to improve rail safety and efficiency.

The FY 2025 President's Budget requests $3.20 billion for FRA, including $2.50 billion for Amtrak grants, $350.00 million for discretionary rail grants, $293.97 million for the Safety and Operations account, and $52.00 million for the Research and Development account. This request furthers FRA's efforts to spur safety improvements across the rail network and builds on the transformational investments made possible by the Infrastructure Investment and Jobs Act (IIJA).

The FY 2025 President's Budget will advance the Department of Transportation's strategic goals, which include:

- **Safety**: Despite the significant safety gains that have been made across the railroad industry over the last several decades, incidents such as the Norfolk Southern Railway freight train derailment that occurred in East Palestine, Ohio on February 3, 2023 serve as a stark reminder that more can and must be done to mitigate the safety risks of train operations. The FY 2025 President's Budget targets new resources to both strengthen FRA's capabilities and provide assistance to states, railroads, local communities, and other affected stakeholders. This includes $250 million requested for the Consolidated Rail Infrastructure and Safety Improvements (CRISI) program, which will fund grade crossing improvements, trespass prevention initiatives, and other infrastructure projects to enhance railroad safety. The FY 2025 President's Budget also includes funding to:
    - **Increase railroad safety inspector staffing** to a record 400 inspectors and add new staff dedicated to carrying out multidisciplinary safety audits;
    - **Nearly double the Confidential Close Call Reporting System (C^3RS)** to $8 million. Following the East Palestine derailment—at the urging of Secretary Buttigieg and FRA Administrator Bose—the six Class I freight railroads all publicly committed to join the C^3RS program, which allows railroads and their employees to report unsafe events and conditions without fear of negative

consequences from the FRA or reprisal from their employers. This funding increase is necessary to accommodate the additional reporting and analysis stemming from the planned participation of the Class I railroads and their employees;
    - **Increase FRA's Automated Track Inspection Program (ATIP) by $3.5 million** to ensure the agency can continue to fully operate its fleet of vehicles and focus inspections on the highest risk routes, including those that carry passengers and hazardous materials; and
    - Launch a **new public awareness campaign** through the Railroad Crossing Elimination Program **focused on grade crossing safety and trespass prevention.**

- **Economic Strength and Global Competitiveness:** A robust and fluid rail transportation network is critical to the health of the U.S. economy and our ability to compete in an increasingly competitive global marketplace. The FY 2025 President's Budget requests $250 million for the CRISI program, which continues to play a critical role in helping a wide range of beneficiaries—including state and local governments, short line railroads, and intercity passenger railroads—invest in infrastructure and equipment upgrades that strengthen our supply chain. The FY 2025 President's Budget also reflects that there is more to a strong economy and transportation network than infrastructure investment alone, and that we must do more to attract, develop, and retain the workforce necessary to construct and operate a 21st century rail system. The FY 2025 President's Budget continues to request funding to establish a National Railroad Institute to carryout training and education programs for both public- and private-sector railroad industry employees, as well as maintain a set-aside within CRISI to fund workforce development projects.

- **Equity:** The FY 2025 President's Budget continues to dedicate personnel resources, programmatic funding, and policy proposals to build a more equitable rail transportation system and workforce. The FY 2025 President's Budget proposes to reduce the statutory cost-sharing requirements for underserved and historically disadvantaged communities under FRA's competitive grant programs to ensure the communities most in need of assistance can compete for resources, as well as support the Justice40 initiative by continuing FRA's goal of dedicating at least 40 percent of competitive grant funding for projects benefitting such communities. Funding requested for the CRISI program will continue to prioritize addressing the critical safety and quality of life concerns that rail transportation can impose on communities, particularly communities of color and low-income neighborhoods that have been marred by decades of failed land-use policies and under-investment. Similarly, funding requested for Amtrak and the Federal-State Partnership for Intercity Passenger Rail Program will help to bring new and improved transportation choices to communities across the country.

- **Climate and Sustainability:** FRA has developed a multi-faceted Climate and Sustainability Program centered on three primary focus areas – (1) Reducing Emissions, (2) Building Resilient Infrastructure, and (3) Fostering a Sustainable Rail Network. The FY 2025 President's Budget contains a number of initiatives to progress each of these focus areas, including funding grant programs that will help divert passenger and freight

from more carbon-intensive transportation modes to rail, conducting research and developing data and engineering standards to inform resilient infrastructure investments that can withstand the impacts of severe weather and sea level rise, and sufficiently resourcing FRA's responsibility to analyze the environmental impacts of the major investments being advanced through IIJA.

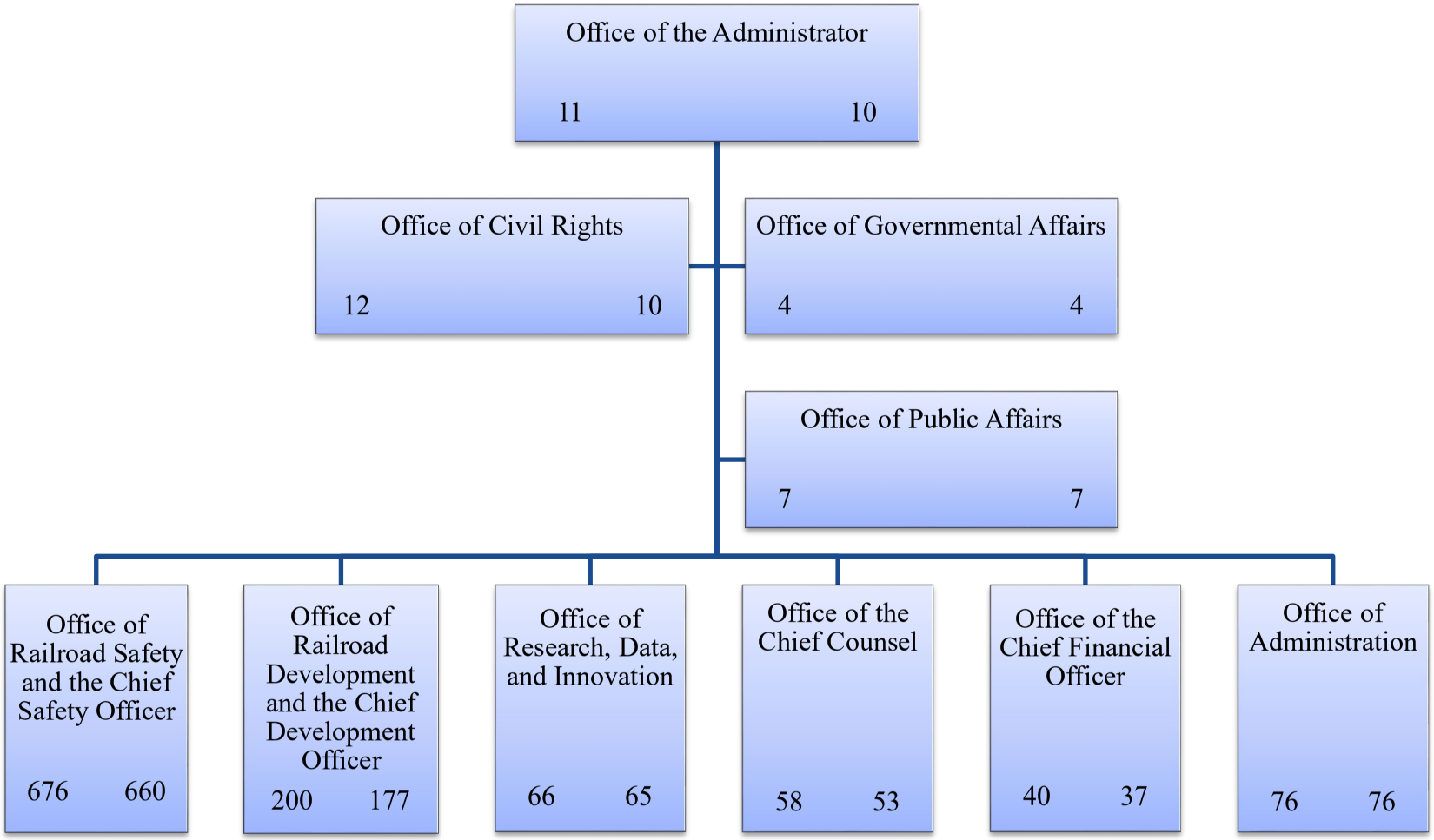
In addition to continuing to dedicate CRISI funds to assist short line railroads in replacing their aging and inefficient locomotives, the FY 2025 President's Budget is launching a new Zero-Emission Rail Yards initiative to reduce EPA criteria pollutant emissions at rail yards. Often, communities located near rail yards are Environmental Justice communities that suffer adverse health effects associated with exposure to diesel emissions. This new initiative includes both research and testing near rail yards to build evidence regarding the public health impacts rail yards currently have on surrounding communities, as well as identifying a suitable rail yard to partner with to pilot a zero-emission rail yard through the purchase of new switcher locomotives with CRISI funds and replacement of other yard equipment by the railroad.

- **Transformation:** The Federal-State Partnership for Intercity Passenger Rail (FSP) Program is helping to transform passenger rail transportation across the U.S. On the Northeast Corridor (NEC), FSP funds are addressing the significant state of good repair backlog that has accumulated across the corridor, including replacing or rehabilitating the 15 major bridges and tunnels that are each over 100 years old and cause significant delays to both Amtrak and NEC commuter rail services. Outside the NEC, FSP funds are improving existing intercity passenger rail services and developing new corridors to connect markets that currently lack adequate passenger rail transportation. The FY 2025 President's Budget includes $100 million for the FSP Program to help meet the significant demand demonstrated from the initial FY 2022/FY 2023 funding solicitation. The FY 2025 President's Budget also proposes a temporary set-aside from FRA's competitive grant funds to provide formula funds to states to help them build the capacity required to deliver the transformative projects being advanced under FRA's discretionary grant programs. Additionally, funding requested for FRA's research and development program will deliver innovative new technologies and practices to enhance rail safety, operating efficiency, maintenance, and asset longevity.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FY 2024 Organization Chart

1,150 Full-Time Positions (FTP); 1,099 Full-Time Equivalents (FTE)



DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FY 2025 Organization Chart

1,296 Full-Time Positions (FTP); 1,223 Full-Time Equivalents (FTE)

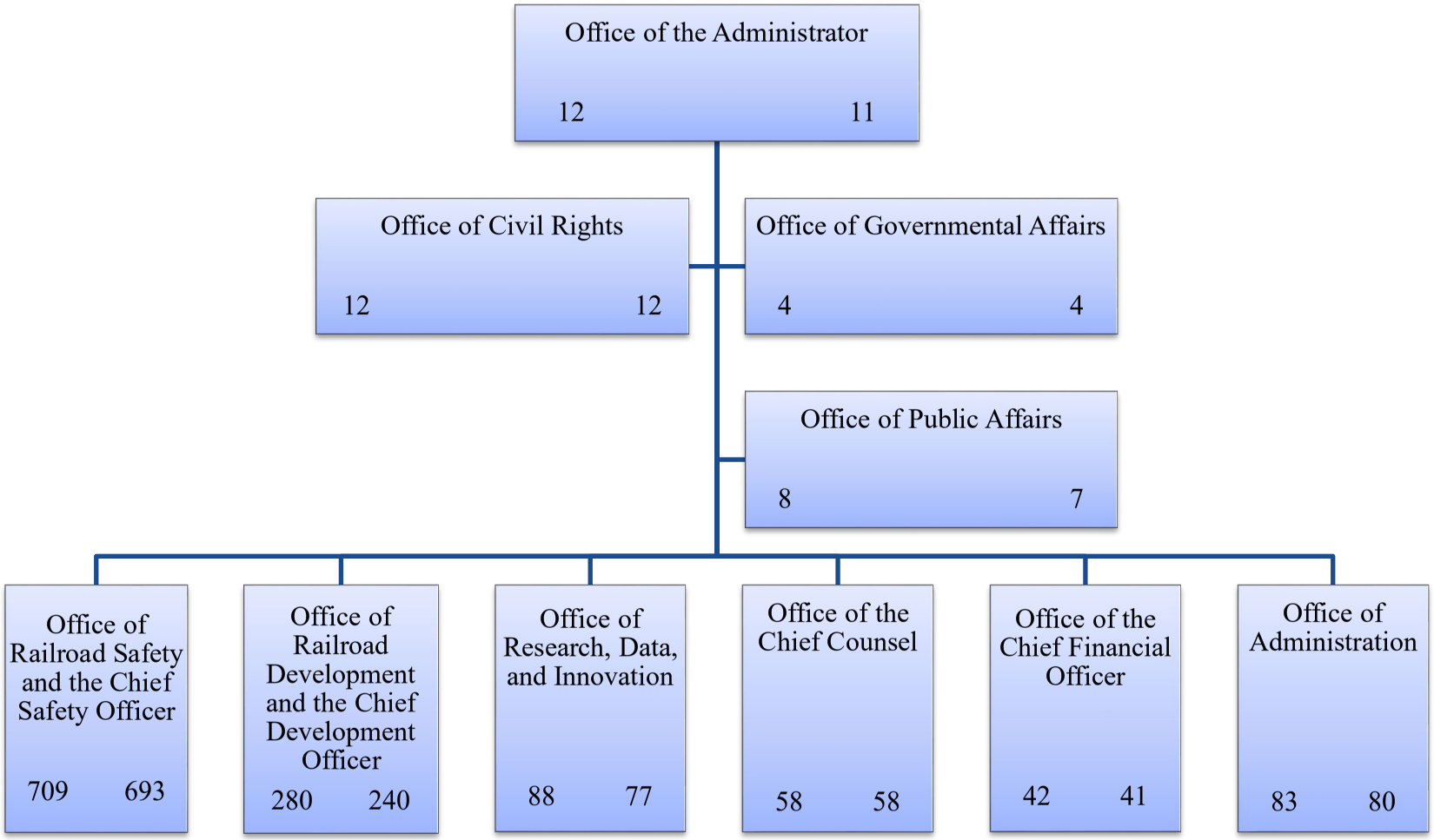


EXHIBIT II-1
FY 2025 BUDGET AUTHORITY
FEDERAL RAILROAD ADMINISTRATION
($000)

ACCOUNT NAME	M / D	(A) FY 2023 ENACTED	(B) FY 2024 FULL YEAR CR	(C) FY 2025 PRES. BUDGET
SAFETY AND OPERATIONS (GF)	D	$ 250,449	$ 250,449	$ 293,965
RAILROAD RESEARCH AND DEVELOPMENT (GF)	D	$ 44,000	$ 44,000	$ 52,000
NORTHEAST CORRIDOR GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION (GF)	D	$ 1,253,700	$ 1,253,700	$ 1,194,000
Budget Authority		$ 1,260,000	$ 1,260,000	$ 1,200,000
Transfers		$ (6,300)	$ (6,300)	$ (6,000)
NATIONAL NETWORK GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION (GF)	D	$ 1,187,035	$ 1,187,035	$ 1,297,953
Budget Authority		$ 1,193,000	$ 1,193,000	$ 1,304,475
Transfers		$ (5,965)	$ (5,965)	$ (6,522)
CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS (GF)	D	$ 548,800	$ 548,800	$ 245,000
Budget Authority		$ 560,000	$ 560,000	$ 250,000
Transfers		$ (11,200)	$ (11,200)	$ (5,000)
FEDERAL-STATE PARTNERSHIP FOR INTERCITY PASSENGER RAIL GRANTS (GF)	D	$ 98,000	$ 98,000	$ 98,000
Budget Authority		$ 100,000	$ 100,000	$ 100,000
Transfers		$ (2,000)	$ (2,000)	$ (2,000)
FINANCIAL ASSISTANCE OVERSIGHT AND TECHNICAL ASSISTANCE (GF)	D	$ 25,465	$ 25,465	$ 19,522
Transfers		$ 25,465	$ 25,465	$ 19,522
RAILROAD SAFETY GRANTS (GF)	D	$ (1,610)	$ -	$ -
Rescissions		$ (1,610)	$ -	$ -
RAIL LINE RELOCATION AND IMPROVEMENT PROGRAM (GF)	D	$ (1,811)	$ -	$ -
Rescissions		$ (1,811)	$ -	$ -
Gross New Budget Authority		**$ 3,407,449**	**$ 3,407,449**	**$ 3,200,440**
Rescissions		**$ (3,421)**	**$ -**	**$ -**

ACCOUNT NAME	M / D	(A) FY 2023 ENACTED	(B) FY 2024 FULL YEAR CR	(C) FY 2025 PRES. BUDGET
Transfers		**$ -**	**$ -**	**$ -**
NET NEW BUDGET AUTHORITY REQUESTED:		**$ 3,404,028**	**$ 3,407,449**	**$ 3,200,440**
[Discretionary BA]		$ 3,404,028	$ 3,407,449	$ 3,200,440
Supplemental Funding				
COVID-19 Supplementals		$ (2,000)	$ -	$ -
Northeast Corridor Grants to the National Railroad Passenger Corporation	M	$ (1,000)	$ -	$ -
National Network Grants to the National Railroad Passenger Corporation	M	$ (1,000)	$ -	$ -
IIJA Supplemental (Division J)		$ 13,199,010	$ 13,199,010	$ 13,199,010
Northeast Corridor Grants to the National Railroad Passenger Corporation	D	$ 1,200,000	$ 1,200,000	$ 1,200,000
National Network Grants to the National Railroad Passenger Corporation	D	$ 3,200,000	$ 3,200,000	$ 3,200,000
Consolidated Rail Infrastructure and Safety Improvements	D	$ 1,000,000	$ 1,000,000	$ 1,000,000
Federal-State Partnership for Intercity Passenger Rail Grants	D	$ 7,200,000	$ 7,200,000	$ 7,200,000
Railroad Crossing Elimination Program	D	$ 600,000	$ 600,000	$ 600,000
Financial Assistance Oversight And Technical Assistance - transfers [non-add][1/]	D	$ 183,000	$ 198,000	$ 198,000
Transfer to DOT Office of Inspector General	D	$ (495)	$ (495)	$ (495)
Transfer to Amtrak Office of Inspector General	D	$ (495)	$ (495)	$ (495)
Grand Total, All Appropriations		**$ 16,601,038**	**$ 16,606,459**	**$ 16,399,450**

1/ FRA intends to allocate the full $198 million in administrative takedowns authorized for each of FY 2022 -- FY 2026 from the IIJA Supplemental accounts to fund eligible award, administration, project management oversight, and technical assistance requirements. The actual transfers of these funds will take place in future FYs. These needs and associated costs will extend into the mid-2030s for certain large infrastructure and corridor development projects. The actual transfer of these funds will likely not occur until after FY 2025, as current and planned oversight expenses through FY 2025 are being funded from FY 2022 carryover balances.

EXHIBIT II-2
FY 2025 TOTAL BUDGETARY RESOURCES BY APPROPRIATION ACCOUNT
FEDERAL RAILROAD ADMINISTRATION
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

ACCOUNT NAME	M / D	(A) FY 2023 ENACTED	(B) FY 2024 FULL YEAR CR	(C) FY 2025 PRES. BUDGET
SAFETY AND OPERATIONS (GF)	D	$ 250,449	$ 250,449	$ 293,965
RAILROAD RESEARCH AND DEVELOPMENT (GF)	D	$ 44,000	$ 44,000	$ 52,000
NORTHEAST CORRIDOR GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION (GF)	D	$ 1,253,700	$ 1,253,700	$ 1,194,000
Budget Authority		$ 1,260,000	$ 1,260,000	$ 1,200,000
Transfers		$ (6,300)	$ (6,300)	$ (6,000)
NATIONAL NETWORK GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION (GF)	D	$ 1,187,035	$ 1,187,035	$ 1,297,953
Budget Authority		$ 1,193,000	$ 1,193,000	$ 1,304,475
Transfers		$ (5,965)	$ (5,965)	$ (6,522)
CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS (GF)	D	$ 548,800	$ 548,800	$ 245,000
Budget Authority		$ 560,000	$ 560,000	$ 250,000
Transfers		$ (11,200)	$ (11,200)	$ (5,000)
FEDERAL-STATE PARTNERSHIP FOR INTERCITY PASSENGER RAIL GRANTS (GF)	D	$ 98,000	$ 98,000	$ 98,000
Budget Authority		$ 100,000	$ 100,000	$ 100,000
Transfers		$ (2,000)	$ (2,000)	$ (2,000)
FINANCIAL ASSISTANCE OVERSIGHT AND TECHNICAL ASSISTANCE (GF)	D	$ 25,465	$ 25,465	$ 19,522
Transfers		$ 25,465	$ 25,465	$ 19,522
RAILROAD SAFETY GRANTS (GF)	D	$ (1,610)	$ -	$ -
Rescissions		$ (1,610)	$ -	$ -
RAIL LINE RELOCATION AND IMPROVEMENT PROGRAM (GF)	D	$ (1,811)	$ -	$ -
Rescissions		$ (1,811)	$ -	$ -
Gross New Budgetary Resources		$ 3,407,449	$ 3,407,449	$ 3,200,440
Rescissions		$ (3,421)	$ -	$ -
Transfers		$ -	$ -	$ -
TOTAL BUDGETARY RESOURCES:		**$ 3,404,028**	**$ 3,407,449**	**$ 3,200,440**

ACCOUNT NAME	M / D	(A) FY 2023 ENACTED	(B) FY 2024 FULL YEAR CR	(C) FY 2025 PRES. BUDGET
[Discretionary]		$ 3,404,028	$ 3,407,449	$ 3,200,440
Supplemental Funding				
COVID-19 Supplementals		$ (2,000)	$ -	$ -
Northeast Corridor Grants to the National Railroad Passenger Corporation	M	$ (1,000)	$ -	$ -
National Network Grants to the National Railroad Passenger Corporation	M	$ (1,000)	$ -	$ -
IIJA Supplemental (Division J)		$ 13,199,010	$ 13,199,010	$ 13,199,010
Northeast Corridor Grants to the National Railroad Passenger Corporation	D	$ 1,200,000	$ 1,200,000	$ 1,200,000
National Network Grants to the National Railroad Passenger Corporation	D	$ 3,200,000	$ 3,200,000	$ 3,200,000
Consolidated Rail Infrastructure and Safety Improvements	D	$ 1,000,000	$ 1,000,000	$ 1,000,000
Federal-State Partnership for Intercity Passenger Rail Grants	D	$ 7,200,000	$ 7,200,000	$ 7,200,000
Railroad Crossing Elimination Program	D	$ 600,000	$ 600,000	$ 600,000
Financial Assistance Oversight And Technical Assistance - transfers [non-add][1/]	D	$ 198,000	$ 198,000	$ 198,000
Transfer to DOT Office of Inspector General	D	$ (495)	$ (495)	$ (495)
Transfer to Amtrak Office of Inspector General	D	$ (495)	$ (495)	$ (495)
Grand Total, All Appropriations		**$ 16,601,038**	**$ 16,606,459**	**$ 16,399,450**

1/ FRA intends to allocate the full $198 million in administrative takedowns authorized for each of FY 2022 -- FY 2026 from the IIJA Supplemental accounts to fund eligible award, administration, project management oversight, and technical assistance requirements. The actual transfers of these funds will take place in future FYs. These needs and associated costs will extend into the mid-2030s for certain large infrastructure and corridor development projects. The actual transfer of these funds will likely not occur until after FY 2025, as current and planned oversight expenses through FY 2025 are being funded from FY 2022 carryover balances.

EXHIBIT II-3
FY 2025 BUDGET REQUEST BY DOT STRATEGIC AND ORGANIZATIONAL GOALS
Appropriations, Obligation Limitation, and Exempt Obligations
FEDERAL RAILROAD ADMINISTRATION
($000)

	Safety	Economic Strength	Equity	Climate & Sustainability	Transformation	Organizational Excellence	Total
Base Appropriations	$ 587,272	$ 693,935	$ 743,868	$ 695,358	$ 433,159	$ 46,848	$ 3,200,440
Safety and Operations	$ 187,355	$ 22,697	$ 24,587	$ 22,697	$ 22,697	$ 13,932	$ 293,965
Railroad Research and Development	$ 16,926	$ 2,081	$ 1,123	$ 3,504	$ 26,971	$ 1,394	$ 52,000
Northeast Corridor Grants to the National Passenger Railroad Corporation	$ 237,600	$ 237,600	$ 237,600	$ 237,600	$ 237,600	$ 6,000	$ 1,194,000
National Network Grants to the National Passenger Railroad Corporation	$ 96,391	$ 358,057	$ 358,057	$ 358,057	$ 121,391	$ 6,000	$ 1,297,953
Consolidated Rail Infrastructure and Safety Improvements	$ 49,000	$ 49,000	$ 98,000	$ 49,000	$ -	$ -	$ 245,000
Federal-State Partnership for Intercity Passenger Rail Grants	$ -	$ 24,500	$ 24,500	$ 24,500	$ 24,500	$ -	$ 98,000
Financial Assistance Oversight and Technical Assistance	$ -	$ -	$ -	$ -	$ -	$ 19,522	$ 19,522
IIJA Supplemental Advance Appropriations	$ 1,398,000	$ 2,838,600	$ 3,361,400	$ 2,809,200	$ 2,583,800	$ 208,010	$ 13,199,010
Northeast Corridor Grants to the National Passenger Railroad Corporation	$ 235,800	$ 235,800	$ 245,800	$ 235,800	$ 235,800	$ 10,010	$ 1,199,010
National Network Grants to the National Passenger Railroad Corporation	$ 584,000	$ 584,000	$ 842,000	$ 584,000	$ 584,000	$ 22,000	$ 3,200,000
Consolidated Rail Infrastructure and Safety Improvements	$ 196,000	$ 196,000	$ 392,000	$ 196,000	$ -	$ 20,000	$ 1,000,000
Federal-State Partnership for Intercity Passenger Rail Grants	$ -	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 144,000	$ 7,200,000
Railroad Crossing Elimination Program	$ 382,200	$ 58,800	$ 117,600	$ 29,400	$ -	$ 12,000	$ 600,000
Financial Assistance Oversight and Technical Assistance	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL	$ 1,985,272	$ 3,532,535	$ 4,105,268	$ 3,504,558	$ 3,016,959	$ 254,858	$ 16,399,450

Safety: Make our transportation system safer for all people. Work toward a future where transportation-related serious injuries and fatalities are eliminated.

Economic Strength and Global Competitiveness: Grow an inclusive and sustainable economy. Invest in our transportation system to provide American workers and businesses reliable and efficient access to good-paying jobs, resources, and markets.

Equity: Reduce inequities. Support and engage people and communities to promote safe, affordable, accessible, and multimodal access to opportunities and services while reducing transportation-related disparities, adverse community impacts, and health effects.

Climate & Sustainability: Tackle the climate crisis by ensuring that transportation plays a central role in the solution. Substantially reduce greenhouse gas emissions and transportation-related pollution and build more resilient and sustainable transportation systems to benefit and protect communities.

Transformation: Design for the future. Invest in purpose-driven research and innovation to meet the challenge of the present and modernize a transportation system of the future that serves everyone today and in the decades to come.

Organizational Excellence: Strengthen our world class organization. Advance the Department's mission by establishing policies, processes, and an inclusive and innovative culture to effectively serve communities and responsibly steward the public's resources.

EXHIBIT II-4
FY 2025 OUTLAYS
FEDERAL RAILROAD ADMINISTRATION
($000)

		(A)	(B)	(C)
	M / D	FY 2023 ENACTED	FY 2024 FULL YEAR CR	FY 2025 PRES. BUDGET
SAFETY AND OPERATIONS	**D**	$ 250,977	$ 260,000	$ 275,000
RAILROAD RESEARCH AND DEVELOPMENT	**D**	$ 33,556	$ 36,000	$ 49,000
GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION	**D**	$ -	$ 7,000	$ 7,000
NORTHEAST CORRIDOR GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION	**D**	$ 1,252,985	$ 1,248,000	$ 1,191,000
NATIONAL NETWORK GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION	**D**	$ 1,187,894	$ 1,183,000	$ 1,295,000
CAPITAL AND DEBT SERVICE GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION	**D**	$ -	$ -	$ -
CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS	**D**	$ 130,068	$ 267,000	$ 331,000
FEDERAL-STATE PARTNERSHIP FOR INTERCITY PASSENGER RAIL	**D**	$ 37,004	$ 86,000	$ 114,000
RESTORATION AND ENHANCEMENT GRANTS	**D**	$ 2,830	$ 6,000	$ 5,000
RAILROAD CROSSING ELIMINATION PROGRAM	**D**	$ -	$ -	$ 77,000
FINANCIAL ASSISTANCE OVERSIGHT AND TECHNICAL ASSISTANCE	**D**	$ 20,443	$ 21,000	$ 24,000
RAILROAD SAFETY GRANTS	**D**	$ 1,139	$ 5,000	$ 4,000
CAPITAL ASSISTANCE TO STATES - INTERCITY PASSENGER RAIL SERVICE	**D**	$ 1,860	$ 5,000	$ -
NORTHEAST CORRIDOR IMPROVEMENT PROGRAM	**D**	$ -	$ 4,000	$ 3,000
PENNSYLVANIA STATION REDEVELOPMENT PROJECT	**D**	$ -	$ -	$ -
CAPITAL ASSISTANCE FOR HIGH SPEED RAIL CORRIDORS AND INTERCITY PASSENGER RAIL SERVICE	**D**	$ 18,146	$ 30,000	$ 30,000
NEXT GENERATION HIGH-SPEED RAIL	**D**	$ -	$ 1,000	$ -
RAIL LINE RELOCATION AND IMPROVEMENT PROGRAM	**D**	$ -	$ 1,000	$ -

	M / D	(A) FY 2023 ENACTED	(B) FY 2024 FULL YEAR CR	(C) FY 2025 PRES. BUDGET
RAILROAD SAFETY TECHNOLOGY PROGRAM	**D**	$ -	$ 1,000	$ -
MAGNETIC LEVITATION TECHNOLOGY DEPLOYMENT PROGRAM	**D**	$ -	$ -	$ -
TOTAL:		**$ 2,936,902**	**$ 3,161,000**	**$ 3,405,000**
Discretionary		$ 2,936,902	$ 3,161,000	$ 3,405,000
Supplemental Funding				
COVID-19 Supplementals				
NORTHEAST CORRIDOR GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION	**M/D**	$ -	$ -	$ -
NATIONAL NETWORK GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION	**M/D**	$ -	$ -	$ -
IIJA Supplemental (Division J)				
NORTHEAST CORRIDOR GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION	**D**	$ 202,152	$ 397,000	$ 968,000
NATIONAL NETWORK GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION	**D**	$ 547,003	$ 474,000	$ 1,690,000
CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS	**D**	$ -	$ -	$ 68,000
FEDERAL-STATE PARTNERSHIP FOR INTERCITY PASSENGER RAIL	**D**	$ 150	$ 221,000	$ 2,055,000
RAILROAD CROSSING ELIMINATION PROGRAM	**D**	$ -	$ -	$ 119,000
FINANCIAL ASSISTANCE OVERSIGHT AND TECHNICAL ASSISTANCE	**D**	$ 19,543	$ 27,000	$ 38,000
Grand Total, Outlays from all Appropriations		**$ 3,705,750**	**$ 4,280,000**	**$ 8,343,000**

EXHIBIT II-5
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
Federal Railroad Administration
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

FRA Total			Baseline Changes									
	FY 2023 Enacted	FY 2024 Full Year CR	Annualization of Prior Pay Raises	Annualization of new FY 2024 FTE	FY 2025 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2025 Baseline Estimate	Program Increases/ Decreases	FY 2025 Request
PERSONNEL RESOURCES (FTE)												
Direct FTE	975	1,099	-	47	-	-	-	-	-	1,146	77	1,223
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES												
Salaries and Benefits	158,947	180,016	2,252	5,450	3,120	-	-	-	2,599	193,436	9,237	202,673
Travel	11,059	11,059	-	-	-	-	-	-	221	11,280	1,225	12,504
Transportation	20	20	-	-	-	-	-	-	-	20	(20)	-
GSA Rent	3,883	1,327	-	-	-	-	19	-	-	1,346	-	1,346
Communications, & Utilities	58	58	-	-	-	-	-	-	1	59	12	71
Printing	504	504	-	-	-	-	-	-	-	504	(1)	503
Other Services:	-	-	-	-	-	-	-	-	-	-	-	-
-WCF	23,468	24,890	-	-	-	-	-	3,415	-	28,305	-	28,305
-ESC	2,266	2,326	-	-	-	-	-	-	47	2,373	23	2,396
-Other contracts	40,253	18,426	-	-	-	-	-	-	77	18,503	6,734	25,237
Supplies	363	363	-	-	-	-	-	-	-	363	(191)	172
Equipment	593	593	-	-	-	-	-	-	-	593	(480)	113
Insurance Claims & Settlements	8	8	-	-	-	-	-	-	-	8	92	100
Admin Subtotal	**241,423**	**239,591**	**2,252**	**5,450**	**3,120**	**-**	**19**	**3,415**	**2,943**	**256,789**	**16,630**	**273,419**
PROGRAMS												
Safety and Operations	36,047	37,878	-	-	-	-	-	-	571	38,450	3,205	41,654
Railroad Research and Development	42,445	42,445	-	-	-	-	-	-	848	43,293	7,121	50,414
Grants to Amtrak	6,837,745	6,839,745	-	-	-	-	-	-	48,815	6,888,560	2,403	6,890,963
Consolidated Rail Infrastructure and Safety Improvements	1,548,800	1,548,800	-	-	-	-	-	-	-	1,548,800	(303,800)	1,245,000
Federal-State Partnership for Intercity Passenger Rail Grants	7,298,000	7,298,000	-	-	-	-	-	-	-	7,298,000	-	7,298,000
Railroad Crossing Elimination Program	600,000	600,000	-	-	-	-	-	-	-	600,000	-	600,000
Financial Assistance Oversight and Technical Assistance	-	-	-	-	-	-	-	-	-	-	-	-
Programs Subtotal	**16,363,037**	**16,366,868**	**-**	**-**	**-**	**-**	**-**	**-**	**50,234**	**16,417,102**	**(291,071)**	**16,126,031**
TOTAL	**16,604,459**	**16,606,459**	**2,252**	**5,450**	**3,120**	**-**	**19**	**3,415**	**53,177**	**16,673,891**	**(274,441)**	**16,399,450**

FRA Total	FY 2023 Enacted	FY 2024 Full Year CR	Baseline Changes: Annualization of Prior Pay Raises	Annualization of new FY 2024 FTE	FY 2025 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2025 Baseline Estimate	Program Increases/ Decreases	FY 2025 Request
CANCELLATIONS												
Railroad Safety Grants	(1,610)	-	-	-	-	-	-	-	-	-	-	-
Capital Assistance For High Speed Rail Corridors and Intercity Passenger Rail Service	(1,811)	-	-	-	-	-	-	-	-	-	-	-
Cancellations Subtotal	**(3,421)**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
TOTAL with Cancellations and Transfers	**16,601,038**	**16,606,459**	**2,252**	**5,450**	**3,120**	**-**	**19**	**3,415**	**53,177**	**16,673,891**	**(274,441)**	**16,399,450**

1/ Per Exhibit II-5 Oversight Supplemental, the expenses shown for FY 2023, FY 2024, and FY 2025 are entirely funded from carryover FY 2022 balances. Those amounts are excluded from this sheet to avoid double counting.

2/ The FY 2023 Enacted column includes $2M rescission for COVID-19 supplemental funds from the Fiscal Responsibility Act of 2023.

EXHIBIT II-5
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
Federal Railroad Administration
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

Safety & Operations	FY 2023 Enacted	FY 2024 Full Year CR	Baseline Changes: Annualization of Prior Pay Raises	Annualization of new FY 2024 FTE	FY 2025 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2025 Baseline Estimate	Program Increases/ Decreases	FY 2025 Request
PERSONNEL RESOURCES (FTE)												
Direct FTE	869	934	-	20	-	-	-	-	-	954	40	994
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES												
Salaries and Benefits	152,188	169,274	2,118	3,670	2,626	-	-	-	2,599	180,287	7,413	187,700
Travel	10,832	10,832	-	-	-	-	-	-	217	11,049	927	11,975
Transportation	20	20	-	-	-	-	-	-	-	20	(20)	-
GSA Rent	3,883	1,327	-	-	-	-	19	-	-	1,346	-	1,346
Communications, & Utilities	58	58	-	-	-	-	-	-	1	59	12	71
Printing	504	504	-	-	-	-	-	-	-	504	(1)	503
Other Services:										-		
-WCF	23,468	24,890	-	-	-	-	-	3,415	-	28,305	-	28,305
-ESC	2,266	2,326	-	-	-	-	-	-	47	2,373	23	2,396
-Other contracts	20,218	2,375	-	-	-	-	-	-	48	2,423	17,208	19,631
Supplies	363	363	-	-	-	-	-	-	-	363	(191)	172
Equipment	593	593	-	-	-	-	-	-	-	593	(480)	113
Insurance Claims & Settlements	8	8	-	-	-	-	-	-	-	8	92	100
Admin Subtotal	**214,402**	**212,571**	**2,118**	**3,670**	**2,626**	**-**	**19**	**3,415**	**2,910**	**227,329**	**24,982**	**252,311**
PROGRAMS												
Automated Track Inspection Program	17,000	17,000	-	-	-	-	-	-	340	17,340	3,160	20,500
Rail Safety Partnership (C3RS)	4,300	4,300	-	-	-	-	-	-	86	4,386	3,614	8,000
Railroad Safety Information System (RSIS)	2,894	4,477	-	-	-	-	-	-	90	4,566	267	4,834
Rail Grade Crossing Safety	3,000	3,000	-	-	-	-	-	-	-	3,000	(2,000)	1,000
Washington Union Station	1,498	1,498	-	-	-	-	-	-	2	1,500	-	1,500
Positive Train Control (PTC) Support	1,000	1,000	-	-	-	-	-	-	-	1,000	-	1,000
Drug and Alcohol Program	973	1,125	-	-	-	-	-	-	23	1,148	52	1,200
Security, Other Security Grants	578	578	-	-	-	-	-	-	12	590	64	654
Rail Safety Advisory Committee (RSAC)	23	120	-	-	-	-	-	-	-	120	-	120
Technical Training Standards Division	577	577	-	-	-	-	-	-	12	589	534	1,123
Audit Management	225	225	-	-	-	-	-	-	-	225	-	225

Safety & Operations	FY 2023 Enacted	FY 2024 Full Year CR	Baseline Changes: Annualization of Prior Pay Raises	Annualization of new FY 2024 FTE	FY 2025 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2025 Baseline Estimate	Program Increases/ Decreases	FY 2025 Request
Trespass Prevention	3,000	3,000	-	-	-	-	-	-	-	3,000	(2,600)	400
Other Safety Grants	405	405	-	-	-	-	-	-	8	413	187	600
Grant & Project Development Technical Assistance and Oversight	574	574	-	-	-	-	-	-	-	574	(74)	500
Programs Subtotal	**36,047**	**37,878**	**-**	**-**	**-**	**-**	**-**	**-**	**571**	**38,450**	**3,205**	**41,654**
TOTAL	**250,449**	**250,449**	**2,118**	**3,670**	**2,626**	**-**	**19**	**3,415**	**3,481**	**265,778**	**28,187**	**293,965**

Railroad Research and Development	FY 2023 Enacted	FY 2024 Full Year CR	Baseline Changes: Annualization of Prior Pay Raises	Annualization of new FY 2024 FTE	FY 2025 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2025 Baseline Estimate	Program Increases/ Decreases	FY 2025 Request
PERSONNEL RESOURCES (FTE)												
Direct FTE	-	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES												
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-	-	-
Travel	120	120	-	-	-	-	-	-	2	122	-	122
Transportation	-	-	-	-	-	-	-	-	-	-	-	-
GSA Rent	-	-	-	-	-	-	-	-	-	-	-	-
Communications, & Utilities	-	-	-	-	-	-	-	-	-	-	-	-
Printing	-	-	-	-	-	-	-	-	-	-	-	-
Other Services:										-		
-WCF	-	-	-	-	-	-	-	-	-	-	-	-
-ESC	-	-	-	-	-	-	-	-	-	-	-	-
-Other contracts	1,435	1,435	-	-	-	-	-	-	29	1,464	-	1,464
Supplies	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-	-
Insurance Claims & Settlements	-	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	**1,555**	**1,555**	**-**	**-**	**-**	**-**	**-**	**-**	**31**	**1,586**	**-**	**1,586**
PROGRAMS												
Track Research Program	9,859	9,859	-	-	-	-	-	-	197	10,056	1,694	11,750
Rolling Stock Program	8,922	8,922	-	-	-	-	-	-	178	9,100	1,050	10,150
Train Control & Communications	6,586	6,586	-	-	-	-	-	-	132	6,718	532	7,250
Human Factors Program	5,762	5,762	-	-	-	-	-	-	115	5,877	573	6,450
Railroad System Issues	11,316	11,316	-	-	-	-	-	-	226	11,542	3,272	14,814
Programs Subtotal	**42,445**	**42,445**	**-**	**-**	**-**	**-**	**-**	**-**	**848**	**43,293**	**7,121**	**50,414**
TOTAL	**44,000**	**44,000**	**-**	**-**	**-**	**-**	**-**	**-**	**879**	**44,879**	**7,121**	**52,000**

EXHIBIT II-5
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
Federal Railroad Administration
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

Amtrak	FY 2023 Enacted	FY 2024 Full Year CR	Baseline Changes: Annualization of Prior Pay Raises	Annualization of new FY 2024 FTE	FY 2025 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2025 Baseline Estimate	Program Increases/ Decreases	FY 2025 Request
PERSONNEL RESOURCES (FTE)												
Direct FTE	-	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES [1/]												
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-	-	-
Travel	-	-	-	-	-	-	-	-	-	-	-	-
Transportation	-	-	-	-	-	-	-	-	-	-	-	-
GSA Rent	-	-	-	-	-	-	-	-	-	-	-	-
Communications, & Utilities	-	-	-	-	-	-	-	-	-	-	-	-
Printing	-	-	-	-	-	-	-	-	-	-	-	-
Other Services:												
-WCF	-	-	-	-	-	-	-	-	-	-	-	-
-ESC	-	-	-	-	-	-	-	-	-	-	-	-
-Other contracts	-	-	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-	-
Insurance Claims & Settlements	-	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	-	-	-	-	-	-	-	-	-	-	-	-
PROGRAMS												
Northeast Corridor Grants to Amtrak	1,253,700	1,253,700	-	-	-	-	-	-	25,074	1,278,774	(84,774)	1,194,000
National Network Grants to Amtrak	1,187,035	1,187,035	-	-	-	-	-	-	23,741	1,210,776	87,177	1,297,953
Programs Subtotal	**2,440,735**	**2,440,735**	**-**	**-**	**-**	**-**	**-**	**-**	**48,815**	**2,489,550**	**2,403**	**2,491,953**
BASE PROGRAMS TOTAL	**2,440,735**	**2,440,735**	**-**	**-**	**-**	**-**	**-**	**-**	**48,815**	**2,489,550**	**2,403**	**2,491,953**

Amtrak (COVID-19 IIJA Supplemental)	FY 2023 Enacted[1/]	FY 2024 Full Year CR	Baseline Changes: Annualization of Prior Pay Raises	Annualization of new FY 2024 FTE	FY 2025 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2025 Baseline Estimate	Program Increases/ Decreases	FY 2025 Request
PERSONNEL RESOURCES (FTE)												
Direct FTE	-	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES[2/]												
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-	-	-
Travel	-	-	-	-	-	-	-	-	-	-	-	-
Transportation	-	-	-	-	-	-	-	-	-	-	-	-
GSA Rent	-	-	-	-	-	-	-	-	-	-	-	-
Communications, & Utilities	-	-	-	-	-	-	-	-	-	-	-	-
Printing	-	-	-	-	-	-	-	-	-	-	-	-
Other Services:												
-WCF	-	-	-	-	-	-	-	-	-	-	-	-
-ESC	-	-	-	-	-	-	-	-	-	-	-	-
-Other contracts	-	-	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-	-
Insurance Claims & Settlements	-	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
PROGRAMS												
Northeast Corridor Grants to Amtrak	1,198,010	1,199,010	-	-	-	-	-	-	-	1,199,010	-	1,199,010
National Network Grants to Amtrak	3,199,000	3,200,000	-	-	-	-	-	-	-	3,200,000	-	3,200,000
Programs Subtotal	**4,397,010**	**4,399,010**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**4,399,010**	**-**	**4,399,010**
IIJA SUPPLEMENTAL PROGRAMS TOTAL	**4,397,010**	**4,399,010**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**4,399,010**	**-**	**4,399,010**

1/ The FY 2023 Enacted column includes $2M rescission for COVID-19 supplemental funds from the Fiscal Responsibility Act of 2023.

2/ Future transfers to the Financial Assistance Oversight and Technical Assistance account will be approximately $6.0M for FY 2023, $21.0M for FY 2024, and $21.0M for FY 2025. Only the $990,000 being transferred to the Overight Account for the DOT and Amtrak Offices of Inspector General in each of these fiscal years is displayed, as they are definitely occurring within those fiscal years.

Consolidated Rail Infrastructure and Safety Improvements	FY 2023 Enacted	FY 2024 Full Year CR	Baseline Changes: Annualization of Prior Pay Raises	Annualization of new FY 2024 FTE	FY 2025 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2025 Baseline Estimate	Program Increases/ Decreases	FY 2025 Request
PERSONNEL RESOURCES (FTE)												
Direct FTE	-	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES [1/]												
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-	-	-
Travel	-	-	-	-	-	-	-	-	-	-	-	-
Transportation	-	-	-	-	-	-	-	-	-	-	-	-
GSA Rent	-	-	-	-	-	-	-	-	-	-	-	-
Communications, & Utilities	-	-	-	-	-	-	-	-	-	-	-	-
Printing	-	-	-	-	-	-	-	-	-	-	-	-
Other Services:												
-WCF	-	-	-	-	-	-	-	-	-	-	-	-
-ESC	-	-	-	-	-	-	-	-	-	-	-	-
-Other contracts	-	-	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-	-
Insurance Claims & Settlements	-	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
PROGRAMS												
Consolidated Rail Infrastructure and Safety Improvements	548,800	548,800	-	-	-	-	-	-	-	548,800	(303,800)	245,000
Programs Subtotal	**548,800**	**548,800**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**548,800**	**(303,800)**	**245,000**
BASE PROGRAMS TOTAL	**548,800**	**548,800**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**548,800**	**(303,800)**	**245,000**

Consolidated Rail Infrastructure and Safety Improvements (Supplemental)	FY 2023 Enacted	FY 2024 Full Year CR	Baseline Changes: Annualization of Prior Pay Raises	Annualization of new FY 2024 FTE	FY 2025 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2025 Baseline Estimate	Program Increases/ Decreases	FY 2025 Request
PERSONNEL RESOURCES (FTE)												
Direct FTE	-	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES [1/]												
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-	-	-
Travel	-	-	-	-	-	-	-	-	-	-	-	-
Transportation	-	-	-	-	-	-	-	-	-	-	-	-
GSA Rent	-	-	-	-	-	-	-	-	-	-	-	-
Communications, & Utilities	-	-	-	-	-	-	-	-	-	-	-	-
Printing	-	-	-	-	-	-	-	-	-	-	-	-
Other Services:												
-WCF	-	-	-	-	-	-	-	-	-	-	-	-
-ESC	-	-	-	-	-	-	-	-	-	-	-	-
-Other contracts	-	-	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-	-
Insurance Claims & Settlements	-	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
PROGRAMS												
Consolidated Rail Infrastructure and Safety Improvements	1,000,000	1,000,000	-	-	-	-	-	-	-	1,000,000	-	1,000,000
Programs Subtotal	**1,000,000**	**1,000,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1,000,000**	**-**	**1,000,000**
IIJA SUPPLEMENTAL PROGRAMS TOTAL	**1,000,000**	**1,000,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1,000,000**	**-**	**1,000,000**

EXHIBIT II-5
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
Federal Railroad Administration
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

Federal-State Partnership for Intercity Passenger Rail Grants	FY 2023 Enacted	FY 2024 Full Year CR	Baseline Changes: Annualization of Prior Pay Raises	Annualization of new FY 2024 FTE	FY 2025 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2025 Baseline Estimate	Program Increases/ Decreases	FY 2025 Request
PERSONNEL RESOURCES (FTE)												
Direct FTE	-	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES [1/]												
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-	-	-
Travel	-	-	-	-	-	-	-	-	-	-	-	-
Transportation	-	-	-	-	-	-	-	-	-	-	-	-
GSA Rent	-	-	-	-	-	-	-	-	-	-	-	-
Communications, & Utilities	-	-	-	-	-	-	-	-	-	-	-	-
Printing	-	-	-	-	-	-	-	-	-	-	-	-
Other Services:												
-WCF	-	-	-	-	-	-	-	-	-	-	-	-
-ESC	-	-	-	-	-	-	-	-	-	-	-	-
-Other contracts	-	-	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-	-
Insurance Claims & Settlements	-	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
PROGRAMS												
Federal-State Partnership for Intercity Passenger Rail Grants	98,000	98,000	-	-	-	-	-	-	-	98,000	-	98,000
Programs Subtotal	**98,000**	**98,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**98,000**	**-**	**98,000**
BASE PROGRAMS TOTAL	**98,000**	**98,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**98,000**	**-**	**98,000**

Federal-State Partnership for Intercity Passenger Rail Grants (Supplemental)	FY 2023 Enacted	FY 2024 Full Year CR	Baseline Changes: Annualization of Prior Pay Raises	Annualization of new FY 2024 FTE	FY 2025 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2025 Baseline Estimate	Program Increases/ Decreases	FY 2025 Request
PERSONNEL RESOURCES (FTE)												
Direct FTE	-	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES [1/]												
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-	-	-
Travel	-	-	-	-	-	-	-	-	-	-	-	-
Transportation	-	-	-	-	-	-	-	-	-	-	-	-
GSA Rent	-	-	-	-	-	-	-	-	-	-	-	-
Communications, & Utilities	-	-	-	-	-	-	-	-	-	-	-	-
Printing	-	-	-	-	-	-	-	-	-	-	-	-
Other Services:												
-WCF	-	-	-	-	-	-	-	-	-	-	-	-
-ESC	-	-	-	-	-	-	-	-	-	-	-	-
-Other contracts	-	-	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-	-
Insurance Claims & Settlements	-	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
PROGRAMS												
Federal-State Partnership for Intercity Passenger Rail Grants	7,200,000	7,200,000	-	-	-	-	-	-	-	7,200,000	-	7,200,000
Programs Subtotal	**7,200,000**	**7,200,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**7,200,000**	**-**	**7,200,000**
IIJA SUPPLEMENTAL PROGRAMS TOTAL	**7,200,000**	**7,200,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**7,200,000**	**-**	**7,200,000**

Railroad Crossing Elimination Program (IIJA Supplemental)	FY 2023 Enacted	FY 2024 Full Year CR	Baseline Changes: Annualization of Prior Pay Raises	Annualization of new FY 2024 FTE	FY 2025 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2025 Baseline Estimate	Program Increases/ Decreases	FY 2025 Request
PERSONNEL RESOURCES (FTE)												
Direct FTE	-	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES [1/]												
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-	-	-
Travel	-	-	-	-	-	-	-	-	-	-	-	-
Transportation	-	-	-	-	-	-	-	-	-	-	-	-
GSA Rent	-	-	-	-	-	-	-	-	-	-	-	-
Communications, & Utilities	-	-	-	-	-	-	-	-	-	-	-	-
Printing	-	-	-	-	-	-	-	-	-	-	-	-
Other Services:												
-WCF	-	-	-	-	-	-	-	-	-	-	-	-
-ESC	-	-	-	-	-	-	-	-	-	-	-	-
-Other contracts	-	-	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-	-
Insurance Claims & Settlements	-	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
PROGRAMS												
Railroad Crossing Elimination Program	600,000	600,000	-	-	-	-	-	-	-	600,000	-	600,000
Programs Subtotal	**600,000**	**600,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**600,000**	**-**	**600,000**
IIJA SUPPLEMENTAL PROGRAMS TOTAL	**600,000**	**600,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**600,000**	**-**	**600,000**

EXHIBIT II-5
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
Federal Railroad Administration
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

Financial Assistance Oversight and Technical Assistance	FY 2023 Enacted	FY 2024 Full Year CR	Baseline Changes: Annualization of Prior Pay Raises	Annualization of new FY 2024 FTE	FY 2025 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2025 Baseline Estimate	Program Increases/ Decreases	FY 2025 Request
PERSONNEL RESOURCES (FTE)												
Direct FTE	36	55	-	9	-	-	-	-	-	64	9	73
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES												
Salaries and Benefits	6,759	10,742	134	1,780	494	-	-	-	-	13,150	1,824	14,973
Travel	107	107	-	-	-	-	-	-	2	109	298	407
Transportation	-	-	-	-	-	-	-	-	-	-	-	-
GSA Rent	-	-	-	-	-	-	-	-	-	-	-	-
Communications, & Utilities	-	-	-	-	-	-	-	-	-	-	-	-
Printing	-	-	-	-	-	-	-	-	-	-	-	-
Other Services:												
-WCF	-	-	-	-	-	-	-	-	-	-	-	-
-ESC	-	-	-	-	-	-	-	-	-	-	-	-
-Other contracts	18,600	14,616	-	-	-	-	-	-	-	14,616	(10,474)	4,142
Supplies	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-	-
Insurance Claims & Settlements	-	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	**25,465**	**25,465**	**134**	**1,780**	**494**	**-**	**-**	**-**	**2**	**27,874**	**(8,352)**	**19,522**
PROGRAMS												
none	-	-	-	-	-	-	-	-	-	-	-	-
Programs Subtotal	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
BASE PROGRAMS TOTAL [1/]	**25,465**	**25,465**	**134**	**1,780**	**494**	**-**	**-**	**-**	**2**	**27,874**	**(8,352)**	**19,522**

(4) Federal-State Partnership for Intercity Passenger Rail.

Federal Railroad Administration
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

Financial Assistance Oversight and Technical Assistance (IIJA Supplemental) (Non-Add)	FY 2023 Enacted	FY 2024 Full Year CR	Baseline Changes: Annualization of Prior Pay Raises	Annualization of new FY 2024 FTE	FY 2025 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2025 Baseline Estimate	Program Increases/ Decreases	FY 2025 Request
PERSONNEL RESOURCES (FTE)												
Direct FTE	70	110	-	18	-	-	-	-	-	128	28	156
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES												
Salaries and Benefits	13,459	21,451	268	3,554	986	-	-	-	-	26,259	5,673	31,932
Travel	-	-	-	-	-	-	-	-	-	-	-	-
Transportation	-	-	-	-	-	-	-	-	-	-	-	-
GSA Rent	-	-	-	-	-	-	-	-	-	-	-	-
Communications, & Utilities	-	-	-	-	-	-	-	-	-	-	-	-
Printing	-	-	-	-	-	-	-	-	-	-	-	-
Other Services:												
-WCF	-	-	-	-	-	-	-	-	-	-	-	-
-ESC	-	-	-	-	-	-	-	-	-	-	-	-
-Other contracts	14,276	31,747	-	-	-	-	-	-	635	32,382	-	32,382
Supplies	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-	-
Insurance Claims & Settlements	-	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	**27,735**	**53,198**	**268**	**3,554**	**986**	**-**	**-**	**-**	**635**	**58,641**	**5,673**	**64,314**
PROGRAMS												
none	-	-	-	-	-	-	-	-	-	-	-	-
Programs Subtotal	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Transfer to Department of Transportation's Office of Inspector General	**(495)**	**(495)**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**(495)**	**-**	**(495)**
Transfer to Amtrak's Office of Inspector General	**(495)**	**(495)**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**(495)**	**-**	**(495)**
IIJA SUPPLEMENTAL PROGRAMS TOTAL [1/, 2/]	**26,745**	**52,208**	**268**	**3,554**	**986**	**-**	**-**	**-**	**635**	**57,651**	**5,673**	**63,324**

1/ This account's supplemental resources are transfers from the following five accounts - (1) Amtrak Northeast Corridor, (2) Amtrak National Network, (3) Consolidated Rail Infrastructure and Safety Improvements, (4) Federal-State Partnership for Intercity Passenger Rail, and (5) Railroad Crossing Elimination Program.

2/ FRA intends to allocate the full $198 million in administrative takedowns authorized for each of FY 2022 -- FY 2026 from the IIJA Supplemental accounts to fund eligible award, administration, project management oversight, and technical assistance requirements. The actual transfers of these funds will take place in future FYs. These needs and associated costs will extend into the mid-2030s for certain large infrastructure and corridor development projects. The amounts shown in this exhibit represent the amount of funding intended to be spent within the respective FY, which is entirely funded by FY 2022 carryover balances (with the exception of the transfers to the DOT and Amtrak Offices of Inspector General, which are to be funded from their respective fiscal year's takedown).

EXHIBIT II-6
WORKING CAPITAL FUND
FEDERAL RAILROAD ADMINISTRATION
($000)

	FY 2023 ENACTED	FY 2024 FULL YEAR CR	FY 2025 PRES. BUDGET
DIRECT:			
Safety and Operations	$ 23,468	$ 24,890	$ 28,305
SUBTOTAL	$ 23,468	$ 24,890	$ 28,305
Total, All Sources	$ 23,468	$ 24,890	$ 28,305

EXHIBIT II-7
FEDERAL RAILROAD ADMINISTRATION
PERSONNEL RESOURCE -- SUMMARY
TOTAL FULL-TIME EQUIVALENTS

	FY 2023 ENACTED	FY 2024 FULL YEAR CR	FY 2025 PRES. BUDGET
DIRECT FUNDED BY APPROPRIATION			
Safety and Operations	869	934	994
Financial Assistance Oversight and Technical Assistance	36	55	73
SUBTOTAL, DIRECT FUNDED	904	989	1,067
BASE TOTAL FTEs	**904**	**989**	**1,067**
SUPPLEMENTAL FUNDED FTE's			
IIJA Supplemental Funding			
Financial Assistance Oversight and Technical Assistance	70	110	156
SUBTOTAL, Supplemental Funded	70	110	156
TOTAL FTEs	**975**	**1,099**	**1,223**

EXHIBIT II-8
FEDERAL RAILROAD ADMINISTRATION
RESOURCE SUMMARY – STAFFING
FULL-TIME PERMANENT POSITIONS

	FY 2023 ENACTED	FY 2024 FULL YEAR CR	FY 2025 PRES. BUDGET
DIRECT FUNDED BY APPROPRIATION			
Safety and Operations	913	954	1,034
Financial Assistance Oversight and Technical Assistance	45	62	84
SUBTOTAL, DIRECT FUNDED	958	1,016	1,118
BASE TOTAL POSITIONS	**958**	**1,016**	**1,118**
SUPPLEMENTAL FUNDED FTP's			
IIJA Supplemental Funding			
Financial Assistance Oversight and Technical Assistance	90	134	178
SUBTOTAL, Supplemental Funded	90	134	178
TOTAL POSITIONS	**1,048**	**1,150**	**1,296**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

SAFETY AND OPERATIONS
APPROPRIATIONS LANGUAGE

SAFETY AND OPERATIONS

For necessary expenses of the Federal Railroad Administration, not otherwise provided for, [$250,449,000]*$293,965,000*, of which $25,000,000 shall remain available until expended.

EXHIBIT III-1
SAFETY AND OPERATIONS
Summary by Program Activity
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

	FY 2023 ENACTED	FY 2024 FULL YEAR CR	FY 2025 PRES. BUDGET
Safety and Operations	$ 250,449	$ 250,449	$ 293,965
TOTAL	$ 250,449	$ 250,449	$ 293,965
FTEs			
Direct Funded	869	934	994

Program and Performance Statement

Funds requested in the Safety and Operations account support the Federal Railroad Administration's (FRA) personnel and administrative expenses, the cost of railroad safety inspectors, and other program activities, including contracts. Resources are also provided to fund critical railroad safety programs, information management, technology, training, and safety education and outreach.

EXHIBIT III-1a
SAFETY AND OPERATIONS
SUMMARY ANALYSIS OF CHANGE FROM FY 2024 TO FY 2025
Appropriations, Obligations, Limitations, and Exempt Obligations
($000)

	$000	**FTE**
FY 2024 FULL YEAR CR	$250,449	934
ADJUSTMENTS TO BASE:		
Annualization of Prior Pay Raise(s)	2,118	0
Annualization of FY 2024 FTE	3,670	20
FY 2025 Pay Raise	2,626	0
GSA Rent	19	0
Working Capital Fund	3,415	0
Non-Pay Inflation and Other	3,481	0
SUBTOTAL, ADJUSTMENTS TO BASE	**15,329**	**20**
PROGRAM REDUCTIONS		
Transportation	-20	0
Printing	-1	0
Supplies	-191	0
Equipment	-480	0
Rail Grade Crossing Safety	-2,000	0
Trespass Prevention	-2,600	0
Grant & Project Development Technical Assistance and Oversight	-74	0
SUBTOTAL, PROGRAM REDUCTIONS	**-5,366**	**0**
PROGRAM INCREASES		
Salaries and Benefits	7,413	40
Travel	927	0
Communications, & Utilities	12	0
ESC	23	0
Other Contracts	17,208	0
Insurance Claims & Settlements	92	0
Automated Track Inspection Program	3,160	0
Rail Safety Partnership (C3RS)	3,614	0

Railroad Safety Information System (RSIS)	267	0
Drug and Alcohol Program	52	0
Security, Other Security Grants	64	0
Technical Training Standards Division	534	0
Other Safety Grants	187	0
SUBTOTAL, PROGRAM INCREASES	**33,553**	**40**
TOTAL	**293,965**	**994**

Detailed Justification for Railroad Safety and Operations

FY 2025 – Railroad Safety and Operations – Budget Request ($000)

Program Activity	FY 2023 Enacted Level	FY 2024 Full Year CR	FY 2025 President's Budget
Safety and Operations	$250,449	$250,449	$293,965
Total	**$250,449**	**$250,449**	**$293,965**
FTE	**869**	**934**	**994**

What is this program and what does this funding level support?

The appropriation for the Safety and Operations (S&O) account funds much of FRA's organizational infrastructure—payroll, rent, telecommunications, information technology, and contract support—that enables the agency to execute its dual mission of railroad safety and railroad development. This includes FRA's personnel and discrete programs focused on railroad safety.

FRA oversees, regulates, and enforces the safety of railroad operations nationwide. In addition, FRA supports the development and improvement of intercity passenger and freight rail services and new technologies and practices to enhance railroad safety and efficiency. S&O funding is the foundation for FRA to carry out its mission of enabling the safe, reliable, and efficient movement of people and goods for a strong America, now and in the future.

According to almost any metric, the railroad industry is notably safer today compared to the mid-1970s, the date from which FRA's comprehensive catalog of safety data begins. Over the last 40 years, the rate of rail-related accidents and incidents has fallen by 78 percent, and derailments have decreased by 59 percent.[1] This improvement is due in large part to the railroad industry's dedicated and highly skilled workforce who live and breathe safety each day on the job, as well as the development and adoption of new technologies and practices and FRA's safety enforcement and technical assistance regime. However, the rate of improvement for many safety metrics has slowed or plateaued over the last 10-15 years, and incidents such as the Norfolk Southern Railway (NS) freight train derailment that occurred in East Palestine, Ohio on February 3, 2023 reinforces the work that is still required to ensure the safety of rail operations and infrastructure. The FY 2025 President's Budget includes funding requests and policy proposals across all of FRA's accounts to mitigate and address railroad safety issues.

[1] Data from public FRA Safety Data and Reporting site, Accident/Incident Overview, run date of January 4, 2024.

The following sections describe FRA's FY 2025 major cost categories for S&O.

Mission Support and Fixed Costs
FY 2023 Enacted: $214.40 million
FY 2024 Full Year CR: $212.57 million
FY 2025 President's Budget: $252.31 million

More than 85 percent of S&O funding covers salaries and benefits, travel and motor vehicle fleet, and other operating infrastructure costs, such as rent. FRA executes its railroad safety responsibilities through a diverse and highly skilled cadre of railroad safety inspectors, specialists, engineers, analysts, and managers who possess expertise across a wide range of railroad subject areas, such as operating practices, motive power and equipment, signal and train control, track, hazardous materials, grade crossing safety, PTC, passenger rail, human performance, alcohol and drug programs, tank car quality assurance, rail and infrastructure integrity, bridge safety, occupational health, radioactive materials, and railroad management.

The FY 2025 President's Budget proposes to increase FRA's safety-related personnel across the Office of Railroad Safety and Office of Research, Data, and Innovation. This includes increasing FRA railroad safety inspector staffing to a record 400 inspectors and adding eight new personnel to support the planning, oversight, tracking, and reporting of FRA's multi-disciplinary safety audits and deep dives – including two transportation specialists for FRA's Audit Management Division and six railroad safety specialists (one for each discipline). In 2021, FRA began conducting railroad system audits to gain a more comprehensive understanding of potential systemic safety issues on a railroad. In addition to examining a railroad's compliance with FRA's railroad safety regulations, these multi-discipline audits entail a more expansive assessment of each railroad's safety culture and operations. The information gathered from these audits is then used to target specific areas for FRA's oversight and enforcement efforts and help identify risks beyond the reach of current Federal regulations. In 2023, FRA completed an audit and deep-dive on Norfolk Southern that was launched following the East Palestine derailment, and is currently conducting similar assessments for the other five Class I railroads.[2] FRA will also conduct audits on short line and passenger railroads.

Inspector Discipline	Target Number of Inspectors
Operating Practices	76
Signal, Train Control & Crossings	55
Grade Crossing & Trespasser Outreach	37
Motive Power & Equipment	94
Track	79
Hazardous Materials	59
Total Inspectors	**400**

[2] Federal Railroad Administration, Norfolk Southern Safety Assessment, August 2023.

In addition to FRA's field-based specialists and inspectors, FRA's Office of Railroad Safety includes nine Safety Management Teams (SMT) located across the country. The SMTs are responsible for oversight and engagement with a single railroad or a class of railroads to monitor risks on a system level by becoming familiar with the infrastructure, rolling stock, work force, and operations, with the goal to collaboratively identify and address persistent and emerging potential safety issues.

FRA Safety Management Teams

Team	Location	Assigned Railroad(s)
SMT-1	Cambridge, MA	Amtrak and Commuters, East
SMT-2	Wilmington, DE	Short Lines, East
SMT-3	Atlanta, GA	Norfolk Southern
SMT-4	Chicago, IL	Canadian Pacific Kansas City, Canadian National Railway, Chicago Commuter District
SMT-5	Fort Worth, TX	BNSF Railway
SMT-6	Kansas City, MO	Union Pacific Railroad
SMT-7	Sacramento, CA	Commuters, West
SMT-8	Vancouver, WA	Short Lines, West
SMT-9	Jacksonville, FL	CSX

FRA's remaining S&O-funded personnel are in the Offices of Railroad Development; Chief Counsel; Chief Financial Officer; Administration; and the Administrator. These personnel include planners, project development and delivery specialists, engineers, economists, attorneys, budget and financial analysts, human resources specialists, public and government affairs specialists, and other professionals.

While the majority of FRA's staffing growth to implement the increased IIJA grants is being funded by the IIJA grant takedowns, there are also associated S&O cost increases needed to ensure existing programs and support functions are adequately resourced.

- **Safety Focus:** FRA's workforce of committed safety professionals is overseeing a number of ongoing and new initiatives to advance railroad safety, including:
    - Monitoring and providing technical assistance related to railroads' implementation of various system safety milestones required under recent Risk Reduction Program, System Safety Program, and Fatigue Risk Management Program rulemakings. These regulations provide the foundation for a proven

framework to improve safety through the implementation of safety management systems. These new requirements bring a comprehensive, system-oriented approach to improving safety by describing how a railroad will identify hazards, determine associated risk, develop mitigation strategies, and evaluate the success of those strategies;
    - Conducting audits of the training, qualification, and certification programs of railroad locomotive engineers and conductors, as required by Section 22410 of IIJA;
    - Administering State Focused Inspections and new outreach efforts to address grade crossing and trespass incidents;
    - Conducting audits of intercity passenger and commuter rail operations' compliance with hours of service regulations;
    - Carrying out multiple analyses regarding the safety, operational, and community impacts of very long trains;
    - Executing a rigorous railroad inspection program that represents nearly 33,000 inspection days in FY 2023;
    - Continuing to implement Secretary Buttigieg's call to action to improve railroad accountability and safety following the East Palestine derailment, including:
        - Advancing the Train Crew Staffing Rule to require a minimum of two crewmembers for most railroad operations;
        - Using the results of the nationwide, comprehensive assessment of routes over which high-hazard flammable trains (HHFT) are operated to continue to improve the safety of HHFTs and other trains transporting large quantities of hazardous materials;[3]
        - Using the results of the assessment and inspections of shippers and railroads that have chosen not to upgrade legacy DOT 111 tank cars to DOT 117 tank cars to support further efforts to improve tank car safety;
        - Dedicating resources from FRA's CRISI and Railroad Crossing Elimination grant programs to meritorious railroad safety projects; and working through the Railroad Safety Advisory Committee to consider potential methods of train brake modernization and to develop best practices and standards related to wayside detectors in the railroad industry.

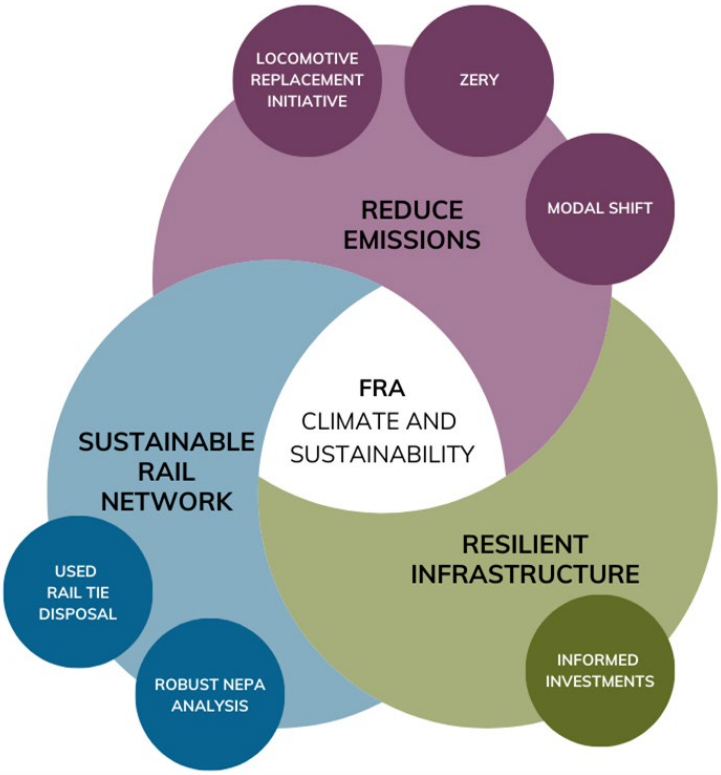
  The FY 2025 President's Budget ensures FRA is sufficiently resourced to carry out this ambitious safety agenda.

- **Equity Focus:** The significant funding provided by IIJA represents a historic opportunity to help correct decades of failed land-use policies and transportation investments that have segregated, displaced, or otherwise harmed communities of color and low-income neighborhoods. Similarly, the funding made available to bring Amtrak-served stations into compliance with the Americans with Disabilities Act—more than 30 years after the Act's passage—will address a long overdue inequity. This funding, and other policy proposals to address persistent equity issues through FRA's grant programs, must be

[3] Federal Railroad Administration, High-Hazard Flammable Train Route Assessment, June 2023.

supported by a workforce possessing the knowledge and commitment to ensure these opportunities are realized. The FY 2025 President's Budget maintains recent increases in the Civil Rights Office to enhance FRA's enforcement of Title VI and small business contracting requirements under FRA grant programs, as well as Small Business Specialists to provide outreach and technical assistance regarding FRA's programs.

- **Climate Focus:** FRA has developed a Climate and Sustainability Program to evaluate a wide range of issues focused on (1) Reducing Emissions, (2) Building Resilient Infrastructure, and (3) Fostering a Sustainable Rail Network. In April 2022, FRA issued a Climate Challenge to the rail industry, asking owners and operators along the national rail network, and manufacturers of rail equipment, to join FRA's commitment to reach net-zero greenhouse gas emissions in the rail industry and rail transportation by 2050. FRA has since held a number of industry meetings on this topic, including the "Getting on Track for Decarbonization" workshop in May 2023, which brought together experts from around the world to discuss ongoing research on clean energy technologies, the deployment of such technologies, and lessons learned.



In April 2023, FRA also issued a request for information on potential uses and options for disposal or repurposing used creosote-treated railroad ties (CTRTs), which are the wooden rail crossties that support the rail track.[4] Approximately 23 million CTRTs are replaced along the nation's rail network annually. This initiative is intended to assist the industry in identifying methods to reduce the environmental impact from the disposal of used creosote-treated rail ties. Recent changes in EPA regulations concerning used rail ties limits the number of used rail ties able to be used as a feed stock for waste-to-energy conversion plants. Disposing rail ties in landfills produces methane, a potent greenhouse gas. Finding other uses for used rail ties will reduce the environmental impact from FRA grants that replace rail ties, which is a frequent grant application request.

In October 2023, FRA also launched the Justice40 Rail Explorer tool, an interactive web application that combines data from the U.S. DOT Equitable Transportation Community

[4] Federal Railroad Administration, Request for Information Regarding Uses for Used Creosote-Treated Railroad Ties, April 25, 2023.

(ETC) Explorer, the North American Rail Network (NARN), FRA's Grade Crossing Inventory, Diesel emissions levels, and the 2020 Census. The tool allows users to understand rail infrastructure and potential improvement projects in the context of the surrounding communities.

These represent just three examples of FRA's efforts to combat the climate crisis. FRA's R&D and grant programs are helping to divert passengers and freight from more carbon-intensive transportation modes to rail, reduce emissions from rail yards, and spur progress the development and deployment of clean energy technologies for use in railroad operations.

Automated Track Inspection Program
FY 2023 Enacted: $17.00 million
FY 2024 Full Year CR: $17.00 million
FY 2025 President's Budget: $20.50 million

Defective track is one of the most frequent causes of derailments. Identifying non-compliant track and precursor conditions is the primary focus of FRA's Automated Track Inspection Program (ATIP). FRA deploys its fleet of ATIP vehicles to collect data on the highest risk routes, including passenger and hazardous materials routes. FRA then uses the data to inform oversight and enforcement activities, development of regulations, audits of railroad compliance with Federal Track Safety Standards, and assessments of the state-of-repair of U.S. railroads. FRA shares the infrastructure diagnostics with the track owners and notifies railroads of major safety risks. Additionally, ATIP supports FRA's railroad safety research program. During ATIP operations, FRA assesses new technologies to improve track evaluation and other safety benefits. In FY 2023, FRA's ATIP inspection vehicles collected track measurement data for 174,444 miles of track, finding 7,822 geometry exceptions to FRA's Track Safety Standards, of which 19 percent were deemed safety critical. Additionally, the ATIP program's new hi-rail vehicle equipped with ultrasonic technology identified 759 internal rail defects. Over the last 5 years of ATIP operations, the number of track geometry-caused accidents has decreased by 18 percent. The ATIP program, by finding and reporting exception information to the railroads, has contributed to this improvement.

In FY 2023, FRA completed the recompete of two contracts to operate, maintain, and enhance the ATIP fleet. The increased request in the FY 2025 President's Budget reflects the current market conditions and costs necessary to continue fully deploying FRA's fleet of ten ATIP vehicles, as well as continuing to refine the fleet's capabilities for identifying safety critical conditions. The new ATIP contracts contain updated performance metrics to better monitor fleet utilization and contractor performance.[5] FRA has also developed a new Track Data Services database to store ATIP survey data and is working to incorporate new fleet utilization and performance inputs reported under the new contract structure. These

[5] These new contract performance measures will also address a recommendation contained in the DOT Office of Inspector General's 2022 audit report – FRA Uses Automated Track Inspections To Aid Oversight but Could Improve Related Program Utilization Goals and Track Inspection Reporting, Report ST2022028, April 27, 2022.

technology and process enhancements will allow FRA to better understand how track structure degrades over time, as well as measure the effectiveness of the program.

Positive Train Control (PTC)
FY 2023 Enacted: up to $1.00 million
FY 2024 Full Year CR: up to $1.00 million
FY 2025 President's Budget: $1.00 million

PTC systems are designed to prevent train-to-train collisions, over-speed derailments, incursions into established work zones, and movements of trains through switches left in the wrong position. PTC technology was in operation on all 57,536 required freight and passenger railroad route miles, prior to the December 31, 2020, statutory deadline set by Congress.

FRA continues to monitor, inspect, and audit railroads' operation and maintenance of PTC systems to help ensure railroad safety. Additionally, FRA continues to oversee railroads' compliance with their FRA-approved PTC Safety Plans, as well as applicable statutes and regulations, and to take any necessary enforcement action (including assessing civil penalties). IIJA requires host railroads to report on the status of PTC system performance quarterly to FRA, and FRA reviews and evaluates that extensive data.

FRA also must review and approve all proposed material changes to PTC systems, including railroads' proposed changes to hardware and software. From January 2021 to December 2023, FRA evaluated more than 65 requests for amendments (RFAs) to railroads' PTC systems and PTC Safety Plans, and in FY 2023 FRA received two new PTC Safety Plans requesting certification of two new PTC installations. In addition to the railroads currently operating PTC technology on the existing PTC-governed main lines, FRA also provides oversight and technical assistance to several new start passenger railroads and any railroad that is required to equip new main lines due to changes in traffic or poisonous- or toxic-by-inhalation hazardous materials (PIH/TIH) traffic levels.

Funding requested for PTC in FY 2025 will be used for contractors that continue to provide FRA with direct project and data management support, along with subject matter expertise to review railroads' proposed material modifications to their PTC systems and evaluate new PTC system developments, including the PTC systems for new planned high-speed rail operations. FRA must approve, conditionally approve, or deny any proposed material modification to a PTC system, including software updates and functionality, within 45 days of the railroad's request. Railroads have indicated that software updates and functionality changes are anticipated twice a year for the I-ETMS PTC system, and the Northeast Corridor railroads will also have multiple safety updates and functionality changes each year. In FY 2023, FRA reviewed 23 RFAs to PTC Safety Plans (with proposed material modifications), nine RFAs requesting approval of planned temporary outages of PTC during infrastructure upgrades, 15 RFAs to PTC Implementation Plans, and six Test Requests. FRA also confirmed throughout FY 2023 that all Class II and III tenants are in compliance, noting the temporary exception for Class II and III tenant railroads expired on December 31, 2023. As

of January 2024, FRA has already received 10 new RFAs for PTC Safety Plans, five RFAs for planned temporary outages, one PTC Implementation Plan RFA, and one new Test Request since the beginning of FY 2024. Further, given the expanded data reporting requirements specified under IIJA, FRA will continue evaluating PTC performance trends and investigating critical failures.

Railroad Safety Information System
*FY 2023 Enacted: $3.34 million**
FY 2024 Full Year CR: $4.50 million
FY 2025 President's Budget: $4.83 million
**Note, approximately $1 million additional executed for RSIS activities through the DOT Working Capital Fund.*

The Railroad Safety Information System (RSIS) is FRA's collection of data management systems that receive, organize, process, visualize, and publish information on railroad accidents and incidents, safety inspections and violations, and attributes from the U.S. DOT Highway-Rail Crossing Inventory. FRA uses data from RSIS in trend analysis, safety performance measurement, and resource allocation. The railroad reported information is publicly available on FRA's website and inspection data is available internally to authorized users.

FRA's public website provides a dynamic, streamlined means to quickly access a wealth of railroad safety data and provides visualization of the different data sets. FRA is working with the Department's Office of the Chief Information Officer to improve the user interface of the public data site, as required by section 22405 of IIJA. FRA's objectives for the new public site are to (1) improve data accessibility, with user-friendly site layout and navigation, (2) improve data literacy by providing information about the data in plain language and helping users understand the story the data is telling, and (3) provide one authoritative source of data. In 2023, FRA began releasing data and groups of reports to the new site, beginning with the topics of highway-rail grade crossing incidents, trespassers, and the U.S. DOT National Highway-Rail Crossing Inventory. Funding will continue to be required to rollout new data sources and reports, provide enhancements, and maintain the public and secure railroad safety data websites.

To meet the current and future data collection needs as required by 49 CFR Part 225-Railroad Accidents/Incidents: Reports Classification, and Investigations, the FRA will be required to improve its data collection capabilities by moving away from hard copies of forms and email attachments that require manual data entry to one that automates data collection utilizing a dedicated portal and Application Programming Interfaces (APIs) that enable railroad users to submit the required data in useable (machine-readable) formats and the data will be validated at the point of entry.

Rail Safety Partnerships
FY 2023 Enacted: up to $4.30 million
FY 2024 Full Year CR: up to $4.30 million
FY 2025 President's Budget: $8.00 million

Confidential Close Call Reporting System (C^3RS)

The C^3RS program enables railroad employees to report close calls and unsafe events and conditions in a safe environment. Employees who report a close-call event receive protection from railroad discipline and FRA enforcement. Railroads also receive protection from FRA enforcement for events reported within C^3RS. However, a close call does not involve willful, reckless, or criminal acts, nor does it involve any FRA-reportable accident resulting in harm to a person or property. Events that involve alcohol or drug impairment, or that are witnessed in real-time by FRA personnel or a railroad manager or supervisor, are not close calls. In addition, any incident resulting in a release of hazardous material is not a close-call event. Analyzing close calls is a proactive way to manage safety. When individual events are analyzed collectively through root cause analysis, railroads can identify safety hazards and develop solutions to mitigate or eliminate threats.

The core component of the C^3RS program is the third-party processing and de-identifying of close-call reports from safety-related railroad employees. The National Aeronautics and Space Administration (NASA) provides this service for FRA (and the Federal Aviation Administration). NASA supports FRA in achieving the highest level of close-call report processing. In 2021, NASA and FRA rolled out the Data Base Query Tool (DBQT). DBQT is the nation's largest repository of voluntarily submitted railroad safety reports, and currently contains more than 20,450 such reports. These records can inform policy development, human factors research, education, training, and ultimately improve safety. All data is owned and housed by NASA, where the aviation industry has benefited from an analogous database called Data Base Online since 2006.

FRA has worked diligently with industry to grow the C^3RS program. As of February 2024, 28 intercity passenger, commuter, and freight railroads—representing over 33,000 safety-related railroad employees—are participating. Following the East Palestine derailment, Secretary Buttigieg called on the Class I railroads to join the C^3RS program. Each of the Class I railroads publicly committed to join the program, and the Railroad Safety Advisory Committee (RSAC) is currently examining how best to expand C^3RS industry-wide and enable greater participation from railroads and railroad employees, including the more than 120,000 employees of Class I railroads.[6] In January 2024, FRA announced that NS agreed to join a pilot C3RS program with two of its unions, the Brotherhood of Locomotive Engineers and Trainmen (BLET) and the International Association of Sheet Metal, Air, Rail and Transportation Workers – Transportation Division (SMART-TD).[7] NS is the first Class I freight railroad to join the C3RS program.

[6] Surface Transportation Board, Employment Data, January 2024.
[7] Federal Railroad Administration, USDOT and FRA Continue Pressing on Rail Safety, Finalizes Norfolk Southern Railway Participation into Confidential Close Call Reporting System, January 30, 2024.

The FY 2025 President's Budget nearly doubles the funding for C^{3}RS to accommodate the greater number of reports to be processed under the program stemming from the participation of the Class I railroads. Current C^{3}RS statistics show that over 75 percent of close calls reported are unknown events and would never have become known had it not been for C^{3}RS. Expanding C^{3}RS to the Class I railroads will significantly increase the data available under the program and help the industry to gather important safety insights, learn from these close calls and unsafe events, and act to address preventable safety concerns before they can result in harm. This data will also feed FRA's efforts to communicate C^{3}RS safety trends and success stories to the broader railroad industry, as recommended by the Government Accountability Office.[8]

FRA also proposes to continue providing funding to the Short Line Safety Institute to develop, maintain, and perform as a Peer Review Team for the C^{3}RS program's participating Class II and Class III carriers. Additionally, short line railroads may voluntarily implement the requirements of a Risk Reduction Plan under 49 CFR, part 271.15. Risk Reduction Plans—which are required under FRA's 2020 final rule for Class I freight railroads and other freight railroads with inadequate safety performance—represent a comprehensive, system-oriented approach to safety that determines a railroad operation's level of risk by identifying and analyzing applicable hazards, and involves developing plans to mitigate, if not eliminate, that risk. Part of this plan may include the participation in C^{3}RS.

Trespass Prevention
FY 2023 Enacted: up to $3.00 million
FY 2024 Full Year CR: up to $3.00 million
FY 2025 President's Budget: $0.40 million

Trespassing on railroad rights-of-way is the leading cause of rail-related fatalities, accounting for 70 percent of U.S. rail-related deaths in FY 2023. An average of 583 trespassers died each year between FY 2019 and FY 2023. Since 1997, more people have been killed each year while trespassing than in motor vehicle collisions with trains at highway-rail grade crossings.

In 2018, FRA published the *National Strategy to Prevent Trespassing on Railroad Property,* which focused on four strategic areas to combat trespassing on railroad property: (1) data gathering and analysis; (2) community site trespass prevention assessments; (3) funding; and (4) partnerships with affected stakeholders. FRA has implemented and completed all tasks identified in the 2018 report and has continued to identify new or expanded initiatives to reduce trespassing.

S&O funding requested for FY 2025 will be used to continue data analysis and stakeholder outreach to communities affected by trespass suicide, including continued collaboration with suicide prevention organizations in areas with high incidence of trespassing. Building upon

[8] Government Accountability Office, Better Communication of Safety Information Could Improve the Close Call System, November 2022.

previous work to identify high-risk areas for trespassing—including near homeless encampments, shelters, and illegal activities—FRA will continue its analysis of new high-risk trespassing areas across the nation. Based on the results of the outreach to previously identified high-risk areas in reducing trespassing, FRA will refine targeted messaging and communications channels as needed to continue to warn these audiences of the dangers of trespassing. FRA will continue to collaborate with suicide prevention grant recipients, the Substance Abuse and Mental Health Services Administration, and other organizations in the local areas to help reduce trespassing and the resulting injuries and fatalities. Requested funding will be used to conduct analyses, create outreach materials, and host or co-host local meetings with FRA's prevention partners.

Highway-Rail Grade Crossing Safety
FY 2023 Enacted: up to $3.00 million
FY 2024 Full Year CR: up to $3.00 million
FY 2025 President's Budget: $1.00 million

Collisions at highway-rail grade crossings are the second leading cause of rail-related fatalities, accounting for 26 percent of all such fatalities in FY 2023. At each of the approximately 204,315 highway-rail grade crossings there is a potential for a collision between a train and highway user. [9]

FRA has adopted a comprehensive approach to grade crossing safety that includes:

- rigorous oversight and analysis of grade crossing safety issues;
- greater stakeholder engagement and partnership with railroads, state and local governments, and law enforcement to pursue localized mitigation and prevention strategies tailored to the respective community or hazard;
- research and development, identification, evaluation, and implementation of the most effective low and high-tech solutions and operating practices; and
- infrastructure investments through FRA's grant programs—including the Consolidated Rail Infrastructure and Safety Improvements program and Railroad Crossing Elimination program—to construct highway-rail grade crossing improvements.

FRA continues to hold community townhalls and engage with railroads, state and local officials, and law enforcement to raise awareness and identify solutions to trespassing and grade crossing issues, including incidences of blocked crossings. In 2022-2023 FRA dedicated increased resources to improve operations and reduce blocked crossings in the Houston East Belt. The goal of this initiative was to 1) decrease the number of grade crossings blocked by standing trains, 2) eliminate occurrences of blocked "critical" crossings, 3) decrease the number of complaints, and 4) support innovative approaches and develop a scalable standard operating procedure for other blocked crossing hot spots around the

[9] At-Grade Railroad Crossings (*Public, Private, and Pedestrian).*

country. FRA also conducted townhalls and outreach with law enforcement and local officials in Martin, Saint Lucie, Indian River, and Brevard counties in Florida, where Brightline began passenger rail operations north from West Palm Beach to Orlando in September 2023 (operating at speeds over 100 MPH).

FRA has also found significant value in its new State Focus Inspections process that was launched in FY 2022. The Focus Inspections are collaborative efforts involving State DOTs, host railroads, and local public authorities to jointly inspect the most accident-prone crossings within the State. The teams address any Federal and State defects found and recommend actions that could be taken to increase grade crossing safety. Through FY 2023, FRA has completed Focus Inspections in California, Florida, Georgia, Illinois, Texas, and Washington; with all but Georgia and Washington undergoing two separate inspections. Examples of recommendations that have been generated from the Focus Inspections include improving lighting at crossings, providing fencing to direct pedestrians and improving sight distance, installing pedestrian treatments at crossings, and using pre-signal or queue-cutter signals for highway traffic. These inspections have also identified non-compliance with the Manual on Uniform Traffic Control Devices (MUTCD), which provides the national standard for all traffic control devices installed on any street, highway, or bicycle trail open to public travel. FRA intends to continue conducting these inspections in FY 2025.

FRA proposes to use FY 2025 S&O funding for the following efforts:

1. **Improve the functionality of grade crossing dashboards.** Building off of planned upgrades in FY 2024 to enhance the data processing and analytical capabilities of FRA's internal and public-facing grade crossing dashboards, FRA intends to centralize these tools in a single website/location to improve usability and access for customers.

2. **Consolidate data on humped crossings.** "Humped crossings" result when the elevation of the railroad track at a grade crossing is significantly higher than the elevation of the approaching roadway. This condition can cause motor vehicles with lower ground clearance—including large trucks, trailers, and school buses—to become stuck on the track. FRA will continue to partner with commercial trucking associations and trucking labor organizations to collect data regarding commercial vehicles encounters and risks at humped crossings. Additionally, FRA's Office of Research, Data and Innovation will provide new mapping data gathered through LIDAR instrumentation equipped to FRA's ATIP vehicles. This enhanced mapping data will allow grade crossing subject matter experts and contractor support to identify humped crossings against the more than 200,000 grade crossings contained in the U.S. DOT National Highway-Rail Crossing Inventory. The FRA will also use this information to inform outreach efforts to local public authorities to mandate appropriate humped crossing signage.

3. **Railroad Safety Drone Program**. FRA will establish a drone program to enhance its ability to gather information to improve grade crossing safety, while keeping FRA inspectors at a safe distance from high-traffic crossings. FRA intends to use the imagery provided by the drones to support grade crossing accident investigation and monitor pedestrian and motor vehicle traffic in high-risk areas. The program will certify grade

crossing inspectors as drone pilots, include the purchase of drones for each FRA district, and ensure that the data captured by the drones can be transferred for analysis to the FRA network.

Operation Lifesaver Funding

Operation Lifesaver, a non-profit rail safety organization that previously received funding under the S&O account, will now receive its annual grant funding through the Railroad Crossing Elimination program under changes proposed in the FY 2025 President's Budget. FRA proposes to set aside $2 million for Operation Lifesaver under the Railroad Crossing Elimination program, which would double the funding provided to Operation Lifesaver to help expand its critical public safety mission. In FY 2024, FRA is scheduled to complete an evaluation of the funding the agency provides to Operation Lifesaver to assess potential improvements to the program. The results of this evaluation will inform FRA's FY 2026 budget request.

Washington Union Station

FY 2023 Enacted: $1.49 million
FY 2024 Full Year CR: $1.49 million
FY 2025 President's Budget: $1.50 million

Under FRA's 99-year out-lease to the Union Station Redevelopment Corporation (USRC)—a private D.C. nonprofit corporation—USRC possesses, operates, and maintains Washington Union Station at its sole cost and expense. There are no Federal employees, or other Federal presence, at the station. However, as the Federal fee simple owner of Washington Union Station, FRA fulfills its statutorily required role as the Authority Having Jurisdiction (AHJ) at the Station ensuring compliance with applicable building design, construction, fire and life safety codes, standards, and guidance.

Historically in exercising its AHJ role, FRA limited the geographical scope of its oversight to the area of Washington Union Station leased to USRC under FRA's 1985 lease with USRC, and not the Federally owned area occupied by Amtrak. In 2021, FRA determined that in the interest of public safety, consistency of government oversight, and specifically the safety of railroad passengers and Amtrak employees, it would be prudent to exercise AHJ jurisdiction over all of the Washington Union Station complex owned by the Federal government. As such, FRA clarified its jurisdiction beyond the USRC leased area, and FRA's AHJ now covers all Amtrak projects within the Federal property. This decision increased the geographical scope and the projects subject to FRA AHJ review and approval.

FRA contracts to obtain the specialized knowledge to support its AHJ duties, including inspections of the station, review of design drawings and plans for new construction initiatives in such areas as structure, architectural, mechanical, plumbing, vertical transportation, electrical, and fire and life safety, responsibility for issuing permits to start construction, Certificate of Occupancy, and inspection of all repair work to ensure

compliance with applicable building, fire, and life safety codes. FRA's expanded AHJ jurisdiction necessitates additional funding to carry out its responsibilities.

Control of Drug and Alcohol Use
FY 2023 Enacted: $0.97 million
FY 2024 Full Year CR: $1.13 million
FY 2025 President's Budget: $1.20 million

FRA's Drug & Alcohol (D&A) testing program (49 CFR Part 219) currently covers more than 156,000 employees in the railroad industry. Most recently, FRA addressed a requirement in the *Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities Act (SUPPORT Act)* and reiterated in IIJA to amend Part 219 regulations to include railroad mechanical craft employees, adding another approximately 25,000 industry employees to FRA's testing program. FRA published the Final Rule adding mechanical employees on February 2, 2022, with an effective date of March 4, 2022.

FRA's challenge continues to be providing effective oversight of approximately 3,000 track construction and maintenance employers, as well as the approximately 700 railroads in the industry. These employers require FRA-approved policies and Part 219 triennial compliance reviews of their testing program. These compliance review reports are currently produced as flat Microsoft Word files and checklists that don't provide an archive of findings that can be queried and do not allow for effective analysis of the data. In response to recommendations from a 2020 DOT Office of Inspector General (OIG) report,[10] FRA is developing a systems approach and an IT system for tracking compliance reviews, but does not allow for rapid generation of reports, tracking of corrective actions, and the analysis of findings to target future reviews with an empirical risk-based approach.

FRA is aided in compliance reviews by the post-accident toxicological testing oversight contractor. FRA is gathering requirements to develop an effective report-generating, archiving, and data analysis product to support the D&A program.

Funding requested in FY 2025 will enable FRA to maintain the current baseline testing program and oversight activities.

[10] Department of Transportation Office of Inspector General, Oversight Weaknesses Limit FRA's Review, Approval, and Enforcement of Railroads' Drug and Alcohol Testing Programs, April 29, 2020.

Audit Management Program
FY 2023 Enacted: $0.23 million
FY 2024 Full Year CR: $0.23 million
FY 2025 President's Budget: $0.23 million

A longstanding cornerstone of FRA's oversight and enforcement processes is the agency's practice of conducting unannounced inspections of railroad property, equipment, and operations. 49 U.S.C. 20107 authorizes FRA personnel to conduct such safety inspections "at reasonable times and in a reasonable way." Generally, this means that FRA safety inspections may be conducted by FRA Office of Railroad Safety personnel (typically, railroad safety inspectors) at any time a railroad is operating or otherwise open for business, and FRA does not need to provide advance notice of its intent to inspect. Typically, inspections are geographically specific and involve an FRA inspector observing railroad operations or equipment, or reviewing railroad records, for a short period of time.

FRA performs safety audits when required by statute, regulation, or when the agency determines that a formalized review process of a particular safety issue or regulated entity is necessary. In contrast to FRA's inspections, audits are conducted more formally and require advance notice to the railroad, and are planned with a specific objective(s) to be achieved. Additionally, FRA audits are less frequent than inspections, and focus on reviewing a railroad's entire system or operation, or certain identified portions of those systems or operations. FRA audits may include a review of a railroad's records, processes, and procedures to identify root causes of deficiencies, which are recorded as audit findings. At the end of each audit, FRA documents its findings.

While FRA is not exclusively an auditing organization, the agency strives to adhere to the Generally Accepted Government Auditing Standards (GAGAS) as much as possible. Proposed funding will support FRA's Audit Management Division in obtaining contractor resources to (1) develop and conduct audit training for positions that will perform audits or assist with the audit process, (2) develop, maintain, and improve tools and systems to coordinate, support, and evaluate the audit management program, and (3) to ensure ongoing quality assurance of all audits conducted by the FRA.

What benefits will be provided to the American public through this request and why is this program necessary?

FRA's safety programs provide tangible safety and operational benefits to the American public and railroad industry by supporting the nation's economic productivity and ensuring the safety of its passenger and freight mobility needs. The FY 2025 President's Budget continues to target FRA's resources at the most pressing rail safety issues.

Preventing trespassing on railroad property and increasing safety at grade crossings. Preventing trespassing and increasing grade crossing safety will not only reduce the number of fatalities but will also improve the efficiency of the transportation network. Trespassing and grade crossing collisions are the two leading causes of rail-related fatalities accounted for more

than 960 deaths in FY 2023. Each of the approximately 204,315 at-grade highway-rail grade crossings in the United States presents the potential for a collision between a train and highway user. Incidents of trespassing, trespassing suicide, and grade crossing collisions are not only railroad and public safety issues, but also potential markers of inequity in our transportation system and land-use planning policies. The FY 2025 President's Budget supports a comprehensive approach to addressing these leading causes of rail casualties through safety regulation and enforcement, data analysis, infrastructure improvements, and investments in community outreach and social services.

Protecting passengers and railroad crews transported on the nation's railroads. An important new effort for FRA and the railroad industry is the implementation of Safety Management Systems through 49 CFR 270 and 49 CFR 271 regulations, encompassing the Risk Reduction Program (freight), System Safety Program (passenger), and Fatigue Risk Management Program (both freight and passenger). As described previously, these new rules bring a proven, proactive and systematic approach to actively promote continuous safety improvement and improve safety culture. Each railroad has three years from the date of FRA's plan approval to fully implement its RRP and SSP programs, meaning all Class I freight railroads and passenger railroads will be fully implemented by the end of 2025. FRA plans to begin auditing RRP/SSP implementation plans in FY 2024. FRA is also working with the American Short Line and Regional Railroad Association to draft an RRP plan template that could be used by Class II and Class III freight railroads found to have inadequate safety performance.

Ensuring railroads operate safely to support economic productivity and meet passenger and freight mobility needs. FRA will remain diligent and examine new approaches to advance continuous safety improvement and make rail transportation as safe as possible.

Monitoring operations and providing technical assistance in support of the most important rail safety technology development in more than 100 years to improve system performance. PTC systems are life-saving technology that prevent certain railroad-related accidents and near accidents.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

RAILROAD RESEARCH AND DEVELOPMENT APPROPRIATIONS LANGUAGE

RAILROAD RESEARCH AND DEVELOPMENT

For necessary expenses for railroad research and development, [$44,000,000]*$52,000,000,* to remain available until expended: *Provided*, That of the amounts provided under this heading, up to $3,000,000 shall be available pursuant to section 20108(d) of title 49, United States Code, for the construction, alteration, and repair of buildings and improvements at the Transportation Technology Center.

EXHIBIT III-1
RAILROAD RESEARCH AND DEVELOPMENT
Summary by Program Activity
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

	FY 2023 ENACTED	FY 2024 FULL YEAR CR	FY 2025 PRES. BUDGET
Track	$ 9,859	$ 9,859	$ 11,750
Rolling Stock	$ 8,922	$ 8,922	$ 10,150
Train Control and Communication	$ 6,586	$ 6,586	$ 7,250
Human Factors	$ 5,762	$ 5,762	$ 6,450
Railroad Systems Issues	$ 12,871	$ 12,871	$ 16,400
TOTAL	$ 44,000	$ 44,000	$ 52,000
FTEs			
Direct Funded	0	0	0

Program and Performance Statement

FRA's Research and Development (R&D) Program is focused on improving railroad safety. It provides scientific and engineering support for the agency's safety enforcement and regulatory rulemaking efforts. The program also identifies and develops emerging technologies for the rail industry to voluntarily adopt. The outcomes of the program's work are reduced railroad accidents and incidents. The program also supports intercity passenger rail development by providing technical assistance, equipment specifications, proposal evaluations, and Buy America compliance research. The focus of FRA's program is to fill the gaps in research not taken on by industry itself, and to partner with industry to leverage private R&D investment in a manner that ensures broader public safety benefits are achieved.

In addition to improving safety, the program contributes significantly toward activities to achieve and maintain a state-of-good-repair, develop the rail industry's workforce, combat climate change, and grow the economy.

The program has the following areas of research:

- **Track Research Program –** Reducing derailments due to track-related causes.
- **Rolling Stock Research Program –** Reducing derailments due to equipment failures, minimizing the consequences of derailments, and minimizing hazardous material (HazMat) releases.

- **Train Control and Communication Research Program –** Reducing train-to-train collisions and train collisions with objects on the line and at grade crossings.
- **Human Factors Research Program –** Reducing accidents caused by human error and optimizing human performance in railroad operations.
- **Railroad Systems Issues Research Program –** Prioritizing R&D projects on the basis of relevance to safety risk reduction, climate change and energy efficiency, equity, and other DOT goals.

EXHIBIT III-1a
RAILROAD RESEARCH AND DEVELOPMENT
SUMMARY ANALYSIS OF CHANGE FROM FY 2024 TO FY 2025
Appropriations, Obligations, Limitations, and Exempt Obligations
($000)

	$000	**FTE**
	-	-
FY 2024 FULL YEAR CR	$44,000	0
	-	-
ADJUSTMENTS TO BASE:		
Non-Pay Inflation	879	0
SUBTOTAL, ADJUSTMENTS TO BASE	**879**	**0**
PROGRAM INCREASES		
Track	1,694	0
Rolling Stock	1,050	0
Train Control and Communication	532	0
Human Factors	573	0
Railroad Systems Issues	3,272	0
SUBTOTAL, PROGRAM INCREASES	**7,121**	**0**
TOTAL	**52,000**	**0**

Detailed Justification for the Railroad Research and Development

FY 2025 – Railroad Research and Development – Budget Request ($000)

Program Activity	FY 2023 Enacted	FY 2024 Full Year CR	FY 2025 President's Budget
Track	$9,859	$9,859	$11,750
Rolling Stock	$8,922	$8,922	$10,150
Train Control and Communication	$6,586	$6,586	$7,250
Human Factors	$5,762	$5,762	$6,450
Railroad Systems Issues	$12,871	$12,871	$16,400
Total	**$44,000**	**$44,000**	**$52,000**
FTE	**0**	**0**	**0**

What is this program and what does this funding level support?

The mission of FRA's R&D program is to ensure the safe, reliable, and efficient movement of people and goods by rail through applied research. The program aligns closely with the Department's key transportation priorities for FY 2024:

- **Safety:** FRA's R&D core program focus remains safety improvement, including providing the scientific and engineering basis for safety enforcement, oversight, and regulation.
- **Economic Strength and Global Competitiveness:** FRA R&D will advance the transformation of the rail infrastructure into a 21st century system that accelerates equitable economic growth and increases global competitiveness.
- **Equity:** FRA's R&D program will continue to invest in rail technologies that increase engagement opportunities for underserved communities. R&D will continue initiatives and programs to address diversity, equity, and inclusion within the railroad industry and by working with minority-serving institutions (MSIs) and supporting the newly proposed National Railroad Institute.
- **Climate and Sustainability:** FRA's R&D program will undertake research that will investigate the efficacy of clean energy and advanced motive power technologies to improve energy efficiency and reduce emissions in rail transportation.

- **Transformation:** Historically, FRA's R&D program has invented new technologies that transformed railroad safety inspection, passenger rail crashworthiness, and operating practices, among other innovations. The FY 2025 President's Budget continues investment in the next generation of innovative technologies that will future-proof rail infrastructure as safe, equitable, and long-lasting transportation.

Work undertaken in R&D contributes to today's safety performance. R&D projects typically follow one of the following paths to implementation:

1. **Voluntary Industry Adoption:** FRA R&D performs higher-risk and longer-term projects, which private industry would not otherwise undertake, to develop advanced technologies and practices. In many cases, industry voluntarily adopts these safety practices and technology.
2. **Enforcement:** FRA R&D creates new technology for efficient and effective oversight of railroad compliance with safety regulations.
3. **Regulation:** FRA R&D develops the scientific and engineering foundation for regulatory actions to ensure safety.
4. **Incorporation into Industry Standards and Recommended Practices:** The results of FRA research are often used to develop, modify, or update relevant industry standards and achieve safety benefits. These include standards created by the American Public Transportation Association (APTA) and the Association of American Railroads (AAR).

In carrying out the agency's R&D priorities, FRA consults and collaborates with a wide range of strategic partners, including: railroad labor organizations; industry associations such as the AAR, the American Short Line and Regional Railroad Association, and APTA; individual freight and passenger railroads; universities; other DOT modal administrations, such as the Pipeline and Hazardous Materials Safety Administration (PHMSA) and the Maritime Administration; and other railroad industry manufacturing, supply, and safety organizations.

FRA's R&D program is organized around the following five rail safety disciplines:

- **Track Research Program:**
  - Track and structures performance, inspection technology and processes, and substructure assessment
  - Rail integrity assessment and defect detection technologies
  - System performance and analysis, including predictive analytics
  - Track and train interaction, including wheel-rail interface, vehicle track modeling, simulation and validation
- **Rolling Stock Research Program:**
  - Rolling stock and components, onboard and wayside monitoring systems, and material and design improvements
  - HazMat transportation risk reduction, tank car damage assessment, inspection, and integrity
  - Safety research on energy efficiency technologies

- Clean fuel and cryogenic materials research
- Train occupant protection; locomotive and passenger car safety and performance

- **Train Control and Communication Research Program:**
  - Continued support and enhancements of existing Positive Train Control (PTC) technologies
  - Development and testing of Next Generation Train Control
  - Interoperability standards
  - Communication cybersecurity
  - Automation and automated vehicle research
  - Drone-based technology research
  - Train control and grade crossing risk simulation and modeling
  - Grade crossing safety technologies and pilot studies, including Intelligent Rail Systems (IRS), blocked crossings, and trespass prevention
  - Development and testing of train control and communication systems
- **Human Factors Research Program:**
  - Railroad organizational culture and safety performance
  - Railroad worker and operator performance
  - Railroad technology, automation and systems design
  - Highway-railroad grade crossings, railroad trespass and suicide prevention
- **Railroad System Issues Research Program:**
  - Railroad environmental issues and energy efficiency research
  - Railroad industry workforce development (WFD) research
  - Research, Development, and Technology (RD&T) research strategy
  - Safety risk analysis and performance-based regulations
  - Research prioritization
  - Strategic collaborations and partnerships
  - Locomotive safety
  - Rail Safety Innovations Deserving Exploratory Analysis (IDEA) program grants with the Transportation Research Board (TRB)
  - Technology Transfer (T2)
  - Facilities at the Transportation Technology Center (TTC)

The FY 2025 President's Budget includes $52 million for FRA's R&D program, which represents an $8 million increase over the FY 2023 enacted amount of $44 million. In addition to the R&D program's core safety research functions, the FY 2025 President's Budget includes

funding for the following Infrastructure Investment and Jobs Act (IIJA) requirements and Biden-Harris Administration priorities:

- **Climate and Resilience –** $5 million in new resources is requested to advance research, development, and testing of clean energy solutions that will build on rail's competitive advantage in energy efficiency and contribute to reductions in the transportation sector's greenhouse gas emissions.
- **Workforce Development and Equity –** $1 million for WFD activities and research topics to better understand and improve racial, gender, and LGBTQ+ diversity, equity, and inclusion in the railroad industry.
- **Rail Research and Development Center of Excellence –** $2.5 million is requested for grants to institutions of higher education to establish and maintain a rail R&D center of excellence, as authorized by IIJA. The Center will carry out projects to advance a wide array of railroad safety, operational, and workforce improvements.
- **TTC Construction –** $3 million is requested for critical repairs and improvements at FRA's TTC facility in Pueblo, Colorado, as authorized by IIJA. This work is associated with FRA's responsibility to ensure the site can continue to support the valuable rail safety research, testing, and training conducted at the facility (also including first responder training conducted at the facility). The FY 2025 President's Budget also requests an additional $1 million funding increase to conduct site planning and design activities necessary to develop a joint FRA-Transportation Security Administration training facility at TTC to improve the hands-on and classroom training provided to each agency's respective inspectors and other safety / security personnel.

TRACK RESEARCH PROGRAM

The FY 2025 President's Budget includes $11.75 million for the Track Research Program.

The number of accidents due to track-related causes decreased by nearly 20 percent from 2014 to 2023. This reduction is due, in part, to the industry's adoption of advances developed by FRA, such as:

- New or improved inspection technologies
- Improved maintenance methods and models for predicting maintenance needs
- Better understanding of track component failures
- Rigorous performance criteria for the acceptance of new passenger equipment

While substantial improvements have been made in track safety over the last decade, track-caused derailments still resulted in 387 reportable accidents and over $103 million in damages in 2022.

The Track Program drives research that improves the safety and state-of-good-repair of railroad track. This work helps ensure U.S. railway track and structures can meet the Nation's transportation needs – today and in the future. It focuses on reducing track-caused derailments

by improving the industry's technical understanding and by applying advanced analyses and technologies in innovative yet practical ways.

The Track Program has four broad objectives:

- Understand the root causes of track-related derailments and develop ways to prevent these derailments.
- Improve how the FRA and the industry inspects track and structures.
- Improve how FRA and the industry assess safety risk for track.
- Develop a more productive, knowledgeable, and capable workforce.

The Track Program contributes to nearly all DOT's Strategic Goals. It provides a significant societal impact by ensuring U.S. railway track and structures are safe, minimizing the risk of derailments which affect the environment and public. This advances FRA and DOT progress toward Safety goals since track issues are the third-leading cause of derailments. It also helps achieve the Economic Strength and Global Competitiveness goal by clarifying the minimum state-of-good-repair needed for a robust supply chain and safe, efficient passenger rail service. It contributes both economic and environmental benefits by increasing the life of track components and promoting safer and faster passenger rail, thus addressing the Climate and Sustainability goal. Finally, it makes major advances toward Transformation – in the development of the next generation of railroad operations.

Anticipated FY 2024 accomplishments for the Track Program:

- Evaluate several new 3D rail flaw imaging technologies to better locate and size internal rail defects.
- Field-test new non-contact technologies to detect internal rail flaws.
- Generate data and knowledge on defect growth inside rail welds – a frequent point of failure.
- Develop and test thermite welding systems and a novel weld inspection technology.
- Complete pilot tests to research and develop automated track change detection technology.
- Develop self-enunciating technologies for critical track performance issues, including ballast condition, train dynamics on and around grade crossings, and other areas with varying vertical stiffness.
- Field-test strategies to mitigate broken spike failures, in cooperation with rail operators and the supply industry.
- Complete the development of technologies to capture and report bridge strikes, and determine the magnitude of such impacts.
- Develop continuous monitoring technologies to assess the state of repair of special track work using advanced fiber optics and wireless communications technologies.
- Complete the development of algorithms that allow unmanned aerial vehicles (UAV) to self-navigate along the track centerline.

- Continue evaluating innovative technologies to directly measure rail force without a reference.
- Continue research to better understand track buckling and rail destressing parameters.
- Initiate projects to create a proxy measurement for buckling risk on track, since direct measurement of this risk is not currently possible.
- Complete research as to what extent technologies, such as ground penetrating radar and vertical track deflection measurement, provide actionable information for track maintenance.
- Finish a multi-phase effort to develop an intelligent, risk-based prediction framework that uses multiple types of track-related data sources.
- Complete a collaborative effort with the Federal Highway Administration (FHWA) to develop an AI-based highway-rail grade crossing inspection system.
- Continue to evaluate advanced forecasting models that can better predict changes to track geometry parameters.
- Continue to evaluate both statistical and physics-based models for predicting broken rails due to internal defects.
- Develop more ways to use locomotive-based, forward-facing video streams to inspect track.
- Continue research to improve the wheel and rail contact modules used in vehicle modeling simulations.
- Develop validated rail vehicle models that can be used to examine track geometry exceptions limits proposed for the Track Safety Standards.
- Continue to support the evaluation and qualification of high-speed vehicles.

Track Research Activities and Expected Outcomes

The Track Research Program anticipates that all the work done in the Derailment Prevention program area will employ the same strategies for advancing this research. Thus, the activities for the Derailment Mechanisms and Component Failures research areas are very similar. Further, nearly every one of the division's research initiatives employs AI, machine-learning, or other advanced analytical techniques.

Derailment Prevention – Derailment Mechanisms

This research focuses on preventing derailments caused by gage rupture, rail rollover, track buckling, and wheel climb. It seeks to identify the locations at most risk for these types of accidents and recommends changes in track construction, maintenance practices, and inspection strategies to remediate these risks.

Activities:

Anticipated activities for each derailment mechanism may include:

- Perform experiments and develop innovative technologies that can determine and measure the variables that most affect track strength.
- Quantify how quickly track strength degrades as a function of both environmental conditions and train traffic.
- Perform tests, develop instrumentation, and use advanced analytical techniques to characterize the loads being applied to the track and explore ways to reduce those loads.
- Determine an appropriate fitness for service threshold that provides the optimum state-of-good-repair.

Expected Outcomes:

Outcomes for each derailment mechanism may include:

- A better understanding of the key variables and new intelligent inspection systems capable of reliably measuring those variables.
- New test beds able to support continued experimentation and promote workforce development through hands-on exposure.
- Recommendations for the most effective maintenance and inspection strategies, including criteria for more flexible yet less risky non-destructive inspection intervals
- Safer track infrastructure that is more resilient to both changing climate conditions and increased use.
- Potential regulatory changes

Derailment Prevention – Component Failures

This research focuses on preventing derailments resulting from the failure of track components such as rail failure, roadbed, special track work, and bridges. It seeks to identify the locations most at risk for each failure type and recommend changes to manufacturing and construction techniques, maintenance practices, and inspection strategies to prevent these failures.

Activities:

Anticipated activities for each type of component failure may include:

- Perform experiments and develop new, innovative technologies that can determine and measure the variables that most affect a component's strength.
- Quantify how quickly the strength of the component degrades as a function of both environmental conditions and train traffic.
- Perform tests, develop instrumentation, and use advanced analytical techniques to characterize the loads being applied to the component and explore ways to reduce those loads.
- Determine an appropriate fitness for service threshold that provides the optimum state-of-good-repair.

Expected Outcomes:

Outcomes for each type of component failure may include:

- A better understanding of the key variables and new intelligent inspection systems capable of reliably measuring those variables.
- New test beds able to support continued experimentation.
- Recommendations for the most effective maintenance and inspection strategies, including criteria for more flexible yet less risky non-destructive inspection intervals
- Safer track infrastructure that is more resilient to both changing climate conditions and increased use.
- Potential regulatory changes

Risk Assessment and Predictive Intelligence – Technology Performance Assessment

This research focuses on developing ways to assess how well intelligent inspection systems, including AI- and machine-learning-based instrumentation, can reliably detect track issues. It will also attempt to identify the most appropriate use cases for these intelligent inspection systems and conduct field demonstrations.

Anticipated Activities:

- Develop the test beds and physical or software simulations needed to advance system evaluations using Model Assisted Probability of Detection.
- Validate the false positive rate for intelligent inspection systems in real-world test environments.
- Identify the best use cases for different intelligent inspection systems and conduct pilot programs to promote their use.

Expected Outcomes:

- A better understanding of what track issues an intelligent inspection system can find and what – if any – limitations these systems have.
- Research facilities and data that are available for industry to continue to refine these systems
- More rapid industry adoption of intelligent inspection systems
- Potential regulatory changes

Risk Assessment and Predictive Intelligence – Risk Analysis

This research focuses on using the information gathered in the Intelligent System Assessment research initiatives to develop frameworks that predict how the risk of an accident changes as inspection methods and frequencies are changed or combined.

Anticipated Activities:

- Continue refining the Bayesian probabilities used in the initial predictive frameworks as new test and inspection data is gathered.
- Explore additional predictive frameworks.
- Explore how risk changes with variables such as track class, railroad size, geography, etc.
- Explore how the predictive frameworks can inform the scheduling of FRA's Automated Track Inspection Program (ATIP) surveys and manual inspections.

Expected Outcomes:

- A software tool that FRA's Office of Railroad Safety (RRS) can use to evaluate the potential safety consequences of waiver requests involving changes to track inspections and geometry parameter thresholds
- A more comprehensive inspection planning tool for RRS.
- Potential regulatory changes

Research Support – Field Testing and Technical Expertise

This research focuses on using or improving the research capabilities of FRA assets such as the ATIP fleet and TTC to support RD&T initiatives.

Activities:

- Support RD&T's and other FRA offices' use of FRA's ATIP cars for research activities.
- Support on-track testing for TTC research.

Expected Outcomes:

- Data collection and testing in real-world environments
- Industry exposure to new processes and technologies

ROLLING STOCK PROGRAM

The FY 2025 President's Budget includes $10.15 million for the Rolling Stock Research Program (RS). The number of accidents due to rolling stock-related causes decreased by 9 percent from 2014 to 2023.

The program performs research that promotes rail safety, improves rail infrastructure and the mobility of goods and passengers, and helps preserve the environment. RS conducts research to reduce railroad accidents and incidents due to rail equipment-related causes as well as research to reduce fatalities and injury severity to passengers and crew involved in passenger train accidents and incidents. RS leads research, development, and evaluation of advanced rolling stock inspection techniques, materials, and components. HazMat research focuses on improving transportation processes to enhance safety and reduce the risk of transporting hazardous materials, the safe use of clean energy, and new engine and energy-saving technologies that focus on preserving the environment. RS produces solutions contributing to all DOT strategic goals: Safety, Economic Strength and Global Competitiveness, Equity, Climate and Sustainability, and Transformation.

RS research helps determine criticality and methods for proactively identifying, analyzing, and evaluating potential failure modes. RS applied research is conducted to test concepts and further the understanding of safety problems causing accidents and incidents. Research topics that provide deeper understanding of technology, systems, practices or standards may lead to the development and testing of a prototype solution and demonstration with industry.

The Rolling Stock Research Program helps mitigate potential risks of unexpected failures occurring in rolling stock that can cause delays and disruptions to transport services or even result in derailment or collision accidents by:

- Continuing research and testing pertaining to bulk packaging traveling by rail, such as tank cars, rail cars, and intermodal tanks.
- Improving the understanding of hazards levels of materials to be considered for rail transport.
- Providing engineering support in the research, design, fabrication, and test planning of ISO intermodal containers, tank car fire testing, and the structural performance of this equipment when used as fuel tenders and energy products as commodity transport.
- Improving defect detection, monitoring, inspection, and control of rolling stock equipment and components to help reduce risks through the prevention of above-track equipment and component failures to improve safety and reduce risks.
- Developing and demonstrating the effectiveness of designs, strategies, and technology solutions that address the structural integrity of locomotives and passenger cars – to decrease the risk of fatalities and injuries in the event of accidents.

Anticipated FY 2024 accomplishments for the Rolling Stock Research Program include:

- Provide DOT with information on the survivability of transportation vessels under fire conditions in case of a train derailment accident.

- Determine tank car behavior and failure modes under normal transportation, and provide a foundation for modifying, eliminating, or creating standards by leading research and capturing the results.
- Provide realistic fire exposure scenarios to the test assembly (tank on flatcar) and make several key measurements, including interior and external temperatures, tank pressure, blast pressure (if applicable), and heat flux.
- Identify possible studies to address defects that affect the structural integrity of safety equipment and packages and projects that can be proactive for existing and future safety equipment and packages.
- Provide additional information on the performance and durability of safety equipment for tank cars and portable tanks – so DOT has the required information to justify, modify, eliminate, and create safety standards.
- Increase understanding of how failures occur and how to best prevent or manage the consequences of such failures through improved equipment design and protection and evaluate and document the damage to railroad tank cars.
- Increase understanding of the structural performance of cryogenic liquid tenders and tank cars that can transport cryogenic liquid.
- Further develop an online HazMat release probabilistic risk assessment platform for real-time, local, track risk analysis.
- Perform a grade crossing impact test of a cryogenic liquid tender and develop documents for the RRS on natural gas fuel usage by the Nation's railroads.
- Design, develop, and demonstrate prototypes of effective wayside and onboard technologies that can provide component health monitoring and increase understanding of equipment failure mechanisms and facilitate mitigation to reduce public safety risks.
- Develop a system to power advanced detection devices (technologies to detect defects on rolling stock equipment and preventable failures) and an explanation of wheel fatigue to help mitigate wheel failure.
- Improve inspection of hot/cold wheels, preventive maintenance of air brake systems, train braking performance, and operational safety; reduce risks from air brake-related incidents.
- Quantify the effects of tread braking on wheel damage mechanisms and fatigue life, develop and conduct vehicle dynamics simulations, and demonstrate results that could be used by industry and universities.
- Conduct simulations to improve the safety of train operations and improve the network topology to have the topological structure to offer robustness, resiliency, efficiency, and effectiveness.
- Further validate scaling laws for modeling and simulation of railcar fire growth predictions; produce a list of toxicity measurement methods and final recommendations and reporting on performance of diesel multiple units (DMU) under dynamic loads.

- Identify modern effective evacuation modeling tools for rail applications and develop a plan for integration of evacuation simulation tool and fire dynamics models.
- Improve the crash energy management (CEM) capabilities of existing (in-service) passenger equipment through cost-effective adaptations and retrofit technology and industry standards related to passenger car safety based on engineering-derived research.
- Evaluate results from vehicle-to-vehicle tests with respect to override inhibition.
- Develop technical reports on side strength alternatives and implications/impacts of potential changes to the existing FRA requirements on the effectiveness of retrofit collision posts on the crashworthiness of legacy locomotives.
- Research and testing on the means to improve the integrity of glazing (window) securement will be available, which will provide insight on ways to improve passenger containment in train accidents in which cars derail, roll over, and slide on their sides.
- Present findings on the means to improve the integrity of glazing (window) securement to the passenger railcar manufacturing industry for its consideration in the development of new passenger car glazing system designs.

HazMat Transportation

This research program focuses on improving the safety of hazardous materials transport by rail, conducted in cooperation with the railroad and tank car industry, PHMSA and Transport Canada. This program seeks to develop new standards and methodologies to evaluate the safety and performance of current and new tank car designs used to transport hazardous materials.

HazMat – Tank Car Research

This research develops and improves the packages that carry hazardous materials, helping to reduce HazMat releases during rail accidents and incidents.

Activities:

- Conduct additional research on developing and improving packages that carry HazMat to reduce its release and minimize the consequences during rail accidents and incidents.
- Conduct research on nondestructive evaluation (NDE) probability of detection (POD) with the tank car industry and stakeholders, and identify the capabilities/limitations of new and advanced NDE methods for tank car inspections.
- Conduct research on the effects of corrosion on railroad tank car structures and the potential use of state-of-the-art NDE methodologies for remaining tank car shell thickness measurement.
- Gather information on the newer types of tank cars and the common failure modes and determine if newer weld test panels are needed for future POD studies.

- Conduct research on tank car impacts; develop and improve test methods; provide data for improving modeling methods, design, and construct test fixtures; and prepare and test various tank car designs.
- Research efforts to analyze and provide the data to validate finite element analysis models and report on test and model results.
- Conduct research on the analysis of collected impact test data to arrive at limiting conditions for coupling speed and impacting mass.

Expected Outcomes:

- Improve the computer model and update current regulations on thermal protection.
- Update computer model to include cryogenic tank cars.

HazMat – Structural Integrity

The goal of this project is to understand the performance and durability of safety equipment and protective systems for tank cars and portable tanks. This research area focuses on the current fleet, identifying problems with equipment and packages.

Activities:

- Research efforts to evaluate puncture resistance of various tank cars of the DOT 113 design in standardized shell impact scenarios, examining effects of parameters such as support conditions, impactor size, etc., on shell puncture.
- Develop computational models of tank car designs under impact conditions and compare test data with model results to validate models.
- Develop design strategies for improving the structural crashworthiness of passenger railcars relative to existing designs.
- Develop specifications, regulations, and evaluations of compliance with FRA regulations.

Expected Outcomes:

- Improve the performance of pressure relief devices.
- Improve the rollover protection for new tank cars.

HazMat – Accident Consequence Reduction

This research will study HazMat loading and unloading practices to improve operating practices and the securement of packages for safer transportation and reducing non-accident releases.

Activities:

- Evaluate the performance of top fittings protection used on current tank car designs, particularly those used in unit trains carrying flammable materials under rollover conditions.

Expected Outcomes:

- A better understanding of how failures occur and how to best prevent or manage the consequences of such failures through improved equipment design and protection.
- Help FRA evaluate and document damage to railroad tank cars and study and capture the results of the liquid/vapor release flow on pressure relief.
- Understand the tensile properties of different steel used on the fabrication of tank cars.

Rolling Stock Equipment and Components (RSEC)

Research efforts in the RSEC program area focus on the development and improvement of equipment defect detection and control. Both wayside and on-board detection and control systems offer diverse platforms for such research and demonstration.

RSEC – Rolling Stock Component Safety

The goal is to proactively prevent above-track equipment and component failures (e.g., situational hazard prevention), and provide the analytical and technical basis to develop equipment safety standards while also improving safety, reliability, and inspectability of rail equipment, technologies, and material.

Activities:

- Research train makeup, train operations, and train handling developments to address air brake signal propagation time, the impact on application and release, air brake system leakage on long trains, and brake pipe pressure on cars near the tail end of trains.
- Research high buff and draft forces under undulating territories, train handling of 200-car trains or longer, and individual car dynamic behavior and safety during curve negotiation.
- Identify brake systems that are not functioning properly by detecting wheels that are inappropriately hot or cold, and assess the implementation of wheel temperature detector technology and its effectiveness in improving the safety of train operations and the detection of air brake system defects on moving trains.
- Continue research to reduce wheel failures, including the causes of vertical split rims and shattered rims, in collaboration with industry.
- Continue research on evaluating current failure modes and characteristics as well as future steps to minimize contributions to failures.
- Continue to research the effects of contact pressure, slip ratio, lubrication, and temperature on the development of rolling contact fatigue cracks and wear of railway wheels and investigate how temperature at the wheel-rail interface can affect wheel surface performance.
- Research, design, prototype, and test an electrical power supply system (EPSS) DC access/battery charger that provides a standard 24 volts DC interface to safety and security devices where desired.

- Using the power system to be developed above, develop sensors which can be applied to railcars to enable real-time monitoring of safety-critical components such as bearings and brake systems and warnings to railroad operators of unfavorable trends in component characteristics.
- Continue research to design and build a three-car test rack for studying the selected prototype ecosystem platform, and use the EPSS test rack to minimize build costs and for in-lab testing/development.
- Continue research to initiate the development and acceptance of AAR interchange specifications/standards for an electrical power supply, an electrical hand brake, and the subject ecosystem platform.
- Continue research to promote development of a draft performance specification template for AAR review.
- Continue research to optimize the controller/motor interface design and efficiency and implement an improved means for the feedback of chain load communications and the control of application and release functions.

Expected Outcomes:

- Research, development, and T2 of components and systems that reduce the risk of rail incidents and accidents and increase the safety of the Nation's rail transportation network.
- Reduce the likelihood of derailments from equipment failures and mitigate the consequences should derailments occur through these or other causes. Strategic priorities include investigating the effectiveness of wayside and onboard monitoring systems to detect equipment defects and analyzing the component failure modes to identify necessary improvements in materials and construction methods.
- Design, develop, and demonstrate prototypes of effective wayside and onboard technologies that can provide component health monitoring.
- Increase understanding of equipment failure mechanisms and facilitate mitigation to reduce public safety risks.
- Improved technology for real-time on-board component health monitoring which can be field-tested at the Transportation Technology Center under a range of operating conditions.

RSEC – Rolling Stock Maintenance and Inspection

The focus of this research is to evaluate and demonstrate the effectiveness and efficiency of automated inspection and maintenance procedures and equipment. Demonstrate the ability to develop, monitor, control, and evaluate integrated advanced components to detect defects in real time, predict and prevent future failures, improve rolling stock capabilities and performance, and improve overall rail operational safety. Developing a system for powering many advanced detection devices on freight trains will increase safety and security and improve the efficiency of freight railroad operations. Technologies developed to detect defects

on rolling stock equipment, and predict future failures that may be prevented, will substantially improve railroad safety. These investments keep the U.S. rail sector growing and improving to keep up with the latest efficiency and safety standards. In response to the East Palestine, OH derailment on February 3, 2023, FRA is proposing to conduct additional research on wayside detection technologies and methods in FY 2025.

Benefits of this research include improved safety requirements, lower operating costs, fewer accidents and fatalities, longer equipment service life, and increased safety, security, and efficiency of freight railroad operations.

Activities:

- Partner with Canadian National Railway (CN) and ENSCO to develop and conduct field testing of an autonomous train air leak detection system at TTC.
- Conduct feasibility study to identify the capabilities or limitations of acoustic sensors in a real-world environment.
- Partner with Metro-North Railroad, Long Island Rail Road, and New York & Atlantic Railway to continue research to capture best practices with pilot demonstrations of wayside technology systems to detect defects and precursors to safety-critical defects in railroad rolling stock.
- Perform a detection threshold analysis to help railroads establish action triggers for inspection or alarm emergency level actions for wayside devices. Review best practices for implementation and revise the Wayside Implementation Guide.
- Continue research to investigate the current state of train line system, assist involved organizations with development of a digital train line (DTL), and explore wireless extensions to DTL.
- Continue research to work closely with the Next Generation Equipment Committee, AAR, the American Association of State Highway and Transportation Officials, and Amtrak, among others.

Expected Outcomes:

- Detailed analysis of broken axles trends and causes, and recommendations to eliminate or mitigate their hazards.

RSEC – Train Handling and Operating Practices

This research will develop simulation scenarios and field testing to evaluate various train-handling and operating practices. This includes expansion of knowledge regarding train makeup and topography. This research will also produce further refinement of the train simulation software used by the federal government and railroad industry.

This research will follow up on recent research regarding conventional braking systems and train dynamics for very long trains (VLTs) by including additional instrumented train testing and incorporating performance parameters into modeling software. FRA's multi-phase study of VLT braking and train dynamics will be completed in FY 2024. Additionally, the National

Academies of Science is scheduled to release their independent study on the operation and safety of trains longer than 7,500 feet in 2024.

Activities:

- Devise scenarios to conduct research of train dynamics present in various train configurations.
- Update train energy and dynamics software to incorporate recent observations of train performance.

Expected Outcomes:

- Refinements to train simulation tools for evaluating expected train performance and applicability for post incident/accident/derailment investigations.
- Expanded knowledge of observed in-train forces present for train consists under motion.

Train Occupant Protection (TOP)

Research in this area will develop improved strategies and designs for rail rolling stock to reduce injuries and fatalities resulting from rail accidents (i.e., collisions and derailments).

TOP – Locomotive Crashworthiness and Occupant Protection

FRA continues to invest in this research to support its missions of improved safety, performance, and mitigation of the consequences of collisions and derailments that cause injury and loss of life. Crashworthiness and occupant protection continue to be major safety issues, as evidenced by several high-profile collisions and derailments that have occurred over the last decade.

Activities:

- Develop strategies for improved passenger railcar occupant protection, including the conduct of full-scale testing to develop data to corroborate current FRA regulations related to the crash pulse used to evaluate the attachment strength of railcar components.
- Assess the deceleration environment to which passenger car occupants in wheeled mobility devices (WhMDs) are exposed and the efficacy of various means to secure these devices in passenger trains. Results from full-scale testing analytical models validated with those results will be used to evaluate safety performance under conditions for which actual testing was not performed.
- Use novel collision analyses and simulation techniques along with collision evaluation criteria to objectively assess the adequacy or potential shortcomings of existing modern locomotive crashworthiness requirements.

Expected Outcomes:

- Improving the CEM capabilities of existing (in-service) passenger and critical HazMat equipment through cost-effective adaptations and retrofit technology.

- The re-evaluation activities described above will take advantage of more sophisticated modeling capabilities which exist, and then apply them to the structural analyses of alternative passenger equipment designs. Outcomes will be technical data which can inform potential improvements to existing safety standards.
- Improved rail safety and railroad operational efficiency
- Results from train-to-train tests will inform possible development of revised regulations or industry standards related to locomotive crashworthiness and standards for containment strategies for occupants in WhMDs to reduce the severity of the secondary impact velocity to which they are exposed in collision accidents.
- Provide results of testing of legacy locomotive collision post retrofit to industry to foster adoption of the approach to improved locomotive crashworthiness.
- Provide results from passenger car side structure engineering analyses to RRS as its response to the National Transportation Safety Board (NTSB) recommendation on this matter.

TOP – Glazing Standards

In the last 52 years, at least 27 fatalities have been attributed to ejection through railcar window openings during passenger train accidents. The research in this area will comprehensively describe all the engineering requirements placed on glazing systems, survey existing glazing system design strategies used throughout the world, and assess the effectiveness of these designs in meeting all of the engineering requirements. In addition to functioning as a window, glazing systems are also expected to be impact- and fire-resistant, and provide emergency egress, emergency access, and occupant containment.

FRA needs to invest in this research because it is responsible for conceptualizing and demonstrating the effectiveness of technology solutions that improve safety and for determining where safety regulations may or may not already exist.

Activities:

- Continue research to develop realistic test protocols and evaluation metrics for glazing retention capacity.
- Continue research to inform potential Federal regulations or industry APTA standards related to glazing integrity as recommended by NTSB as a result of its investigations of recent passenger train accidents.
- Continue research to aggregate industry recommendations for passenger car design alternatives.
- Continue research to develop secondary impact protection for locomotive engineers and develop findings for consideration in the design of new or retrofitted locomotive cabs.

Expected Outcomes:

- Final draft of proposed APTA safety standard for improved glazing retention capacity.

TOP – Fire Safety Research

The Fire Safety Research program will focus on research to improve current Federal regulations and industry standards for the crashworthiness of passenger locomotive fuel tanks, the fire performance of materials, and the components used in passenger rail equipment. Modern, innovative, alternative methods for evaluating fire performance of materials and components will improve safety and yield cost-saving opportunities and the advancement of modern tools for the passenger rail sector. FRA requirements for materials fire safety performance and fuel tank crashworthiness were developed over 20 years ago. Passenger locomotive fuel tank structural requirements are based on static loading. Research into the performance of passenger locomotive fuel tanks under dynamic loads, such as those seen in derailments and collisions, is needed. Smaller-profile DMU fuel tanks, which are not like those in a traditional passenger locomotive, are being assessed for their ability to perform under these loads as well. The research allows FRA to not only evaluate conventional and DMU fuel tanks under dynamic loads, it also validates test methods that can be used to evaluate these types of equipment. This research allows FRA to review the current requirements for equivalency with newer standards, possibly allowing for the application of newer industry standards, promoting innovation and safety.

Activities:

- Conduct small-scale tests of various passenger railcar designs to evaluate the efficacy of smaller-scaled test articles to predict the performance of a full-size railcar for floor fire compliance testing; evaluate test layout and support of test article; and support the update of industry standards.
- Conduct small-scale tests to validate computer modeling and scaling laws to determine and quantify the heat release rate for passenger railcars.

Expected Outcomes:

- Validated scaling laws for modeling and simulation of railcar fire growth predictions
- List of toxicity measurement methods
- Review international and domestic standards for fire safety – to identify synergy among the standards for improved compliance.
- Support the development of complementary industry standards for passenger locomotive fuel tank crashworthiness.

TOP – Emergency Preparedness Research

Emergency preparedness standards set the basic minimum requirement for communication with and the safe evacuation of passengers and crew in emergency situations. Understanding the dynamics of passenger interaction during an evacuation on a passenger train will provide FRA with quantitation data to make decisions for improving current standards. This project will investigate and develop innovative safety technologies that improve emergency preparedness and egress features of passenger rail equipment. The Emergency Preparedness Research program supports initiatives that ensure passenger rail equipment and onboard crewmembers' training is modern, progressive, and effective. It also supports providing vital

safety information in a central location for all interested parties; this includes producing training videos and distributing it among related stakeholders and on the FRA website.

Activities:

- Evaluate technologies for safe and efficient evacuation of rail passengers under emergency scenarios.
- Gather and integrate rail passenger evacuation data into the egress models to better predict passenger evacuation.
- Update evacuation models coupled with fire dynamics models to include the effect fire suppression and detection systems technologies would have on passenger evacuation.
- Continue research to develop an underlying methodology for analyzing the topology of railroad networks, mainly to study and improve the ability of the railroad networks to offer robustness, resiliency, efficiency, and effectiveness.

Expected Outcomes:

- Evaluate evacuation scenarios in coupled fire dynamics-egress models.
- A training video will be distributed to the public and emergency responders on how to locate and use emergency notification system (ENS) sign information. The format of the video should follow the same method as used for the rail safety videos. The video shall contain an overall safety message and details of the ENS signs.

Energy Products Research

In November 2022, FRA hosted a second virtual workshop, "Emerging Decarbonization Technologies and Safety for Rail," focusing on advancements in research on the safety and efficiency of clean energy technologies for rail. This workshop presented an opportunity for participants to share perspectives on rail alternative energy technologies and carbon emissions reduction. FRA held a similar webinar in FY 2021. In May 2023, FRA held its first in-person global workshop on rail decarbonization, "Rail Getting On Track for Decarbonization." The workshop brought together speakers from Australia, Canada, Germany, Japan, UK, as well as rail vehicles OEMs, academia, U.S. railroads, rail association organizations, and other Federal agencies to discuss ongoing research on clean energy technologies, the deployment of such technologies, and lessons learned.

Activities:

- Assess the operational safety risks associated with hazardous material unit trains, and determine if they present unique or additional risks compared with unit train operations of non-hazardous materials or mixed-freight operations involving the same hazardous materials.
- Develop a risk model for quantifying risks associated with the operation of hazardous material unit trains and on risk mitigation.
- Continue to research the fire performance of alternative fuel tenders, risk analysis and mitigation, and rapid brake signal propagation on freight trains.

- Provide data to help evaluate the survivability of valve functions or gas flow under certain grade crossing accident conditions.

Expected Outcomes:

- Promote and support the development of safe, efficient, and reliable clean energy and motive power for rail transportation.
- Research the development and demonstration of safe and reliable technologies that reduce emissions of rail transportation.

Partnerships and stakeholder engagement form the foundation of RD&T T2 methodology, leading to the adoption of research products. The Rolling Stock Research Program is subject to continuous input and review from industry stakeholders. FRA staff are active contributors to industry committees and meetings overseen by AAR, APTA, the American Society of Mechanical Engineers, and others. Input from industry stakeholders at these meetings is solicited and appropriately addressed in ongoing research efforts.

TRAIN CONTROL AND COMMUNICATION RESEARCH PROGRAM

The FY 2025 President's Budget includes $7.25 million for the FRA Train Control and Communication Research Program (TC&C). The number of accidents due to train control-related causes decreased by 38 percent from 2014 to 2023. Further reduction is expected from the installation and continued improvement of PTC, which is one of the most transformative technological changes in the history of railroad signal technologies.

The TC&C Research Program focuses on improving railroad operation safety through the development and testing of train control and communication systems and grade crossing safety technologies. TC&C funds research to improve interoperable PTC performance and develop standards and specifications for the Next Generation Train Control system, Automated Train Operations (ATO), which will transform U.S. railroad operations in the 21st century. The program conducts applied research to test safety systems and demonstrate concepts of operations to improve railroad operational safety. The program conducts pilot studies, creates prototypes, and demonstrates safety and security systems, including IRS, grade crossing safety, and trespass prevention.

TC&C is aimed at reducing train-to-train collisions and train collisions with objects on the line and at grade crossings by:

- Assisting railroads in meeting PTC goals while maintaining safe and efficient rail operations. As a critical safety system, PTC must be highly reliable, interoperable, and secure.
- Working with railroads to define interoperable standards and system performance requirements. Developing and testing next generation train control technologies to improve operational safety, maintain a high level of availability, and improve capacity. Integrating existing and new technologies to enable various levels of ATO.
- Developing safety application for connected vehicles (CVs) to prevent vehicle-train collisions at railroad crossings.

- Developing, testing, and validating methods and means to reduce the number of casualties due to trespass activities.
- Developing technologies and tools to decrease accidents involving injuries and deaths at grade crossings.
- Simulating and risk-based modeling to identify risky grade crossings, predict traffic trends, and predict accidents at grade crossings.
- Creating education and awareness tools to increase public understanding and awareness of the risks involved when near railroad property to help decrease incidents and accidents.

Train Control and Communication research activity has innovated PTC-related technologies for several years. Notable successes include:

- Freight and passenger braking algorithm development and refinement that improve braking enforcement performance for freight and passenger railroads.
- Cybersecurity protection and PTC communications messaging verification and validation
- Rail Crossing Violation Warning application development, a cooperative vehicle and infrastructure system that assists drivers in avoiding crash-imminent situations at railroad crossings.
- Automated and autonomous vehicle research to develop interoperability standards and improve grade crossing safety.
- Strategic rail industry spectrum needs assessments and spectrum acquisition planning
- PTC and wireless communications test beds at TTC to be used by both large and small railroads.
- Developed a PTC Track Data Auditing System (TDAS) and associated interoperable standards and protocols to improve PTC reliability.

Anticipated FY 2024 accomplishments include:

- Complete industry analysis of operational variability events and develop techniques for mitigating associated train delay.
- Conduct testing of enhanced track circuit technologies to increase safety and throughput, development of technologies to safely increase the capacity of freight and passenger trains through densely populated areas, and testing of improved PTC adaptive braking algorithms.
- Continue development of Interoperable Lifecycle Management network and advance development of an interoperable TDAS.
- Identify and develop the methods, facilities, equipment, and capabilities required for providing future industry PTC development.

- Conduct applied ATO research and development, testing of an advanced head and end-of-train positioning system, standardization of new rail communication security techniques, and development of locomotive-based, hazard-sensing platform prototype.
- Evaluate continued development of automation technologies to improve grade crossing safety.
- Evaluate the effectiveness of CV technologies in a field environment, and develop rail industry-driven standards for communicating grade crossing status to connected/automated vehicles.
- Execute a public demonstration of CV technologies.
- Continue working on the effectiveness of mobile systems used for the detection of trespassing activities within any given railroad, AI applied to railroad trespassing, and the development of new research ideas from stakeholders involved in trespassing issues.
- Work with universities, industry, railroads, and the public sector in exploring new areas where technologies (such as PTC) and innovative devices can play a role in increasing safety at grade crossings. In addition, RD&T will develop and implement a grade crossing toolbox and a grade crossing data portal for use by relevant stakeholders.
- Explore new methods and techniques to improve pedestrian safety at rail grade crossings and continue to explore enforcement and educational tools to reduce accidents at grade crossings involving pedestrians.
- Develop new research ideas based on the outcome of the Trespass Summits planned and organized by the Office of Railroad Safety.

Train Control and Communication

PTC Technology

This research addresses problems associated with finalizing PTC development, deployment, and continued long-term evolution and maintenance. It supports the design and development of innovative systems to ensure PTC interoperability and reliability continue to evolve with the pace of technology development.

Activities:

- Support evolutionary and innovative technologies to ensure PTC interoperability and reliability continue to evolve with the pace of technology development.
- Coordinate with industry to develop solutions to improve reliability, availability, and maintainability of deployed PTC systems.
- Support the development of industry standards and protocols for train automation systems.
- Continue to improve rail network capacity and safety while reducing life cycle costs for railroads and streamlining regulatory compliance.

Expected Outcomes:

- Increased reliability and availability of PTC without reducing safety
- Increased rail capacity and throughput
- Increased braking accuracy for freight and passenger trains

PTC Interoperability

Interoperability is the requirement that all railroads have the ability to work anywhere on the North American railroad network. If railroads are not interoperable, all rail traffic must stop and transition between carriers at each individual railroad boundary. This would be extremely inefficient, costly, and place extreme burdens on FRA, railroads, passengers, and freight railroad customers.

Interoperability is a requirement of the Rail Safety Improvement Act of 2008, as all railroads must have the ability to use the national network and transport goods and people on all lines. Multiple efforts are reviewed for viability, including radio frequency spectrum allocation, infrastructure enhancements and modifications, and network monitoring and analysis.

Activities:

- Continue interoperability research to ensure compliance with statutory requirements and in improving testing protocols and centralizing/streamlining testing and validation of PTC systems.
- Support the development of industry standards for interoperable next generation train control and train automation technologies.

Expected Outcomes:

- FRA research informing AAR's publication of additional interoperability standards.
- Increase railroads adoption and implementation of the interoperability standards.

Next Generation Train Control

This research will identify and develop the standards, performance specifications, methods, facilities, equipment, and capabilities required for next generation train control development. Research will focus on providing additional functionality, improving reliability, and supporting integration with other technologies – all of which will support the objectives of improving safety and throughput and infrastructure enhancements to reduce PTC burden and improve safety.

Activities:

- Evaluate alternative methods of broken rail detection that can support next generation train control architectures.
- Conduct research on advanced train control concepts and architectures that support higher levels of railroad automation, such as Full Moving Block and Line of Road Remote Locomotive.

Expected Outcomes:

- Advanced train control concept implementation to improve rail network capacity and decreased delays caused by PTC.
- Improved train locating and tracking capability
- Increased cyber security of train control systems

Intelligent Transportation Systems (ITS)

This research facilitates collaboration among railroads and automotive industry stakeholders to develop coordinated solutions for automated transportation systems. Accelerated development of connected and autonomous road vehicles must be mirrored by railroad investment in rail automation and connected highway-rail grade crossing technologies.

RD&T research on ITS improves 49 CFR part 234 Grade Crossing Safety and 23 CFR part 924 Highway Safety Improvement Program. Most of the highway-grade crossing regulations, especially those pertaining to the interactions of highway users, fall under FHWA or the Federal Motor Carrier Safety Administration. FRA regulations on highway-grade crossings, in general, pertain to the requirements that the railroads must maintain regarding the safety devices and general upkeep of the crossings. However, as the auto industry is pursuing connected/automated vehicles, those vehicles will need to interact with highway-rail grade crossings, and research must be conducted. Odds are that current highway-rail grade crossing safety systems will need to be altered to better communicate with connected/automated vehicles so that the vehicles are "informed" of the grade crossing status, including the position of the gates and oncoming trains. A potential benefit that could come from the inclusion of connected/automated vehicles at highway-rail grade crossings is the reduction of accidents caused by highway drivers moving around safety devices or by highway drivers misjudging the distance of an oncoming train and continuing to move through the crossing.

Activities:

- Continue research on a new, more integrated, vehicle-borne prototype system for demonstration and evaluation.
- Research the feasibility of a cloud-based grade crossing portal to provide grade crossing status to CVs, including first responder services to improve routing and avoid blocked crossings.
- Develop test capabilities or test bed for CV-based communication for improved passive rail crossing safety. This capability will allow testing scenarios and use cases to improve vehicle safety around passive grade crossings.

Expected Outcomes:

- Advancement of connected/automated vehicle technologies with a focus on grade crossing safety
- Communication standards tightly coordinated between rail and automotive industry groups.

- Evaluation and demonstration of standard communication protocols for rail crossing communication to connected vehicles
- Evaluate cloud-based grade crossing status portal to improve routing decision-making for CVs.

Grade Crossing Safety and Trespass Prevention

Grade Crossing Safety Research plays a vital role in reducing accidents and incidents around grade crossings, which has for decades been the rail industry's largest public safety concern. This research continues the collaboration with State DOTs, local authorities, and communities to study and implement innovative solutions to improve safety around grade crossings. This research takes advantage of technologies such as UAVs to detect and prevent trespassers and perform grade crossing inspections. The latter is seen as an additional effort to enhance and verify the accuracy of the FRA grade crossing inventory database; this research uses LiDAR technology to map grade crossing profiles – including elevation – to identify humped crossings and prevent accidents resulting from low-ground-clearance vehicles being stuck at crossings.

Trespass Countermeasures

Continue to work with stakeholders in investigating and developing new tools and technologies to address trespassing on railroad rights-of-way (ROWs).

Activities:

- Work with all relevant partners and stakeholders to research solutions that can be used to reduce trespassing along ROWs.
- Document the effectiveness of local solutions to see if they can be adapted to larger scales.
- Conduct outreach around the country to help local authorities with technical solutions and to apply for grants.

Expected Outcomes:

- The outcome of the research activities described above at a high level is then expected to be transferred to other stakeholders, such as railroads or local communities, for further development and implementation – thus increasing public safety.

Grade Crossing Technology

Continue to work with universities, the industry, railroads, and public sector in exploring new technologies geared toward innovative devices to increase safety at grade crossings.

Activities:

- Develop technologies and tools to improve warning devices and integrate grade crossing locations into mapping devices.

- Continue working on digitizing all the grade crossings in the U.S. for use by other researchers, Federal, State, and local agencies. The digitization of crossings will be carried out using LiDAR and/or photogrammetry techniques.
- Continue outreach activities with local and state DOTs to disseminate research activities and outcomes and explain grant application procedures and availability.

Expected Outcomes:

- Increased safety at grade crossings, the result of an increased awareness of grade crossings from mapping providers that include crossings in their systems.
- Broad availability of grade crossing vertical profiles thanks to the scanning activities. Vertical profiles are key to prevent high-centered vehicles at crossings.
- New technologies and solutions are expected to be developed or tested for feasibility in this research area. Increased safety and reliability, along with a significant reduction in accountability and liability, are expected.

Grade Crossing Pedestrian Safety

Continue to explore measures to address accidents at grade crossings and along railroad ROWs that involve pedestrians.

Activities:

Collaborate with State and local DOTs to prototype, test, and evaluate innovative countermeasures to reduce pedestrian-related accidents. Expected Outcomes:

- Provide alternative and innovative countermeasures to improve safe pedestrian movement around grade crossings.

Grade Crossing Modeling and Simulation

In this research area, FRA will continue working on the validation of the new accident prediction and severity model for grade crossings to help guide decision-makers with upgrading or eliminating grade crossings.

Activities:

- Provide guidance and online help to state DOTs and researchers on the new accident prediction and severity model.
- Collaborate with other DOT modes, universities, and other professional industry partners in developing new simulation models to further reduce accident risk and improve safety at grade crossings.

Expected Outcomes:

- The new accident prediction and severity model will greatly assist State and local communities in better planning investments for either grade crossing improvements, closure, or grade separation.

Grade Crossing and Trespass Outreach and Education

Education and awareness are the best tools for the public to understand the risks involved when near a railroad property.

Activities:

- Plan outreach activities, with local and state DOTs, in collaboration with the Office of Railroad Safety. R&D will continue to educate the general public on the dangers of grade crossings, in collaboration with Operation Lifesaver and other organizations, and also provide funding opportunities and application assistance.
- Establish a multi-year pilot grant study targeting rural and under-resourced communities that do not qualify or cannot apply for CRISI program funding and experience trespassing and/or grade crossing fatalities and injuries. In close collaboration with the targeted communities, this pilot will identify and address the fundamental contributing factors resulting in trespassing.

Expected Outcomes:

- Increased overall safety in the railroad environment when interacting with grade crossing and trespass prevention
- Reduce number of fatalities and injuries related to trespassing in rural and under-resourced communities

Partnerships and stakeholder engagement form the foundation of RD&T's T2 methodology, leading to the adoption of research products. Stakeholder input is a critical driver of TC&C research planning. All TC&C research and development activities are conducted in concert with Government and non-government groups to target the research to solve rail transportation safety issues and needs. These partnerships benefit from technical and financial collaboration for a more efficient and effective research program. Multiple railroads are contributing in-kind support for the development of requirements and testing, and are providing technical guidance and intellectual resources.

HUMAN FACTORS RESEARCH PROGRAM

The FY 2025 President's Budget includes $6.45 million for the FRA Human Factors Research Program (HF). The number of accidents due to human factors-related causes has increased by nearly 7 percent from 2014 to 2023.

The HF Research Program conducts research on how to optimize human performance in railroad operations. This research includes information on how to integrate new technologies in a holistic way and research related to operator performance issues such as fatigue, stress, and attention.

HF provides the rail industry with knowledge about human performance in operational settings. Human factors concepts, behavioral models, and research-derived tools are applied in research settings to define and understand human behavior and human performance related to in-cab operations and system safety issues.

HF manages the Cab Technology Integration Laboratory (CTIL), a full-scale locomotive simulator, which provides FRA and the rail industry the capability to examine human-machine teaming, controls and displays, and different operating procedures on human and system performance. CTIL also provides a virtual environment to develop and prototype new systems.

The HF Research Program is focused on optimizing human performance in operations, improving railroad safety, and reducing rail accidents caused by human error by:

- Encouraging the development of a positive safety culture within the railroad industry
- Developing interventions to mitigate fatigue and the effect of irregular work hours as well as the unpredictability of on-duty times associated with the U.S. rail industry.
- Examining the individual and contextual factors associated with railroad work to identify those that have significant impacts on job performance and safety.
- Suggesting strategies to enhance safety and job performance.
- Understanding ways to raise personnel vigilance and sustained attention to improve their situational awareness. Applying simulation and modeling tools to address operational personnel performance. Providing program oversight to the Short Line Safety Institute (SLSI), which helps improve safety and safety culture in Class II and Class III railroads.
- Developing technologies and tools that can be deployed to understand human behavior at grade crossings and improve grade crossing safety.
- Conducting applied research and identifying and studying the causal factors that lead to trespassing and suicides incidents on railroad property.

Anticipated FY 2024 accomplishments for the HF division include:

- Provide general technical advice on human factors safety issues associated with the testing and evaluation of new rail equipment.
- Examine testing and evaluation planning regarding the inclusion of human performance in the equipment test loop at TTC.

- Maintain and operate the CTIL and driving simulators (shared with the National Highway Traffic Safety Administration), which includes conducting human subjects research, furnishing expert advice on experimental methodology, and promoting their use and applicability to other Government and rail organizations to address grade crossing safety.
- Test and evaluate the effects on human and systems performance of the use of automated systems containing embedded AI.
- Continue to provide human factors engineering support to the FRA's Engineering, Technology, and Automation office.
- Update the CTIL website to enhance strategic communications and outreach (e.g., communicating the latest research activities to the public, recent technical reports and briefings related to automation research, and meeting notes from stakeholder review panels).
- Continue to make a positive impact on WFD by developing education and training programs.
- Continue to provide oversight of the Short Line Safety Institute's programmatic activities, including program evaluation work conducted by the Volpe National Transportation Systems Center.
- Publish results of the Short Line Safety Institute's pilot test of the Confidential Close Call Reporting System (C^3RS) Peer Review Team's support services for Class II and Class III railroads.
- Collaborate with the Office of Railroad Safety to develop a program of research related to employee training and identify knowledge gaps in the standard of training required for engineers and conductors to sufficiently operate new technology across different terrain and territory.
- Continue research, in collaboration with RD&T's Track division, to describe the possible roles that humans and automation can each play in detection, analysis, and decision-making as well as considerations for how to effectively assign those roles depending on the level of automation or capabilities of the technology.
- Continue to partner with RRS to further its ongoing research and education activities to raise awareness of the dangers and impacts of trespassing, seek low-cost solutions to local trespassing issues, and discuss practicable ideas for technological improvements at grade crossings. In this work, RD&T will continue to demonstrate its alignment with the National Strategy to Prevent Trespassing on Railroad Property.
- Conduct research to better understand the root causes of rail suicide and trespass incidents to develop strategies to prevent future incidents or mitigate their consequences.
- Work directly with at least one railroad carrier to collect detailed, post-incident data – with a focus on data that indicates the intent of the individual involved in a train-person collision.

Human Factors

Railroad Technology, Automation, and Systems Design

New technologies are changing how railroad workers perform their jobs. This research area examines the implications of technology and automation on operational personnel performance and potential safety risks. The primary goal of this research area is to ensure safety is enhanced, and not degraded, by new technology and automation. Prototypes may be designed and tested to benchmark the unintended human factors consequences of technologies. This area researches safety issues that may be associated with rail technology and human performance, thus raising the potential for human error.

Activities:

- Continue research to catalog and survey the various cautions, alerts, warnings, and statuses associated with rail automated systems and displayed to engineers and operators.
- Continue operation and maintenance of CTIL simulator as a cab technology demonstration tool and as a center of crew performance with technology to determine potential safety risks. Update the CTIL website, communicating to the public the latest activities and research accomplished at the lab.

Expected Outcomes:

- Enhanced locomotive crew situational awareness about vehicle status and potential hazards in the operating environment.
- An improved human-machine interface that reduces operator workload, is easy to use, and improves overall system performance and safety.

Railroad Worker and Operator Performance

Individuals and groups of workers perform safety-critical jobs in the railroad industry under a variety of personal (age, sleep deprivation, motivation, memory, etc.), environmental (noise, temperature, vibration, etc.), and social (status, role, etc.) conditions that may affect job performance and safety. This Research Area examines these factors to identify those that have significant impacts on job performance and safety and to suggest strategies to enhance both.

Activities:

- Work with stakeholders to continue to refine studies, develop tools, and share best practices and strategies to support human fatigue detection and countermeasures.
- Work with FRA's Office of Railroad Safety to assist with 49 CFR part 243 oversight.
- Support human-automation teaming in track inspection technology to better describe the possible roles humans and automation can play in detection, analysis, and decision-making as well as considerations for how to effectively assign those depending on the level of automation or capabilities of the technology.

Expected Outcomes:

- Informed industry on physiological basis of fatigue and how human fatigue is measured or assessed.
- Improved railroad worker safety

Railroad Organizational Culture and Safety Performance

This Research Area focuses on projects that enhance railroad safety by encouraging the development of a positive safety culture within the railroad industry. Organizations with a positive safety culture are characterized by communications founded on mutual trust, shared perceptions of the importance of safety, and confidence in the efficacy of preventive measures.

Activities:

- Continue to support the Short Line Safety Institute's safety culture assessments, and provide leadership training curricula for Class II and III railroads.
- Support the Office of Railroad Safety by providing subject matter expert consultation, research, data, and tools to improve railroad safety and reduce accidents and incidents. Activities include continued development and enhancement of the Rail Information Sharing Environment (RISE) pilot and collaboration with railroad safety working groups, including the Fatality Analysis of Maintenance-of-Way Employees and Signalmen and the Switching Operations Fatality Analysis working group.

Expected Outcomes:

- Technical Reports, Research Results reports, and presentations to FRA stakeholders

Highway-Rail Grade Crossings; Railroad Trespass and Suicide Prevention

This research area examines the human factors that have significant effects on grade crossing behavior and safety. Based on the research, RD&T suggests strategies to enhance safety and performance. This research area also explores the two leading causes of rail-related death in the U.S. – trespassing and suicide.

Activities:

- Collaborate with the Office of Railroad Safety to conduct trespass prevention outreach activities.
- Continue railroad-specific analysis and work directly with at least one railroad carrier to collect detailed post-incident data, with a focus on data that indicates the intent of the individual involved in a train-person collision and assist railroad partners to identify ways to use data to effectively identify mitigation strategies.
- Coordinate with international colleagues through the Global Railway Alliance for Suicide Prevention and work to advance existing efforts to encourage responsible reporting about suicide and trespass incidents in the media, working with Operation

Lifesaver and other organizations to better understand how to improve public discussion of railroad suicide incidents.

- Continue to support a suicide and trespass prevention group with U.S. rail carriers. Use lessons learned from this working group to expand research, intervention, and implementation activities.
- Continue conducting research to better understand the root causes of rail suicide and trespass incidents to develop strategies to prevent future incidents or mitigate their consequences.

Expected Outcomes:

- Technical Reports, Research Results reports, and presentations to stakeholders

RAILROAD SYSTEMS ISSUES RESEARCH PROGRAM

The FY 2025 President's Budget includes $16.40 million for the FRA Railroad Systems Issues Research Program (RSI). A portion of this funding is for staff to oversee contractors' and grantees' performance and T2.

RSI improves railroad safety by evaluating risks and prioritizing RD&T projects to reduce safety risk and achieve DOT, Office of the Assistant Secretary for Research and Technology, and FRA goals. RSI's objective is to determine strategic research needs and priorities through collaboration with internal and external partners and stakeholders, considering real-time safety issues requiring subject matter expertise or long-term research solutions.

A major focus of the RSI program is advancing research, development, and testing of clean energy and more energy efficient rail propulsion technologies that will reduce the transportation sector's greenhouse gas emissions.

Anticipated FY 2024 accomplishments for the RSI Research Program include:

- Develop new research and complete existing research to deliver innovative solutions to improve safety and performance in railroad systems through the IDEA program.
- Improve research project evaluation and T2 reporting.
- Increase information sharing, partnerships, and utilization of TTC.
- Emphasize initiatives and programming to address diversity, equity, and inclusion within the railroad industry. Expand the future pipeline of talent by:
    - Enhancing railroad stakeholder engagement and information sharing to improve FRA's research and understanding of trends.
    - Increasing general awareness and interest in rail-related opportunities and careers among youth and college graduates
    - Identifying additional research areas to continue making the rail industry more inclusive and equitable.

    - Engaging communities in industry efforts to build a pipeline of diverse, qualified talent for the railroad industry, including increasing the percentage of women working in rail.
    - Find opportunities to work with MSIs and HBCUs.
- Develop a robust research strategic plan to assess the safety and efficacy of technologies for the decarbonization and improvement of rail transportation.
- Establish research cooperative partnerships to further develop rail energy and emissions technologies, including the Rail Module in the GREET (Greenhouse gases Regulated Emissions and Energy use in Transportation) model to provide the rail industry with a multi-modal tool that can assess the emissions and energy use of different fuel pathways.
- Work with the U.S. Access Board and the rail industry to develop guidance for securement of wheeled mobility devices on passenger railcars.
- Investigate innovative locomotive engine technologies to ensure the safe and efficient transportation of people and goods.
- Provide the Office of Railroad Safety with improved science to drive standards and requirements development, and support compliance of emissions limits for both passenger and freight equipment.
- Continue partnerships to support universities, particularly on Intelligent Railroad Systems (IRS). Continued research projects focus on advanced technology, automation, and connected vehicle technologies; advancing technologies for rural application; and WFD.
- Continue development and application of new technology at TTC for Federal agencies and others involved in transportation.
- Enhance the capabilities of facilities and equipment by supporting and conducting high-speed testing; commission new rail equipment such as transit, passenger, light and freight rail and locomotives; and refurbish the railroad system and components at TTC.

Funding requested in FY 2025 will advance a number of initiatives under the RSI Research Program, including new workforce development and energy emission research topics to address racial inequity in transportation and the climate crisis, respectively.

Railroad Systems Issues

Workforce Development

This research provides support and domain expertise in the areas of railroad WFD to adequately identify suitable approaches for both the management and capture of rail workforce-related trends. This research increases the awareness of railroad industry WFD issues by establishing and/or participating in forums and research efforts to foster and support industry collaboration. Expertise from the FRA R&D program will support the Rail Research and Development Center of Excellence and help address equity, diversity, and access by

increasing engagement with MSIs and HBCUs to encourage interest in transportation-related jobs.

Activities:

- Continue forums with stakeholders for best practices and information exchange.
- Support the programs aimed toward engaging youth (Pre-K through 12th grade and college) and under-represented populations in rail transportation and science, technology, engineering, and math (STEM) topics.
- Expand strategic outreach to build research partnerships with MSIs/HBCUs and increase awareness and interest in railroad careers.
- Engage and collaborate with the railroad industry for a better understanding of WFD trends and relevant data and insights to support sustainable initiatives.
- Provide funding for Broad Agency Announcement research topics including addressing equity challenges, knowledge management, succession planning, WFD, and promoting minority inclusion in the rail industry. Moreover, select topics are reserved exclusively for university applicants.

Expected Outcomes:

- Research results of workforce development published.
- Continued stakeholder engagement

Energy and Emissions Research

In support of the DOT Strategic Goals of Safety and Climate and Sustainability, FRA research investigates the efficacy of clean energy and advanced motive power technologies that improve energy efficiency and reduce rail transportation emissions. This research area focuses on supporting activities related to the real-world demonstration of clean fuels and motive power technologies to ensure their safe implementation on rail systems across the Nation.

Research provides data in support of the safe operation and use of clean energy, engine improvement, and motive power technologies. For example, solutions for freight and passenger operations such as hydrogen, fuel cells, battery energy storage systems, and biofuel technologies hold great potential for the U.S. rail market. Research on the crashworthiness and fire safety of hydrogen storage containers and battery energy storage systems is needed. Research on the safety and efficiency of refueling/recharging infrastructure is needed. The efficacy of current Federal regulations to address and ensure safe fuels such as hydrogen and advanced technologies such as batteries will be analyzed. The research provides FRA's Office of Railroad Safety with the scientific basis for decision-making and the development of standards, regulations, and other requirements. FRA will collaborate with other Federal agencies to ensure the safe use of the energy products.

Activities:

- Cooperate with the Office of Railroad Safety to continue bilateral discussions with international rail experts on the research, development, and deployment of clean energy technologies for rail.
- Continue safety research on the use of hydrogen for powering rail vehicles.
- Collaborate within the railroad industry to identify standards and best practices for battery technology and hydrogen fuel usage for rail applications.
- Maintain the Rail Module in the GREET model so that the tool is updated, relevant, and useful for the rail industry.
- Provide feedback and direction to RRS on the performance of such equipment under normal and accident scenarios.

Expected Outcomes:

- Identification of safety research needed to progress battery, hydrogen, and fuel cell technologies in the U.S.
- Identification and demonstration of safe and reliable technologies that reduce emissions in rail transportation.

In addition to the clean energy technology research identified above, the FY 2025 President's Budget proposes to launch a new Zero-Emission Rail Yards initiative to reduce EPA criteria pollutant emissions at rail yards, with an emphasis on areas with high pollution impacts on surrounding communities. Often, communities near rail yards are Justice40 communities that suffer adverse health effects associated with exposure to diesel emissions. Under this effort, approximately $1.5 million of Energy and Emissions Research funds would be used to conduct research and testing to build evidence and document the public health impacts rail yards currently have on surrounding communities, as well as identify the rail yards and communities most in need of intervention. Simultaneously, FRA will be seeking to partner with a rail yard to pilot the establishment of a Zero-Emission Rail Yard and use CRISI grants to fund the purchase of new switcher locomotives and upgrade rail infrastructure to improve the efficiency of yard operations.

Rail Safety IDEA

The TRB initiated this effort, in conjunction with FRA, to address safety needs within the railroad industry. The focus of this project is to solicit innovation, ideas, and advanced technology in railroad safety. Each research effort selected has a unique timeframe, generally lasting 1 to 2 years.

Activities*:*

With multiple activities each year, the outcomes vary based on the selected projects and research duration:

- Issue an IDEA Program Announcement to solicit proposals for the Rail Safety IDEA program exploratory research projects.

- Select a qualified Rail Safety IDEA review committee to evaluate proposals on a competitive basis.
- Evaluate those proposals meeting the technical eligibility criteria and provide comments for selected researchers.
- TRB and FRA will collaborate to manage the projects to completion.

Expected Outcomes:

- Detailed project work plan, budget, and schedule
- Project agreement between TRB and sub-awardees (consultants/contractors)
- Quarterly progress reports
- Final performance report that should describe the cumulative activities of the project, including a complete description of the grantee's achievements with respect to project objectives and milestones.
- Final report for each selected project will be posted on TRB's website/publication.

Project Selection

RD&T utilizes a software package (Decision Lens) and the Safety Risk Model as part of the prioritization process. This task includes the activities and costs associated with maintaining the license for the prioritization software, optimizing the Safety Risk Model and executing the prioritization process. RD&T conducts prioritization activities to effectively manage its budget and ensure that stakeholder and industry needs are inputs to the investment planning process.

Activities:

- Maintain the license for prioritizing software and implementing the prioritization process.
- Renew the Decision Lens software license for an additional option year.
- Use lessons learned and apply improved rating process to candidate research projects for future efforts.

Expected Outcomes:

- The development of a robust research portfolio
- Quantifiable project prioritization plan

Project Evaluation

The focus of this project is to educate and train Program Managers (PMs) about project evaluation techniques, develop performance measures, improve project progress, and reduce cost. PMs and external parties will evaluate projects conducted by the five RD&T divisions to measure success and improve project performance and railroad safety. Project evaluation processes will help RD&T better manage funding. RD&T PMs will also assist colleagues in other FRA offices as they evaluate agency activities carried out under the Safety & Operations

account and FRA's grant programs. Evidence-building and evaluation have long been foundational elements of FRA's R&D efforts. Lessons learned and approaches used in R&D will help FRA as the agency expands these practices to other areas of the agency, consistent with the requirements of the Foundations for Evidence-Based Policymaking Act (Evidence Act, P.L. 115-435).

Activities:

- Standardize and enhance project evaluation tools.
- Align evaluation practices to FRA's and the Department's learning agenda.

Expected Outcomes:

- Increased maturity of project evaluation practices
- Standardized performance measurement
- Standardized project evaluation
- Established performance measurement baseline

Accessibility

Investigate universal and inclusive designs for accessibility on-board passenger trains. FRA is in a unique position to collaborate with stakeholders (other Federal agencies, disability advocacy groups, passenger rail operators, and equipment manufacturer and industry groups) to ensure new standards for accessibility are feasible and safe – balancing the requirements of the law with the capability of the equipment. Accessibility to our Nation's rail stations and equipment is a civil right, and FRA research and industry partnership in this area help to advance transportation equity.

Activities:

- Support the development of new and improved accessibility standards for rail vehicles, ensuring the standards are safe and technically feasible.
- Conduct research as needed to develop science-based knowledge in support of standards.

Expected Outcomes:

- Data on the relative motion of WhMDs and their occupants in non-contained spaces

Locomotive Safety

The goal of this research is to investigate innovative locomotive engine technologies to ensure the safe and efficient transportation of goods and people. Focus areas for this research program include reducing fuel consumption, improving engine component life, and improving the efficiency of older, less efficient locomotives. Research is conducted in collaboration with Class I railroads to develop and demonstrate prototype systems. This research area addresses the DOT Strategic Goals of Safety and Climate and Sustainability.

Activities:

- Assess new and innovative technologies that will improve the safety and efficiency of locomotive in a real-world environment.
- Complete development and prototype demonstration of hybrid systems.

Expected Outcomes:

- Knowledge of the performance of locomotive engine systems to improve efficiency while maintaining safety.
- Ensure that emerging, innovative locomotive engine efficiency improvement technologies are safe.

Partnerships and stakeholder engagement form the foundation of RD&T's T2 methodology, leading to the adoption of research products. As part of these efforts, RD&T staff engages with both internal and external stakeholders throughout the research and development life cycle. An integral part of engagement includes collaborating with stakeholders to understand research needs and safety issues. RD&T conducts prioritization activities to effectively manage its budget and ensure that stakeholder and industry needs are included in the RD&T investment planning process. DOT priorities and safety priorities, especially those provided by the FRA Office of Railroad Safety, are a major input into the process.

Office of Railroad Safety Support

All RD&T divisions support the Office of Railroad Safety by providing subject matter expertise consultation, research, data, and tools to improve railroad safety and reduce accidents and incidents. The Office of Railroad Safety works closely with RD&T to provide insight into research needs throughout the fiscal year. RD&T needs the ability to support requests for research and expertise for time-sensitive safety issues.

Activities:

- Continue to support the Office of Railroad Safety's portfolio of safety partnership programs, including C^3RS and RISE.
- Conduct research of urgent safety issues identified by the Office of Railroad Safety or Congress.
- Continue to provide subject matter expert support to the Office of Railroad Safety.

Expected Outcomes:

- Analysis of safety risks and identify mitigations to those risks.
- Growth and maturity of RISE, including industry involvement

Note: This funding will come from multiple divisions within the R&D program.

Research with Universities

This pursuit provides research opportunities to American academic institutions. It attracts and funds proposals that have the potential for improving safety and performance in railroad systems in the following areas: track, rolling stock, train control and communication, and human factors. This project will support university research on Intelligent Rail Systems and incorporates participation from the railroad IRS industry.

FRA will glean input from the railroad industry to determine research themes; these themes will drive research topics. Research topics will be announced and reviewed, and the most promising proposals will be selected for funding.

Activities:

- Publish the request for proposals and review the university proposals.
- Select prospective research projects to fund and begin selected projects.
- Publish the request for proposals and select prospective research projects to fund.

Expected Outcomes:

The expected outcomes align with DOT Goals and include projects that focus on:

- Advanced technology
- Safe automation
- Connected vehicle technologies
- Technologies for rural application
- Clean energy research and safety
- Workforce development

Transportation Technology Center – Research Facilities and Equipment

The primary objective of this funding is to develop unique R&D infrastructure to accommodate the testing and evaluation of intelligent railroad systems technologies and to provide FRA with the type and quality of facilities and equipment needed to meet its R&D mission. Focused on enhancing railroad safety, TTC drives national R&D and the application of new technology for railways, suppliers, governments, and others involved in rail transportation. This funding supports RD&T Facilities and Equipment Programs, which enhance rail transportation technology development, testing, and standards development. The funds will be used to maintain the physical track infrastructure and rolling stock, including purchasing track maintenance equipment and heavy maintenance equipment and contracting program maintenance such as rail grinding or undercutting when needed. These funds would also be used to upgrade existing test beds and purchase instrumentation that supports FRA research.

Activities:

- Provide facilities and equipment that can perform railroad research and development, testing, and training to enhance the safety of rail systems in both safety and security operations.
- Continue the enhancement of TTC capabilities through strategic investment to existing facilities and equipment to support upcoming research and testing needs.
- Continue the refurbishment of the rail system at TTC.
- Support environmental and green technology goals, encouraging energy efficiency, use of renewable energy, the reduction of toxins, recycling, the reuse of materials, and water conservation.
- Purchase equipment and instrumentation identified by the RD&T facilities maintenance plan.
- Raise awareness and encourage broader use of TTC facilities through creative outreach efforts to other Government agencies and the private sector, while ensuring priority for FRA-sponsored activities and providing fair access.

Expected Outcome:

- These activities support conducting rail transportation technology development, testing, training, and standards development.
- Additional Government agencies will use the facility and technologies offered by TTC.

Transportation Technology Center – Facility Repair and Rehabilitation

Beginning in 1971 on more than 33,000 acres near Pueblo, Colorado, the Transportation Technology Center has been a vital resource for FRA and the entire railroad community. As TTC has continued to deliver valuable research and training, demands on the physical infrastructure have grown. Thousands of people each year now participate in TTC research, testing, safety training, and first responder training.

FRA manages the site through an onsite contractor. The contractor uses the facility for research and is responsible for maintenance. FRA requests funding in FY 2025 for needed investment associated with its responsibilities as the property owner. These projects are outside the nature of investments made by the onsite contractor and/or through research activities. IIJA authorized up to $3 million annually under the R&D account to erect, alter, and repair buildings and make other public improvements at TTC.

In FY 2022, FRA contracted with an outside firm to assess the condition of the buildings, associated equipment (HVAC, electrical, etc.), and other support structures at the site. This assessment included how well the structures met applicable building codes, accessibility requirements, fire safety standards, and best energy management practices. The report also noted the remaining life of each component at the site relative to expected industry averages and rated their current condition.

Below is a list of proposed repair and rehabilitation projects for FY 2025. Nearly all components included in the following categories were installed before 1979 and have reached or exceeded their expected lifespan.

1. Electrical Distribution Network and Building Electrical – The bulk of FY 2025 funding would be used to repair, renew, or replace major electrical components such as transformers, switch gear, power poles, and generators for several buildings and the Government-owned power grid that supports the site.
2. Building Systems – This funding would address priority repairs and upgrades of HVAC controls, water handling systems, exterior lighting, and site parking lots.
3. Accessibility and Egress – This funding would be used for accessibility projects to address compliance with the Architectural Barriers Act, including improving interior doorway and elevator accessibility, drinking fountains, and signage.
4. Fire, Life, and Safety - This funding will be used for projects to update and enhance the fire alarm and suppression systems and for projects that eliminate safety hazards such as stairways that do not meet current building codes.

Changes in how buildings are used as the facility's research and training needs evolve over the next several years may prompt priorities to change. Potential unforeseen failures of critical systems or components could also necessitate changes in project priority. Even though there are currently no identified projects for the following categories in FY 2025, RD&T may have to fund work in these areas should an urgent need arise:

- Communications Systems – Projects in this category would replace failed telecommunications, information technology, and repeater equipment at the site.
- Exterior Structures – Projects in this category would address erosion issues around exterior structures throughout the site.

In addition to the $3 million requested for necessary state of good repair projects at TTC, the FY 2025 President's Budget requests an additional $1 million to conduct site planning and design activities necessary to develop a joint FRA-Transportation Security Administration (TSA) training facility at TTC. TSA and FRA currently use a shared space at TTC to deliver hands-on and classroom training to each agency's respective inspectors and other safety / security personnel. However, both agencies desire to increase training at the facility that will exceed the capacity afforded by the two repurposed classroom areas located within TTC's Passenger Services Building. These classrooms do not provide an ideal learning environment, as they are adjacent to where large locomotives and rail cars are brought into/out of the building with loud work performed on the equipment. Further, FRA has research needs to return the space currently housing these classrooms to passenger rail projects that cannot be located elsewhere because of the associated high bay with overhead centenary power that is only available at this building.

TTC has more than 50 miles of railroad test track in configurations to test all aspects of vehicle-track interaction. Twelve major buildings house offices, laboratories, test equipment, storage, maintenance services, and support facilities. Outdoor facilities include a crash wall, rail vehicle squeeze test frame, positive train control test bed, and an emergency response training area. The facility has a rail connection to the BNSF's mainline. These facilities and

assets provide an unmatched environment to conduct realistic, hands-on training. The requested funds will be used to assess the site and evaluate the infrastructure requirements necessary to optimize the training capabilities at TTC. Deliverables would include options for potential locations to house the training facilities (including rehabilitating existing structures), cost estimates and schedules to construct, and initial site renderings.

Rail Research and Development Center of Excellence

IIJA authorized a new initiative directing the Department to award grants to establish and maintain a Rail Research and Development Center of Excellence (CoE) to advance research and development that improves the safety, efficiency, and reliability of passenger and freight rail transportation. These grants may be awarded to institutions of higher education or consortiums of nonprofit institutions of higher education. In 2023, FRA awarded $5 million in FY 2022/FY 2023 funds to the University of Illinois Urbana-Champaign (UIUC) to establish the National University Rail Center of Excellence (NURail CoE). The NURail CoE consortium of university partners includes UIUC, the University of Illinois Chicago, University of Delaware, Kansas State University, Michigan Technological University, Morgan State University, Rutgers University, University of Texas at Austin, and Tuskegee University. This initial CoE award is intended to cover three years of operations and funding (FY 2022 – FY 2024, subject to the availability of funds), after which FRA will conduct a new competition. FRA intends to allocate $2.5 million of funding requested in FY 2025 for the new CoE competition.

CoE grant funds can be used for a wide variety of purposes, including basic and applied research, evaluation, education, workforce development, and training efforts. These efforts may be related to the safety, project delivery, efficiency, reliability, resiliency, and sustainability of urban commuter, intercity high-speed, and freight rail transportation. IIJA specifically references the Center of Excellence as focusing on advances in rolling stock, advanced PTC, human factors, rail infrastructure, shared corridors, grade crossing safety, inspection technology, remote sensing, rail systems maintenance, network resiliency, operational reliability, energy efficiency, and other advanced technologies.

What benefits will be provided to the American public through this request and why is this program necessary?

R&D can play a foundational role in addressing the transportation challenges facing the U.S. Investments made today through FRA's R&D program are the key to building more resilient infrastructure, developing more energy efficient rail platforms and reducing harmful greenhouse gas emissions, or identifying and nurturing the next generation of rail industry leaders.

FRA's research, development, and technology projects provide tangible safety and operational benefits to the railroad industry. Its applied research efforts help develop innovative solutions to challenges facing the rail industry and ensures the best available science and technology are the basis for FRA's safety regulatory actions, enforcement, and programs. FRA also develops technology the rail industry can adopt voluntarily to improve safety. FRA conducts research, development, and technology initiatives independently and collaboratively to:

- Ensure safety is the paramount consideration in exploring new technologies and practices.
- Use public resources, disperse costs, and reduce or eliminate redundant efforts.
- Assess new concepts and technologies that the railroad industry is using.
- Promote industry adoption of promising research results.

RD&T also focuses on T2 through the life cycle of its research with the goal to engage stakeholders, internal and external, and to increase industry adoption of RD&T's concepts, research, and methodologies that enhance safety and performance of the railroads. RD&T's research and T2 activities include:

- Adoption of technology
- Industry conferences, working groups, meetings, presentations/demonstrations
- Joint research activities with Federal partners
- Stakeholder meetings
- Research publications

Research into tank cars will benefit the American public by reducing the spillage of hazardous material. FRA's R&D program will help protect people who live in neighborhoods where trains operate and reduce the likelihood of environmental damage due to HazMat releases. Two areas of research that help achieve this are (1) reducing failures such as broken wheels and rails that cause derailments and (2) improving the strength of tank cars to better survive derailments that do occur.

Safe rail transportation directly benefits the public traveling by train. FRA's R&D program will reduce train collisions by facilitating the implementation of new technologies such as PTC. It will reduce collision risk when passenger trains share the same corridors as freight trains. The program will lay the foundation for future safety actions and approaches that will reduce the likelihood of derailments. The R&D program will also improve occupant protection in collisions and derailments.

By addressing the root causes of grade crossing accidents, FRA's R&D program improves the safety of the American public that needs to cross railroad ROWs. Human factors research into driver behavior at highway-rail grade crossings and the effectiveness of alternative warning systems helps identify optimum solutions. Developing new technologies for crossing protection and train-to-vehicle communications lead to fewer blocked crossings, which can delay emergency responders.

The R&D program helps to reduce fatalities and injuries to trespassers on railroad property. Members of the public are known to take shortcuts across railroad property; innovative solutions for warning people of the danger they face need to be researched and implemented.

By funding universities to conduct R&D, FRA supports developing future rail expertise by providing opportunity for students to prepare for rewarding jobs in the railroad industry. The age profile for railroad industry employees shows a growing demand for new entrants.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

NATIONAL RAILROAD PASSENGER CORPORATION
APPROPRIATIONS LANGUAGE

NORTHEAST CORRIDOR GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION

To enable the Secretary of Transportation to make grants to the National Railroad Passenger Corporation for activities associated with the Northeast Corridor as authorized by section 22101(a) of division B of the Infrastructure Investment and Jobs Act (Public Law 117-58), [$1,260,000,000]*$1,200,000,000*, to remain available until expended: *Provided*, That the Secretary may retain up to one-half of 1 percent of the amounts made available under both this heading in this Act and the "National Network Grants to the National Railroad Passenger Corporation" heading in this Act to fund the costs of project management and oversight of activities authorized by section 22101(c) of division B of the Infrastructure Investment and Jobs Act (Public Law 117-58).

NATIONAL NETWORK GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION

To enable the Secretary of Transportation to make grants to the National Railroad Passenger Corporation for activities associated with the National Network as authorized by section 22101(b) of division B of the Infrastructure Investment and Jobs Act (Public Law 117-58), [$1,193,000,000]*$1,304,475,000*, to remain available until expended[: *Provided*, That the National Railroad Passenger Corporation may use up to $100,000,000 of the funds provided under this heading in this Act for corridor development activities authorized by section 22101(h) of division B of the Infrastructure Investment and Jobs Act (Public Law 117-58)].

Explanation of Changes: The FY 2025 President’s Budget does not identify a specific amount for Amtrak’s set-aside under the National Network for their activities related to the Corridor Identification and Development (Corridor ID) program.

EXHIBIT III-1
GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION
Summary by Program Activity
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

	FY 2023 ENACTED	FY 2024 FULL YEAR CR	FY 2025 PRES. BUDGET
Northeast Corridor Grants to Amtrak	$ 1,260,000	$ 1,260,000	$ 1,200,000
National Network Grants to Amtrak	$ 1,193,000	$ 1,193,000	$ 1,304,475
Transfer to Financial Assistance Oversight and Technical Assistance	$ (12,265)	$ (12,265)	$ (12,522)
TOTAL, Base appropriations	$ 2,440,735	$ 2,440,735	$ 2,491,953
FTEs			
Direct Funded	0	0	0
Supplemental Funding			
COVID-19 Supplementals			
Northeast Corridor Grants to Amtrak	$ (1,000)	$ -	$ -
National Network Grants to Amtrak	$ (1,000)	$ -	$ -
IIJA Supplemental (Division J)			
Northeast Corridor Grants to Amtrak	$ 1,200,000	$ 1,200,000	$ 1,200,000
National Network Grants to Amtrak	$ 3,200,000	$ 3,200,000	$ 3,200,000
Transfer to Financial Assistance Oversight and Technical Assistance	$ (990)	$ (990)	$ (990)
TOTAL, Supplemental appropriations	$ 4,397,010	$ 4,399,010	$ 4,399,010
FTEs			
Direct Funded	0	0	0
TOTAL, Account	$ 6,837,745	$ 6,839,745	$ 6,890,963

Program and Performance Statement

FRA's Grants to Amtrak provide capital, operating, and debt service funding to Amtrak, as well as support FRA's management and oversight of Amtrak. These funds support Amtrak's three primary service lines – Northeast Corridor, State-Supported, and Long Distance – and costs associated with managing other passenger and freight rail operator access to Amtrak's infrastructure and Amtrak corporate operations. As authorized by statute, the Secretary may withhold up to $6 million from the Northeast Corridor account for the Northeast Corridor Commission, up to $3 million from the National Network account for the State-Supported Route Committee, up to $3 million from the National Network account for Interstate Rail Compacts grants, and at least $50 million from both the Northeast Corridor and National Network accounts for grants to Amtrak to make accessibility upgrades pursuant to the Americans with Disabilities Act. Amtrak may also use up to 10 percent of the amounts made available from the National Network account for planning, capital, and operating costs for Amtrak-operated corridors selected under the Corridor Identification and Development Program. Unless otherwise stated in appropriations language, FRA intends to use the fully authorized amounts for these set-asides.

EXHIBIT III-1a
GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION
SUMMARY ANALYSIS OF CHANGE FROM FY 2024 TO FY 2025
Appropriations, Obligations, Limitations, and Exempt Obligations
($000)

	$000	FTE
FY 2024 FULL YEAR CR, net transfer	$2,440,735	0
ADJUSTMENTS TO BASE:		
Non-Pay Inflation	48,815	0
SUBTOTAL, ADJUSTMENTS TO BASE	**48,815**	**0**
PROGRAM REDUCTIONS		
Northeast Corridor Grants to Amtrak	-84,774	0
SUBTOTAL, PROGRAM REDUCTIONS	**-84,774**	**0**
PROGRAM INCREASES		
National Network Grants to Amtrak	87,177	0
SUBTOTAL, PROGRAM INCREASES	**87,177**	**0**
FY 2025 REQUEST, net transfer	**2,491,953**	**0**
Supplemental Appropriations	**4,400,000**	**0**
Transfer to Financial Assistance Oversight and Technical Assistance	-990	0
Supplemental Appropriations, net transfer	**4,399,010**	**0**
TOTAL, net transfer	**6,890,963**	**0**

Detailed Justification for the Grants to the National Railroad Passenger Corporation

FY 2025 – Grants to the National Railroad Passenger Corporation – Budget Request ($000)

Program Activity	FY 2023 Enacted Level	FY 2024 Full Year CR	FY 2025 President's Budget
Northeast Corridor Grants to the National Railroad Passenger Corporation	$1,260,000	$1,260,000	$1,200,000
National Network Grants to the National Railroad Passenger Corporation	$1,193,000	$1,193,000	$1,304,475
Total	**$2,453,000**	**$2,453,000**	**$2,504,475**
FTE	**0**	**0**	**0**

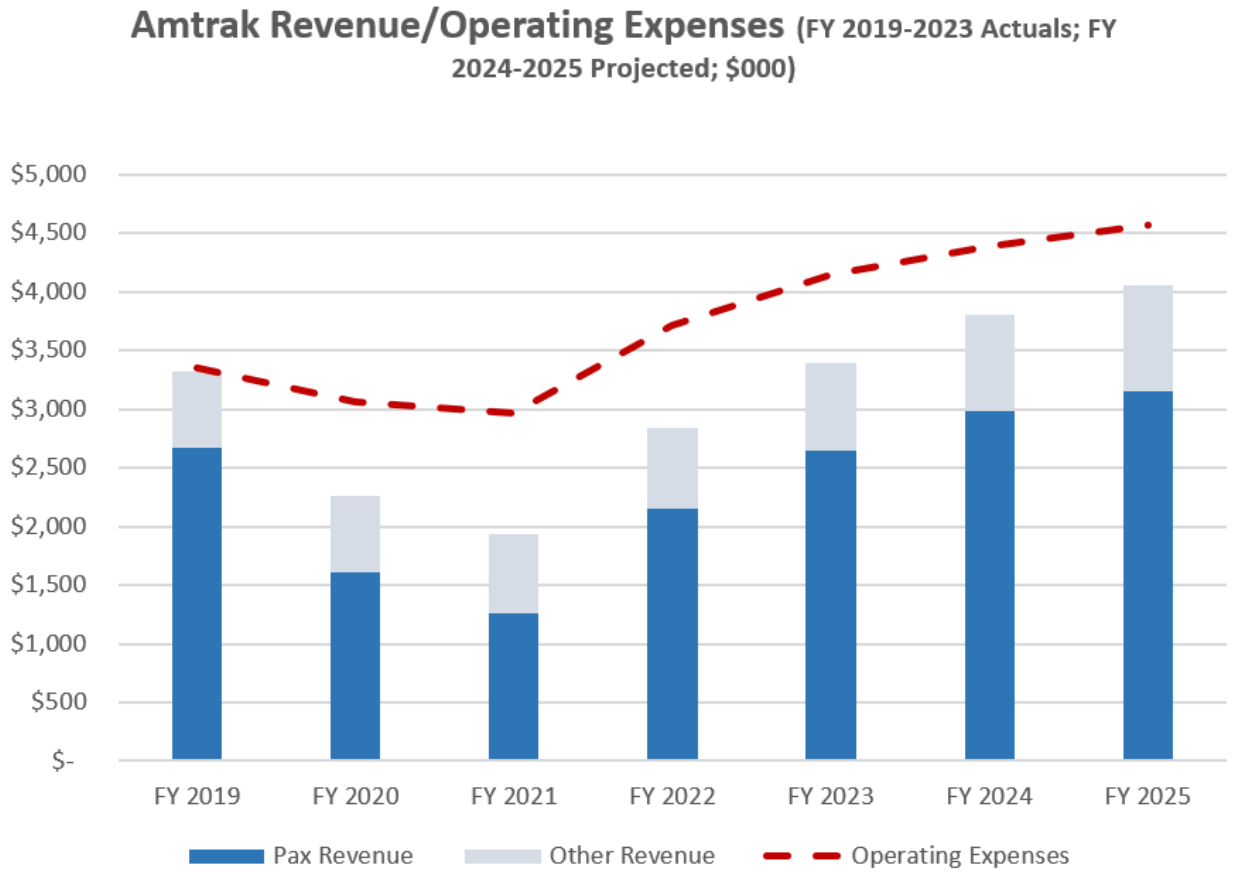
What is this program and what does this funding level support?

As the nation's primary operator of intercity passenger rail service and majority owner of one of the most important transportation assets in the world – the Northeast Corridor – the National Railroad Passenger Corporation (Amtrak) delivers integral services to connect our country and drive economic prosperity. Since Amtrak began operations in 1971, the Federal Government has provided needed funding each year to support Amtrak's operations, with periodic special appropriations dedicated to specific purposes, such as the Northeast Corridor Improvement Project in the 1980s, the Northeast High-Speed Rail Improvement Project in the 1990s, the American Recovery and Reinvestment Act in 2009, and most recently, COVID relief funding in 2020 and 2021 and the $22 billion in supplemental advance appropriations provided through the Infrastructure Investment and Jobs Act (IIJA).

Amtrak operates three primary types of intercity passenger rail services:

1. Higher speed, high frequency, **Northeast Corridor** (NEC) services;
2. **State-Supported**, short distance, corridor service on 29 routes that are located in densely populated regions and connections to smaller communities; and
3. **Long Distance** services on 15 routes greater than 750 miles that connect rural areas and population centers.

The FY 2025 President's Budget includes a total of $2.5 billion for Amtrak's annual grants for the Northeast Corridor and National Network. In FY 2025, Amtrak ridership is projected to set a new record and surpass its pre-COVID levels of 32.5 million passengers. Amtrak is also generating record revenues—which the company forecasts will approach $4 billion in FY 2025—which are necessary to balance rising operating expenses, particularly related to increases in salaries, wages, and benefits. COVID deprived Amtrak of several years of projected ridership and revenue growth, which during this time Amtrak's expenses will have increased by 35 percent, with revenues lagging with only 20 percent growth from FY 2019 to FY 2025.[1]



Approximately half of Amtrak's projected operating loss in FY 2025 is attributable to Amtrak's core passenger business of operating its network of trains. The remaining operating loss is related to its infrastructure efforts, including the company's need to continue hiring to advance key projects funded under IIJA. New employees often require extensive on-boarding and training to become qualified to perform their duties in their assigned territories. From an accounting perspective, the costs of these employees during these initial training periods cannot be capitalized and assigned to projects, and are instead treated as operating expenses. Where appropriate and allowable under IIJA, some of these operating expenses are eligible to be funded under Amtrak's IIJA grant.

[1] Amtrak, General and Legislative Annual Report & Fiscal Year 2024 Grant Request, March 2023.

FY 2025 also represents the fourth year of Amtrak's implementation of the $22 billion in direct advance appropriations provided to Amtrak under IIJA. Amtrak has made substantial progress in defining the universe of projects to be advanced with the IIJA funding, and through FY 2023 had expended more than $700 million for new Long Distance locomotives, new intercity trainsets to serve the NEC and State-Supported corridors, and projects to comply with the Americans with Disabilities Act (ADA). As of January 2024, 34 Amtrak IIJA-funded projects were programmed and underway—with expenditures totaling more than $700 million—and more than 20 additional projects are anticipated to be underway by the end of FY 2025. In addition to the aforementioned equipment and ADA projects currently underway, ongoing work includes trainset maintenance facility planning, development, and/or technology projects in Philadelphia, PA; Washington, D.C.; New York, NY; Boston, MA; Seattle, WA; and Eugene and Portland, OR.

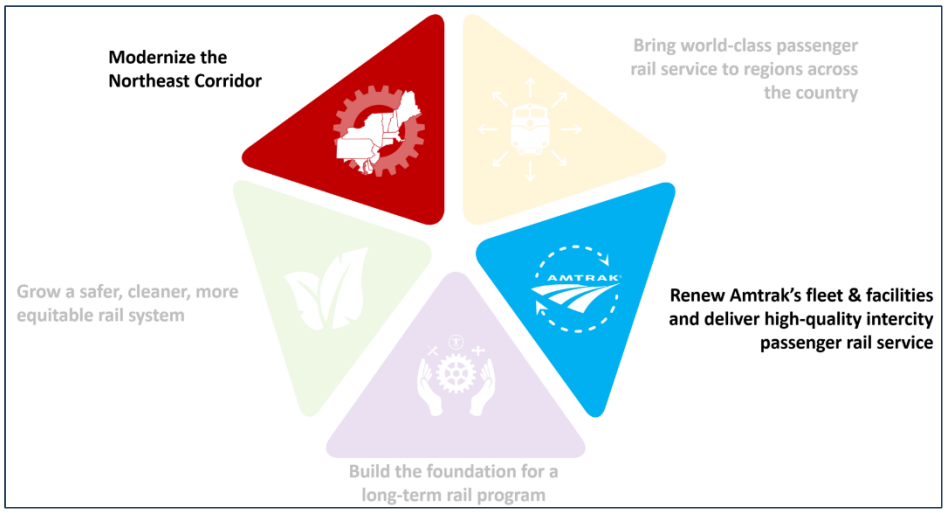
Delineating the Purpose of Amtrak's IIJA Funding and Annual Grants

IIJA Funding

Congress and the Biden-Harris Administration set clear expectations for the use of the $22 billion in IIJA Amtrak supplemental funding, identifying six primary purposes:

1. **Acquiring new passenger rail rolling stock to replace Amtrak's aging and obsolete passenger equipment fleet.** This includes current procurements underway to replace Long Distance locomotives and Amfleet I railcars used in NEC Regional and some State-Supported services, as well as future procurements to retire the Amfleet II and Superliner fleet used in Long Distance and State-Supported services. The rehabilitation, upgrade, and expansion of facilities used to maintain and store this equipment is also eligible.
2. **Eliminating the backlog of deferred capital projects on Amtrak-owned assets located on the NEC that solely benefit Amtrak services.** Funding to address the NEC state of good repair backlog that jointly benefits Amtrak and the NEC's commuter rail services is available from the Federal-State Partnership for Intercity Passenger Rail program. However, IIJA allows Amtrak to use a portion of the $6 billion provided for the NEC account as non-Federal match for joint benefit projects under the Partnership program. Amtrak has identified $1.6 billion of these funds as match to selections under the Partnership program to date.
3. **Eliminating the backlog of deferred capital projects on Amtrak-owned assets not located on the Northeast Corridor.** In addition to the NEC main line, Amtrak owns facilities and several hundred miles of main line track, sidings, and yards on the National Network that require rehabilitation and improvement.
4. **Eliminating the backlog of obsolete assets associated with Amtrak's national rail passenger transportation system**, such as systems for reservations, security, training centers, and technology.
5. **Bringing all Amtrak-served stations into compliance with the Americans with Disabilities Act (ADA).** Beginning in FY 2012, Congress has specified that at least $50 million be dedicated for this purpose annually. Similarly, the IIJA reauthorization of Amtrak requires DOT to withhold $50 million annually from amounts appropriated to Amtrak for ADA compliance.
6. **Carrying out NEC capital renewal backlog projects** that rebuild, upgrade, and modernize main line track and supporting systems over and above what can be accomplished in on-going annual maintenance programs. Some core infrastructure systems, such as the electric power system between New York City and Washington, D.C., originally installed in the 1930s, are in need of comprehensive reconstruction and upgrades to modern high-speed passenger service standards. Assets to be improved could include: track infrastructure such as main line track and ballast, yards and sidings, turnouts and switches; bridges and structures such as undergrade bridges, signal bridges, and culverts; electric traction power systems such as substations, catenary structures, and power wire; and communications and signals systems such as switch machines, track circuits, and grade crossing devices.

Annual Grants



The commitment that Congress and the Biden-Harris Administration made to improving the Nation's rail network through the IIJA advance appropriation will help deliver safe, reliable, and efficient rail service for all Americans. However, **this generational investment must be sustained with robust and ongoing funding that is scaled to support Amtrak's annual operating, maintenance, and capital improvement needs.** Without adequate annual funding for Amtrak, the improvements delivered by IIJA funds could be quickly negated due to potential congestion chokepoints, equipment failures, and a re-accumulation of state of good repair issues elsewhere on the network.

The $2.5 billion requested for Amtrak in the FY 2025 President's Budget will support Amtrak's base needs, including the continued operations of the Amtrak's national network of trains that serve 46 of the 48 continental U.S. states, maintain existing capital assets and ensure no further infrastructure or equipment slip into a state of disrepair, and address the programmatic backlog of capital renewal projects that exists on the NEC.

Revisions to Amtrak Federal Grant Disbursements

Prior to the passage of the FAST Act, Amtrak received quarterly disbursements for its Federal operating funds, and after an initial $200 million disbursement for working capital at the beginning of the fiscal year, all capital funds were provided on a reimbursable basis. In part due to the funding constraints that Amtrak had historically faced—including periods where the company's liquidity was just sufficient to maintain operations—the FAST Act established an advance payment process where all of Amtrak's annual Federal grant funds were disbursed on a set schedule (October 1, January 1, April 1).

The FAST Act changes have had unintended consequences. Amtrak now routinely maintains more than $3 billion in cash on hand. These cash balances are in part a testament to Amtrak's improved financial practices and performance, where annual operating surpluses on the NEC were exceeding $500 million pre-COVID. However, Amtrak's cash balances are also inflated because of the FAST Act's advance payment clause. Amtrak executes a complex capital program with projects that can span several years, which results in Federal capital grant funds spending out over an approximately three-year horizon.

In executing the IIJA advance appropriations grants for Amtrak, FRA and Amtrak agreed to partner to develop a new payment process that more closely aligns with the principles in 2 CFR 200.305 to minimize the time elapsing between (1) the transfer of funds from the Federal Government to the grantee and (2) the grantee disbursing the funds. FRA is working with Amtrak on a multi-year plan to establish the systems and processes to achieve these objectives, which will balance concerns surrounding both Amtrak's balances of Federal grant funds and Amtrak maintaining sufficient liquidity to efficiently operate. Amtrak is currently in the discovery stage of developing a new funds management process that fully integrates with Amtrak's financial systems and automates manual calculations associated with Amtrak's many Federal and non-Federal funding sources, strengthens transparency and decision-making, and ensures all compliance, reporting, and auditing requirements associated with Amtrak's funding sources are met.

As Amtrak works to improve its systems and processes, FRA will provide Amtrak with quarterly disbursements for the IIJA supplemental grants based on Amtrak's estimated expenditures for each quarter, rather than the full grant balance that is currently disbursed under the FAST Act process. IIJA amended 49 U.S.C. 24319(e) to allow FRA and Amtrak to modify the FAST Act payment process to improve the implementation and reporting of Amtrak's use of Federal grant funds and the delivery of Amtrak's projects and services.

FY 2024 Accomplishments

Anticipated FY 2024 accomplishments for FRA's funding of Amtrak include:

- Continued implementation of the $66 billion provided by the IIJA supplemental for rail, including $22 billion for grants to Amtrak. This includes providing technical assistance and oversight of Amtrak, and the submission of a detailed spend plan to Congress accompanying the FY 2025 President's Budget that identifies the projects to be funded with Amtrak's IIJA advance appropriations. Nearly 50 IIJA-funded Amtrak projects are anticipated to be underway by the end of FY 2024, with expenditures expected to exceed $1.6 billion total. Nearly 80 percent of the anticipated spending through FY 2025 is dedicated to the following three categories of projects:

ADA Stations

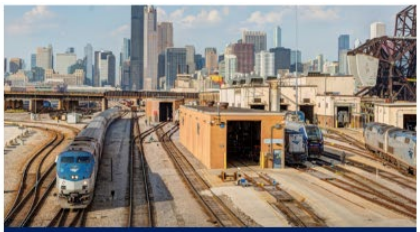
FY22-FY25 Expenditures: $624M

Surveys, assessments, design, and construction projects to advance the goal of bringing 295 Amtrak-served stations into compliance with the Americans with Disabilities Act.

Passenger Equipment

FY22-FY25 Expenditures: $1.8B

Vendor payments for new Long Distance locomotives and NEC/State-Supported intercity trainsets, as well as beginning to replace the Long Distance fleet.



ICT Facilities

FY22-FY25 Expenditures: $966M

Design and construction of improvements to 15 facilities to maintain the new intercity trainsets, including Pacific Northwest (Seattle, Eugene, Portland); NEC (DC, Philadelphia, NYC, Boston); Virginia (Newport News, Norfolk, Richmond, Roanoke); Rensselaer, NY; Springfield, MA; Charlotte, NC; and Brunswick, ME.

- Continued support of Amtrak's annual capital program to reduce their maintenance backlog and improve infrastructure, equipment, stations, facilities, information technology, and other support services required to provide intercity passenger rail operations.

- Monitoring the continued manufacturing and testing of 28 new, next generation high-speed trainsets for the Acela service on the NEC, which are expected to commence operations in fall 2024. The commissioning of these new trainsets was delayed due to issues with the dynamic modeling required prior to putting the equipment into passenger service. The new Acela trainsets will significantly increase capacity for Amtrak's premium service, by both expanding the Acela fleet by 8 trainsets and increasing the number of seats per trainset from 304 on the existing trains to 386 on the new equipment. The additional trainsets will allow Amtrak to provide more frequent Acela service, including all-day hourly service between New York and Boston, and half-hourly service between New York and Washington during peak travel hours. The new Acela trainsets were financed by the Department's Build America Bureau in 2016 through the Railroad Rehabilitation and Improvement Financing (RRIF) Program.

- Continued development of 83 new trainsets to replace the 40-50+ year old Amfleet I railcars used on NEC Regional service and many State-Supported corridors across the country. In FY 2024, manufacturing of the new trainsets, which began at the end of FY 2023, will continue.

- Delivery of new locomotives serving Long Distance routes. Nearly half of the 125 locomotives under procurement are anticipated to be in service by the end of FY 2024. FRA is also conducting oversight and monitoring of Amtrak's plans to replace its Long Distance fleet. Amtrak issued a Request for Proposals to railcar manufacturers in December 2023.[2]

- Implementation of the facilities program necessary to service and support the new trainsets and locomotives. Under the IIJA advance appropriation, 21 maintenance facilities will be brought into a state of good repair and modernized to support the new fleet, including 7 "Level 1" facilities and 14 "Level 2" facilities.[3] By the end of FY 2024 the maintenance facilities in the following cities will be under construction: Philadelphia, PA; New York City, NY (Sunnyside Yard); Washington, D.C. (Ivy City Yard); Boston, MA; and Seattle, WA.

[2] Amtrak, Amtrak Reaches Next Major Milestone in Transforming Long Distance Train Service, December 22, 2023.

[3] Level 1 Facilities are classified as heavy maintenance facilities which conduct all facets of maintaining the trainsets. These facilities include Maintenance and Inspection tracks that perform routine Inspections and Maintenance of the trainsets and can perform any heavy maintenance that may be required. These facilities also perform routine as well as in-depth service and cleaning of the trainsets. Level 2 Facilities are classified as service and cleaning facilities which perform the day-to-day service and cleaning of the trainsets. No heavy maintenance will be performed at Level 2 facilities.

- Oversight of Amtrak's ADA stations program, which is working to bring 295 Amtrak-served stations into compliance with the funding provided under IIJA. More than 40 stations are on track to be brought into compliance by the end of FY 2024.

- Continued oversight of Amtrak's implementation of IIJA requirements and 5-year service line and asset line plans. Amtrak's asset lines include Transportation, Infrastructure, Equipment, Stations, and National Assets and Corporate Services. These plans complement the 5-year service line plans for NEC Intercity Operations, State-Supported, Long Distance, Infrastructure Access, and Ancillary Services. Asset lines provide resources and deliver transportation and related services to the service lines. The service line and asset line plans help to inform Amtrak's decision-making process and more clearly communicate with the Department, Congress, states, passengers and other partners on Amtrak's business priorities and financial performance.

The FY 2025 President's Budget request of $2.5 billion for Amtrak includes:

Northeast Corridor ($1.2 billion): The Northeast Corridor is the lifeblood to the region's economy, carrying close to one million passengers each day on Amtrak and commuter services prior to the COVID-19 pandemic. Amtrak's NEC train operations account for approximately 40 percent of its ridership and operating revenue.

The FY 2025 President's Budget includes $1.2 billion for the Northeast Corridor account to fund the following needs:

- Normalized replacement of NEC infrastructure in order to maintain safe and reliable operations;
- Capital renewal and selected improvement projects beyond annual normalized replacement programs that improve corridor assets and operations;
- Annual equipment maintenance overhauls, repairs, and refurbishments;
- Principal and interest payments on Amtrak's legacy debt that is attributable to the NEC;
- Information technology and other "backbone" services to support NEC infrastructure and operations;
- Upgrades and repairs to Amtrak-served stations on the NEC; and
- Planning and stakeholder coordination activities carried out by the Northeast Corridor Commission, which includes representatives from each of the eight NEC states, the District of Columbia, Amtrak, and the U.S. Department of Transportation.

National Network ($1.3 billion): Statute defines the National Network to include capital, operating, and debt service for Amtrak's State-Supported routes, Long Distance routes, and other activities not allocated to the Northeast Corridor. The FY 2025 President's Budget includes $1.3 billion for the National Network account to fund the following needs:

- Long Distance Routes ($790 million): The 15 Long Distance routes currently operated by Amtrak serve more than 300 stations in 39 states. This funding will be used to provide the operating, capital, and debt service funding necessary to operate Long Distance trains.

- State-Supported Routes ($390 million): The 29 State-Supported routes provide corridor service in 17 states. Amtrak and its state partners are working to introduce new or expanded service offerings, including the seasonal Berkshire Flyer that commenced operations in July 2022 between New York, NY and Pittsfield, MA (and which operated again during the summer of 2023) and a planned second round trip on the Chicago, IL – Milwaukee, WI – St. Paul corridor. Section 209 of the Passenger Rail Investment and Improvement Act (PRIIA) required states to be financially responsible for supporting their corridor services, beginning in FY 2014. States have paid Amtrak more than $300 million annually for capital and operating costs associated with State-Supported routes.

  FRA funding provides capital assistance for the infrastructure, equipment, stations, and other assets utilized for State-Supported services, as well as the operating costs for specific items of national significance as defined in the PRIIA 209 cost methodology policy revision that was required by IIJA and went into effect in FY 2024, primarily to cover police, security, and insurance expenses.

  Of this funding, $3 million will support the operations of the State-Amtrak Intercity Passenger Rail Committee (SAIPRC), as authorized by IIJA.

- Infrastructure Access ($115 million): While the majority of track over which Amtrak trains operate are owned by other railroads, Amtrak owns some infrastructure outside of the NEC mainline on the National Network. Amtrak-owned or controlled infrastructure on the National Network includes, but is not limited to:
  - 96 miles of the Michigan Line between Kalamazoo, MI - Porter, IN;
  - 103 miles of the Keystone Corridor between Philadelphia - Harrisburg, PA;
  - 61 miles of the Springfield Line between New Haven, CT - Springfield, MA;
  - 94 miles of the Hudson Line owned by CSX and leased to Amtrak between Poughkeepsie, NY - Hoffmans, NY (near Schenectady); and
  - the terminal areas in Chicago, New Orleans, and other locations.

  For these Amtrak-owned or controlled infrastructure and facilities, Amtrak is responsible for planning, developing, managing, and providing access to other rail operators (freight and passenger) and public or private entities that use those assets. Unlike on the NEC, National Network revenues are not sufficient to fully cover operating costs and Federal assistance is required.

- Corridor Development (up to 10 percent): IIJA requires DOT to establish the Corridor Identification and Development (Corridor ID) program to (1) identify corridors with potential to support intercity passenger rail service, (2) partner with project sponsors, states, Amtrak, and other operators to develop a service development plan to guide the implementation of the intercity passenger rail service, and (3) establish and sequence a pipeline of capital projects to receive funding. Under IIJA, Amtrak may use up to 10 percent of National Network funds for planning, capital, and operating costs for Amtrak-operated corridors selected under this process. Amtrak may utilize this authority to direct any National Network funding that is not required to support its core responsibilities to

the Long Distance, State-Support, and Infrastructure Access service lines to eligible Corridor ID activities. The initial selections into the Corridor ID program announced in December 2023 include extensions and/or improvements to 28 existing Amtrak routes, as well as 41 new conventional or high-speed routes (which include some routes for which Amtrak may operate the service).

- Interstate Rail Compact Grants ($3 million): IIJA authorized up to $3 million annually be reserved from the National Network for competitive grants to provide assistance for interstate rail compacts. These funds are authorized to be used for organizational administrative costs, railroad systems planning, preparation of Federal grant program applications, and other project promotion and coordination activities. Grants are limited to a maximum of $1 million. FRA published the initial funding solicitation for the program in March 2023, making a total of $6 million provided in FY 2022 and FY 2023 available. Applications were due to FRA by July 10, 2023 and selections will be announced in early 2024.

- FRA Oversight ($12.5 million total from both the NEC and National Network): FRA has the responsibility to oversee the delivery of Amtrak's capital program and operations. Improved project delivery of capital projects to maintain and improve infrastructure, equipment, stations, and systems are essential for Amtrak to continue meeting the needs of its customers. Congress directed FRA to oversee Amtrak performance and delivery by authorizing 0.5% of NEC and National Network appropriations to be dedicated to management oversight of Amtrak.

What benefits will be provided to the American public through this request and why is this program necessary?

Amtrak serves a critical role in the U.S. transportation network, helping to link more than 500 small, midsize, and large communities to each other within a single journey. Amtrak connects Americans across the country through a wide diversity of trips, with routes covering up to 2,700 miles in length. Additionally, Amtrak's infrastructure hosts commuter rail services that are critical to bringing workers to their jobs, and Amtrak's stations often provide transfer points to bus and transit systems that benefit the environment and reduce congestion by keeping automobiles off the roads. The proposed funding level for Amtrak's annual grants will enable recapitalization to adequately maintain existing assets and support the needed growth of intercity passenger rail options as Amtrak, states, and other project sponsors pursue expansion and improvement projects through FRA's competitive grant programs.

Climate – Investment in Amtrak supports a more energy-efficient and climate-friendly intercity travel option when compared to other modes of transportation. In addition to the inherent environmental benefits of rail travel, the $22 billion in IIJA supplemental funding is helping to replace Amtrak's aging fleet of locomotives and rail cars with state-of-the-art, made-in-America equipment that will help to lower greenhouse gas emissions. The new ALC-42 locomotives that began operations on Amtrak's Long Distance routes in FY 2022 meet EPA Tier IV emissions standards, representing reductions of up to 90 percent for certain emissions' categories. The new

intercity trainsets that will be used on NEC Regional and many State-Supported services will come in four configurations – two dual-mode electric catenary-diesel trainsets, a new battery-diesel hybrid, and diesel only. These trainsets will also meet EPA Tier IV standards when operating in diesel mode.

Equity – Equitable access to the nation's intercity passenger rail system is a civil right. More than 30 years since the passage of the Americans with Disabilities Act of 1990—and more than a dozen years since Amtrak was required by the law to make its stations accessible and useable by individuals with disabilities—the majority of Amtrak stations are not in compliance. Of the 515 stations in the U.S., Amtrak is either solely responsible or has shared responsibility with other parties such as transit agencies, local governments, or railroads to bring 385 stations into compliance. Amtrak has used the $50 million set-aside by Congress each year over the last decade to complete accessibility improvements at over 150 stations. The funding provided by IIJA will enable Amtrak to significantly accelerate their ADA program.

Railroad Workforce – In the history of many American families, the long and ultimately successful struggle for good-paying, dignified railroad jobs have played a central role in bringing many families into the middle class. The dedicated and increased investment levels provided by the IIJA supplemental and FY 2025 President's Budget will provide opportunities for thousands more families to achieve economic security through rail industry employment. Amtrak currently employs approximately 20,000 employees, and is undertaking significant hiring across the many labor crafts that will be relied upon to construct, maintain, and operate the improvements that will result from IIJA. By FY 2024, Amtrak intends to increase its headcount to nearly 25,000 employees.[4]

Vital Infrastructure – NEC service disruptions caused by infrastructure failures, mechanical issues, rail traffic congestion, and other factors cost NEC riders approximately $1 billion per year in lost productivity.[5] A loss of all NEC services for just one day would cost the economy an estimated $100 million.[6] Prior to COVID, total delay incidents and delay time on the NEC had declined more than 10 percent from FY 2017-FY 2019, indicating some progress in improving reliability and service performance for Amtrak and its fellow NEC rail operators. But delays on the NEC persist, as evidenced by the more than 23 percent of Amtrak NEC trains that were late, annulled, or terminated in FY 2022.[7] The NEC proved its vitality to the region during the COVID-19 pandemic, as well: even with ridership corridor-wide down more than 95 percent during April 2020, at the initial height of the outbreak, NEC operators carried more than 52,000 daily trips, providing reliable and necessary service to essential workers throughout the region. [8]

Helps Meet Travel Demand – More than two times as many people travel through Amtrak's New York Penn Station every day than through JFK, LaGuardia and Newark airports combined.[9] In total, Amtrak provides a transportation choice to more than 500 communities across 46 of the

[4] Amtrak, General and Legislative Annual Report & Fiscal Year 2024 Grant Request, March 2023.
[5] NEC Commission, Connect NEC 2035, July 2021.
[6] Northeast Corridor Commission, NEC Annual Report FY17, April 2018.
[7] NEC Commission, NEC Annual Report, March 2023.
[8] Northeast Corridor Commission, NEC Annual Report FY20, March 2021.
[9] Amtrak, New Passenger Information Displays Improve Customer Experience at Penn Station New York, October 11, 2016.

48 contiguous states. Prior to COVID, Amtrak and its state partners helped to increase ridership across the network by 35 percent over the previous 15 years, with the State-Supported routes representing the fastest growing segment at 45 percent growth over this timeframe. The existing network can accommodate further growth within its current infrastructure and service capacity, and is poised to grow further with the help of the robust planning processes established by the Corridor Identification and Development program and transformational investments provided through IIJA.

Economic Development – Amtrak's operations and implementation of capital projects generate significant economic value for the country. Amtrak estimates that its current network supports more than $7 billion in economic activity each year.[10] The major capital investments being advanced with both annual and IIJA advanced appropriations will further create jobs, strengthen the domestic manufacturing and supply base, and improve travel to the destinations Amtrak serves. In addition, station development yields sizable economic benefits including attracting housing and retail development, restored parks and civic and private buildings, an increase in housing and property rental values, and tourism growth.

[10] Amtrak, More Trains. More Cities. Better Service: Amtrak's Vision for Improving Transportation Across America, June 2021.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS APPROPRIATIONS LANGUAGE

CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS

For necessary expenses related to Consolidated Rail Infrastructure and Safety Improvements grants, as authorized by section 22907 of title 49, United States Code, [$560,000,000]*$250,000,000*, to remain available until expended: *Provided*, That, for eligible projects under section 22907(c)(11) of title 49, United States Code, eligible recipients under section 22907(b) of title 49, United States Code, shall include any State, county, municipal, local, and regional law enforcement agency: *Provided further*, That, for projects benefitting underserved communities, as determined by the Secretary, section 22907(e)(1)(A) of title 49, United States Code, shall not apply and the Federal share of total project costs may exceed 80 percent but shall not exceed 90 percent, notwithstanding section 22907(h)(2) of such title: *Provided further*, That the Secretary may retain up to $5,000,000 of the amount provided under this heading to establish a National Railroad Institute to develop and conduct training and education programs for both public and private sector railroad and railroad-related industry employees (including the railroad manufacturing, supply, and consulting fields): *Provided further, That the requirements under section 22907(e)(1)(B) of title 49, United States Code, shall not apply for projects eligible under paragraphs (8), (10), (12), (13), (14), and (15) of section 22907(c) of title 49, United States Code: Provided further*, That the Secretary may withhold up to 2 percent of the amounts made available under this heading in this Act for the costs of award and project management oversight of grants carried out under title 49, United States Code*: Provided further, That of the amount provided under this heading, the Secretary may allocate up to $20,000,000 for grants to States for State rail planning managers to conduct activities under chapter 227 of title 49, United States Code: Provided further, That each participating State may be allocated a minimum of $150,000 of the amounts made available under the previous proviso, and the Secretary may distribute additional amounts to States based on the ratio of the population in each State to the total population of the United States according to the 2020 Decennial Census conducted by the Bureau of the Census: Provided further, That the amount allocated to a State for grants for State rail planning managers may be withdrawn if a State fails to demonstrate reasonable progress in meeting the requirements necessary for the Secretary to obligate funds, as determined by the Secretary, within one year of the funding being announced in a notice of funding opportunity: Provided further, That any unexpended balances of amounts obligated for grants for State rail planning managers may be deobligated if the allocated recipient fails to demonstrate reasonable progress in delivering the scope of the award, as determined by the Secretary*.

Explanation of Changes: The FY 2025 President's Budget proposes to waive the requirement for a benefit-cost analysis (BCA) for certain CRISI project eligibilities that are not well-suited to meet the DOT requirements for a full BCA review, including planning projects, development of safety programs and institutes, research, workforce

development and training, and the preparation of emergency response plans. The FY 2025 President's Budget also modifies a proposal contained in Section 151 of FRA's Administrative Provisions in the FY 2024 President's Budget to provide funding to states to build their internal rail planning capacity. This set-aside from CRISI is intended to serve as a temporary measure during this critical stage of IIJA implementation and will be phased out after four years, which will allow states to identify and dedicate internal resources to support long-term rail project planning, implementation, and management.

EXHIBIT III-1
CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS
Summary by Program Activity
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

	FY 2023 ENACTED	FY 2024 FULL YEAR CR	FY 2025 PRES. BUDGET
Consolidated Rail Infrastructure and Safety Improvements	$ 560,000	$ 560,000	$ 250,000
Transfer to Financial Assistance Oversight and Technical Assistance	$ (11,200)	$ (11,200)	$ (5,000)
TOTAL, Base appropriations	$ 548,800	$ 548,800	$ 245,000
FTEs			
Direct Funded	0	0	0
IIJA Supplemental (Division J)			
Consolidated Rail Infrastructure and Safety Improvements	$ 1,000,000	$ 1,000,000	$ 1,000,000
TOTAL, Supplemental appropriations	$ 1,000,000	$ 1,000,000	$ 1,000,000
FTEs			
Direct Funded	0	0	0
TOTAL, Account	$ 1,548,800	$ 1,548,800	$ 1,245,000

Program and Performance Statement

The Consolidated Rail Infrastructure and Safety Improvements (CRISI) program was authorized by Congress to improve the safety, efficiency, and reliability of passenger and freight rail systems. Eligible activities include a wide range of freight and passenger rail capital, safety technology deployment, planning, environmental analyses, research, workforce development, and training projects. Eligible recipients include states (including interstate compacts), local governments, Class II and Class III railroads and associations that represent such entities, Amtrak and other intercity passenger rail operators, rail carriers and equipment manufacturers that partner with an eligible public-sector applicant, federally recognized Indian Tribes, the

Transportation Research Board, University Transportation Centers, and non-profit rail labor organizations. As authorized by statute, the CRISI program requires a minimum non-Federal share of 20 percent, that preference be given to projects with at least a 50 percent non-Federal match, and that at least 25 percent of funds be provided to projects in rural areas. Unless otherwise stated in appropriations language, FRA intends to use the fully authorized amounts for these set-asides.

EXHIBIT III-1a
CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS
SUMMARY ANALYSIS OF CHANGE FROM FY 2024 TO FY 2025
Appropriations, Obligations, Limitations, and Exempt Obligations
($000)

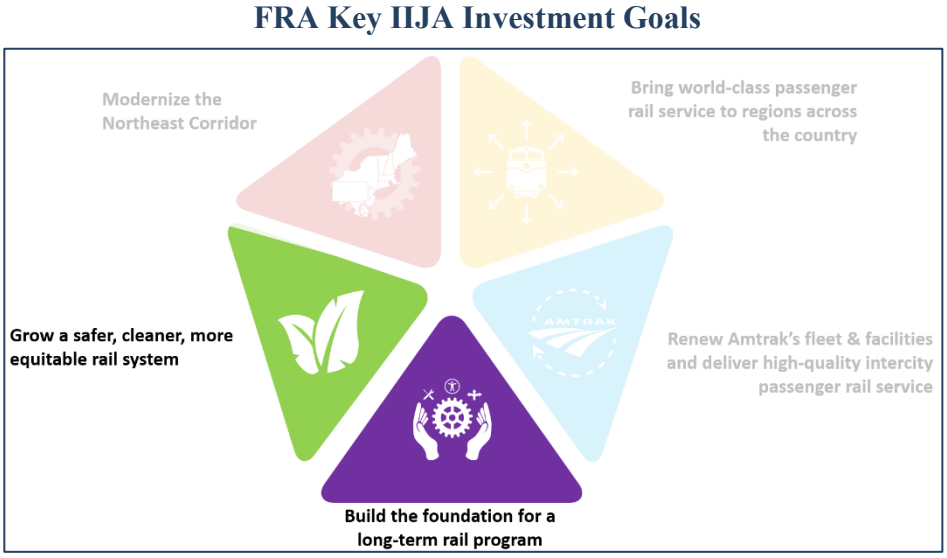
	$000	FTE
FY 2024 FULL YEAR CR, net transfer	$548,800	0
PROGRAM REDUCTIONS		
Consolidated Rail Infrastructure and Safety Improvements	-303,800	0
SUBTOTAL, PROGRAM REDUCTIONS	**-303,800**	**0**
FY 2025 REQUEST, net transfer	**245,000**	**0**
Supplemental Appropriations	**1,000,000**	**0**
TOTAL, net transfer	**1,245,000**	**0**

Detailed Justification for the Consolidated Rail Infrastructure and Safety Improvements

FY 2025 Consolidated Rail Infrastructure and Safety Improvements Budget Request ($000)

Program Activity	FY 2023 Enacted	FY 2024 Full Year CR	FY 2025 President's Budget
Consolidated Rail Infrastructure and Safety Improvements	$560,000	$560,000	$250,000
Total	**$560,000**	**$560,000**	**$250,000**
FTE	**0**	**0**	**0**

What is this program and what does this funding level support?



The Consolidated Rail Infrastructure and Safety Improvements (CRISI) program supports freight and intercity passenger rail projects to improve safety, efficiency, and reliability of the nation's rail system. CRISI continues to be one of FRA's most oversubscribed competitive grant programs, with $6.1 billion in applications submitted for the $1.4 billion made available in FRA's FY 2022 solicitation. **The FY 2025 President's Budget requests $250 million for CRISI, which is in addition to the $1 billion advance appropriation provided to CRISI under IIJA for FY 2025, in order to better meet the outsized demand for the program.**

CRISI has amassed such broad stakeholder support and interest across the railroad industry due to the wide range of recipients and projects eligible to be funded under the program. However, CRISI's comprehensive project eligibility also creates overlap among FRA's grant programs – CRISI can fund almost all program and applicant eligibilities under both the Partnership and Railroad Crossing Elimination programs.

For FY 2025, FRA proposes to continue prioritizing CRISI funding to project types not addressed by the Partnership and Railroad Crossing Elimination programs. Larger-scale intercity passenger rail investments intended to lead to service changes—such as new frequencies, new services, service extensions, and significant trip time and/or operating speed improvements—will continue to be directed towards the Partnership program. Similarly, the Railroad Crossing Elimination program will be first in line to fund highway-rail grade crossing projects among FRA grant programs. However, FRA will continue to preserve flexibility and discretion to fund all authorized projects under CRISI. Under this approach, CRISI will still have a wide variety of project types to fund, including:

- Safety projects, including the deployment of positive train control and other safety technologies;
- Short line railroad infrastructure and equipment, including helping short line railroads retire their aging locomotive fleet and replace them with greener technologies;
- Rail line relocations or improvements, particularly in underserved and historically disadvantaged communities; and
- Congestion relief projects to address freight and passenger rail chokepoints, improve network fluidity, and support a healthy supply chain.

Railroad Industry Workforce Development and Capacity Building

The FY 2025 President's Budget proposes to continue two efforts first proposed in the FY 2023 President's Budget to enhance railroad industry employee recruitment, retention, and training. The Federal Government can do more to help the industry cultivate a diverse workforce that is representative of all Americans and prepared to deliver the improvements necessary to support the transportation demand of our growing population. These efforts include:

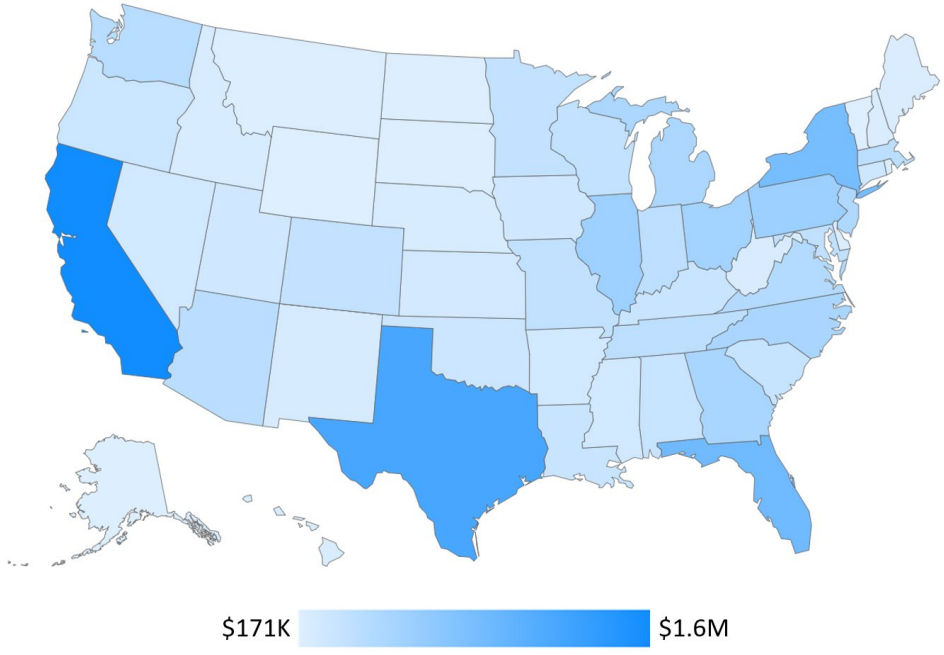
- **Dedicate $5 million to establish and maintain a National Railroad Institute** to develop and conduct training and education programs for both public- and private-sector railroad and railroad-related industry employees (including the railroad manufacturing, supply, and consulting fields). The nation's highway and transit systems have benefited from decades of Departmental leadership in workforce training and technical assistance delivered through the Federal Highway Administration's National Highway Institute (NHI) and Federal Transit Administration's National Transit Institute (NTI). A National Railroad Institute will provide railroad industry employees with similar opportunities to their counterparts in highways and transit to develop and maintain the skillsets and tools needed to deliver and maintain a 21st century rail network.

- **Dedicate $5 million to maintain a Railroad Workforce Development Program within CRISI** to provide grants to eligible CRISI recipients, including non-profit groups representing railroad employees, to develop and execute their own internal or third-party workforce training and apprenticeship programs. Although grants for workforce development and training programs have been eligible under CRISI since the program was first funded in FY 2017, FRA received few applications and only seven such projects

had been funded through FY 2022.[1] In FY 2023, Congress directed FRA to reserve not less than $5 million in FY 2023 CRISI funds for eligible workforce development and training activities, and the funding requested for FY 2025 will continue to amplify the importance and urgency of these activities to maintaining a strong rail network.

The FY 2025 President's Budget also proposes to continue an initiative first proposed in the FY 2024 President's Budget to **set-aside funds from the agency's competitive grant programs to provide formula funding to states for state rail planning managers to carryout state rail planning activities. The FY 2025 President's Budget proposes to dedicate $20 million in CRISI funds for this purpose.** Under this proposal, each state would receive a minimum award of $150,000, with the balance of funds allocated based on state population. This approach will ensure all states are able to maintain continuity in executing rail planning functions, while also assisting states with larger populations—where people and goods are moving—to receive additional resources to manage more complex portfolios of rail projects and services. **This set-aside is intended to serve as a temporary measure to assist states in building technical capacity during this critical stage of IIJA implementation.** FRA proposes that this set-aside be phased out after FY 2028, which will allow states to identify and dedicate internal resources to support long-term rail project planning, implementation, and management.

Notional FY 2025 State Allocation of Rail Planning Capacity Assistance



[1] $8 million to Amtrak for the Mechanical Craft Workforce Development Apprenticeship Training Program, $2.5 million to Kansas State University for the Rural Railroad Safety Center, $5.4 million to the Iowa Northern Railway Company for the IANR Education and Training Program, $4.6 million to the University of Delaware for Development and Implementation of HBCU Based Railroad Engineering Program for Underrepresented Communities, $17.1 million to the University of South Florida for A Comprehensive Approach to Promoting Railroading Careers and Developing the Current Rail Industry Workforce, $0.6 million to the International Association of Sheet Metal Air Rail and Transportation Workers for the Data Driven Safety Training and Education for Front-Line Railroad Workers Project, and $8.8 million to Amtrak for the Engineering Track Foremen Workforce Development Apprenticeship Training Program.

Climate and Environmental Justice

FRA's climate and sustainability efforts are seeking to reduce emissions (1) across the broader transportation sector by shifting car and truck trips to rail and (2) within the railroad industry itself by replacing older, polluting equipment with cleaner or zero-emission equivalents:

1. Rail is among the most energy-efficient modes of transportation, particularly when dealing with the movement of freight. Rail carries approximately one-third of all freight on a ton-miles basis[2], yet consumes less than 2 percent of transportation sector energy.[3] **CRISI projects that can help divert even a small portion of freight that moves by truck to rail could result in considerable reductions in fuel consumption and greenhouse gas emissions.** In March 2021, the Association of American Railroads issued a climate change report that estimated greenhouse gas emissions could fall by more than 17 million tons annually if 10 percent of freight shipped by the largest trucks were shifted to rail – equivalent to removing 3.35 million cars from highways or planting 260 million trees.[4]

2. The FY 2025 President's Budget proposes to continue **dedicating at least $25 million in CRISI funds for a locomotive replacement program** to assist short line railroads rehabilitate, remanufacture, procure, or overhaul their worst-polluting, most inefficient locomotives. This funding will help to remove the dirtiest locomotives from America's rail network and further the Department's efforts to reduce EPA criteria air pollutants, diesel fuel consumption, and CO2 emissions. Under FRA's FY 2022 CRISI solicitation, 9 of the 70 projects selected for funding include the acquisition of new battery powered locomotives, conversion of existing diesel locomotives to battery power, or the remanufacturing of existing Tier 0 EPA-standard diesel locomotives to cleaner Tier 3 or Tier 4 EPA standards. In total, 30 new or remanufactured locomotives are funded from the FY 2022 awards and will help to reduce harmful emissions from the U.S. rail network. In January 2024, FRA released a new tool—the FRA Locomotive Emissions Comparison Tool—to assist potential grantees estimate emission reductions for grant applications seeking to replace or upgrade older locomotives.[5]

Relatedly, **FRA is also launching a Zero-Emission Rail Yards initiative** to reduce EPA criteria pollutant emissions at rail yards, with an emphasis on areas with high pollution impacts on surrounding communities. Often, communities near rail yards are Justice40 communities that suffer adverse health effects associated with exposure to diesel emissions. Many of the older locomotives referenced above that FRA is incentivizing to be removed from service operate in rail yards, and often lack anti-pollution equipment and even predate EPA pollution standards. FRA will seek to partner with a rail yard to pilot the establishment of a Zero-Emission Rail Yard,

[2] U.S. Department of Transportation, Bureau of Transportation Statistics, U.S. Ton-Miles of Freight, June, 2022
[3] U.S. Department of Transportation, Bureau of Transportation Statistics, Energy Consumption by Mode of Transportation, November 2023.
[4] Association of American Railroads, Freight Railroads & Climate Change, March 2021.
[5] Federal Railroad Administration, FRA Locomotive Emissions Comparison Tool, January 2024.

using CRISI funds to purchase new switcher locomotives and upgrade rail infrastructure to improve the efficiency of yard operations. The partner railroad will match FRA's investments by replacing other equipment that operate in rail yards and produce emissions, such as trucks, forklifts, and cranes. This pilot has the potential to usher in new technologies and operating practices, and serve as a model pathway for other rail yards to decarbonize and reduce diesel emissions.

As part of the Zero-Emission Rail Yards initiative, FRA will also be conducting research and testing under FRA's R&D program to document the public health impacts rail yards currently have on surrounding communities and identify the rail yards and communities most in need of intervention.

Proposed Legislative Changes

The FY 2025 President's Budget proposes three legislative changes to the CRISI program to further the Biden-Harris Administration's efforts to create a more equitable transportation system, improve the effectiveness of new trespass prevention eligibilities included in IIJA, and improve the overall administration of the CRISI program and reduce applicant burden:

- **First, FRA proposes to eliminate the statutory preference for a 50 percent non-Federal match for CRISI projects in or benefiting underserved communities and reducing the required match for such projects from 20 percent to 10 percent.** Rail lines often bisect communities and neighborhoods, present barriers to important services and opportunities, and expose marginalized communities to hazards. CRISI is well-positioned to support efforts to reconnect downtown neighborhoods and alleviate such hazards. Reducing the statutory match requirement and selection preference will enable the communities most in need of assistance to better compete for resources. While Congress has waived the 50 percent match preference for all CRISI funding provided through FY 2022 and FY 2023 regular appropriations, the preference still applies to the $1 billion in IIJA supplemental advance appropriations.

- **Second, FRA proposes to waive the requirement to submit a benefit-cost analysis (BCA) for certain eligible projects under the CRISI program that are not well-suited to meet the DOT requirements for a full BCA review.** By virtue of a project being in the nascent development stages (such as corridor/regional rail planning) or those that are not rail capital projects intended to address underlying infrastructure assets (such as workforce development/training, development of safety programs, or research and development), such applications typically lack the data necessary for a comprehensive BCA review. Applicants often struggle to prepare a sufficient BCA for these types of applications and meritorious projects are negatively impacted during CRISI evaluation process.

- **Third, FRA proposes to continue clarifying that state and local law enforcement agencies are eligible recipients for CRISI's trespass prevention project eligibility and to eliminate the non-Federal match for such projects**. This requirement has proven challenging for law enforcement agencies to meet under CRISI (only four such applications were submitted under the FY 2022 solicitation, with funding being awarded to the City of Riverside, CA and City of Greensboro, NC); the previous trespass law enforcement pilot projects funded through FY 2021 under FRA's Safety & Operations account did not require a match. The pilot projects funded to date have demonstrated success by law enforcement issuing warnings, making arrests, and saving lives of individuals trespassing on railroad right-of-way.

What benefits will be provided to the American public through this request and why is this program necessary?

Our nation's rail network is a critical component of the U.S. transportation system and economy. Rail carried over 28.5 million passengers on Amtrak services[6] in FY 2023 and approximately 1.5 billion tons of freight valued at nearly $600 billion each year.[7] The Consolidated Rail Infrastructure and Safety Improvements program will enhance rail safety, help to undo inequities caused by transportation and land use policies and create new opportunities for underserved communities, provide energy efficient transportation options to confront the effects of climate change, invest in projects that spur economic growth, and ensure our world-class freight network can meet the mobility demands of a growing population.

U.S. Rail System

[6] Amtrak, Monthly Performance Report, September 2023.
[7] U.S. Department of Transportation, Bureau of Transportation Statistics, Freight Facts and Figures.

Increased Safety – While the CRISI program supports a wide range of projects benefiting both passenger and freight railroads, addressing railroad safety issues remains a core tenet of the program. According to a report by the OneRail Coalition, fatal accidents involving freight rail take place at less than one-third the rate of truck accidents. Accidents involving injuries are one-fifth as frequent, and property damage accidents are 62 times less frequent.[8] However, opportunities exist to further improve the safety of the rail network through the CRISI program by improving infrastructure, deploying new safety technologies, and addressing the leading causes of railroad related fatalities – grade crossings, trespassing, and suicides.

Freight and Passenger Growth – Each American requires the movement of approximately 40 tons of freight per year across the freight network and approximately 85,000 passengers per day ride intercity trains. In addition to its intercity riders, the Northeast Corridor alone supports more than 700,000 commuter rail passengers per day. By 2050, the U.S. freight system is projected to experience a more than 40 percent increase in the total amount of tonnage it moves, with the rail share expected to increase by 28 percent.[9] Over this same timeframe, U.S. population is anticipated to grow by nearly 20 percent. Passenger and freight rail transportation must play a critical role in accommodating this projected growth and provide an alternative to the nation's increasingly congested airports and highways.

Energy Efficient – The United States uses nearly 14 million barrels of petroleum products every day for transportation, representing two-thirds of the nation's petroleum usage.[10] On average, transporting freight by rail rather than trucks can lower greenhouse gas emissions by up to 75 percent.[11] On average, U.S. railroads move one ton of freight an average of nearly 500 miles per gallon of fuel.[12]

Private Sector Partnership – The majority of both freight and intercity passenger rail services operate over privately-owned infrastructure, which enables private investment that generates significant public benefits. The Association of American Railroads estimates that U.S. freight railroads have invested approximately $780 billion since 1980 to maintain and improve their assets.[13] Given the variety of private and public sector stakeholders and benefits associated with rail projects, the CRISI program is well-positioned to attract funding from multiple project partners from both the public and private sectors.

[8] OneRail, Rail Safety in the United States, 2016.
[9] U.S. Department of Transportation, Bureau of Transportation Statistics, Freight Facts and Figures.
[10] U.S. Energy Information Administration, Monthly Energy Review, December 2023.
[11] Association of American Railroads, Climate Change Fact Sheet, December 2023.
[12] Association of American Railroads, Freight Railroads and Climate Change – Reducing Emissions, Enhancing Resiliency, June 2023.
[13] Association of American Railroads, Railroad 101, October 2022.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FEDERAL-STATE PARTNERSHIP FOR INTERCITY PASSENGER RAIL GRANTS
APPROPRIATIONS LANGUAGE

FEDERAL-STATE PARTNERSHIP FOR INTERCITY PASSENGER RAIL GRANTS

For necessary expenses related to Federal-State Partnership for Intercity Passenger Rail grants as authorized by section 24911 of title 49, United States Code, $100,000,000, to remain available until expended: *Provided*, That, for projects benefitting underserved communities, as determined by the Secretary, the Federal share of total project costs may exceed 80 percent but shall not exceed 90 percent, notwithstanding section 24911(f)(2) of title 49, United States Code: *Provided further*, That the Secretary may withhold up to 2 percent of the amounts made available under this heading in this Act for the costs of award and project management oversight of grants carried out under title 49, United States Code: *Provided further*, That, of the amounts made available under this heading in this Act not less than $15,000,000 shall be for a grant to Union Station Redevelopment Corporation to rehabilitate and repair the Washington Union Station complex, and section 24911(f)(2) of title 49, United States Code shall not apply to that grant.

EXHIBIT III-1
FEDERAL-STATE PARTNERSHIP FOR INTERCITY PASSENGER RAIL GRANTS
Summary by Program Activity
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

	FY 2023 ENACTED	FY 2024 FULL YEAR CR	FY 2025 PRES. BUDGET
Federal-State Partnership for Intercity Passenger Rail Grants	$ 100,000	$ 100,000	$ 100,000
Transfer to Financial Assistance Oversight and Technical Assistance	$ (2,000)	$ (2,000)	$ (2,000)
TOTAL, Base appropriations	$ 98,000	$ 98,000	$ 98,000
FTEs			
Direct Funded	0	0	0
IIJA Supplemental (Division J)			
Federal-State Partnership for Intercity Passenger Rail Grants	$ 7,200,000	$ 7,200,000	$ 7,200,000
TOTAL, Supplemental appropriations	$ 7,200,000	$ 7,200,000	$ 7,200,000
FTEs			
Direct Funded	0	0	0
TOTAL, Account	$ 7,298,000	$ 7,298,000	$ 7,298,000

Program and Performance Statement

The Federal-State Partnership for Intercity Passenger Rail program was authorized by Congress to reduce the state of good repair backlog, improve performance, or expand or establish new intercity passenger rail service. Eligible activities include capital projects to meet the program purpose, as well as planning, environmental studies, and design of such projects. Eligible recipients include states (including interstate compacts), local governments, Amtrak, and federally recognized Indian Tribes. The program requires that both projects on the Northeast Corridor (NEC) and projects located off the corridor receive not less than 45 percent of annual funds each year. Of the annual appropriation amount provided for projects not located on the NEC, at least 20 percent of such funds must be for projects that benefit Long Distance routes.

The program requires a minimum non-Federal share of 20 percent and allows the Secretary to withhold up to 5 percent of funds to carry out the new Corridor Identification and Development Program, as well as develop related service development plans, systems planning guidance, and analytical tools and models. Unless otherwise stated in appropriations language, FRA intends to use the fully authorized amounts for these set-asides.

EXHIBIT III-1a
FEDERAL-STATE PARTNERSHIP FOR INTERCITY PASSENGER RAIL GRANTS
SUMMARY ANALYSIS OF CHANGE FROM FY 2024 TO FY 2025
Appropriations, Obligations, Limitations, and Exempt Obligations
($000)

	$000	FTE
	-	-
FY 2024 FULL YEAR CR, net transfer	$98,000	0
	-	-
FY 2025 REQUEST, net transfer	**98,000**	**0**
Supplemental Appropriations	**7,200,000**	**0**
TOTAL, net transfer	**7,298,000**	**0**

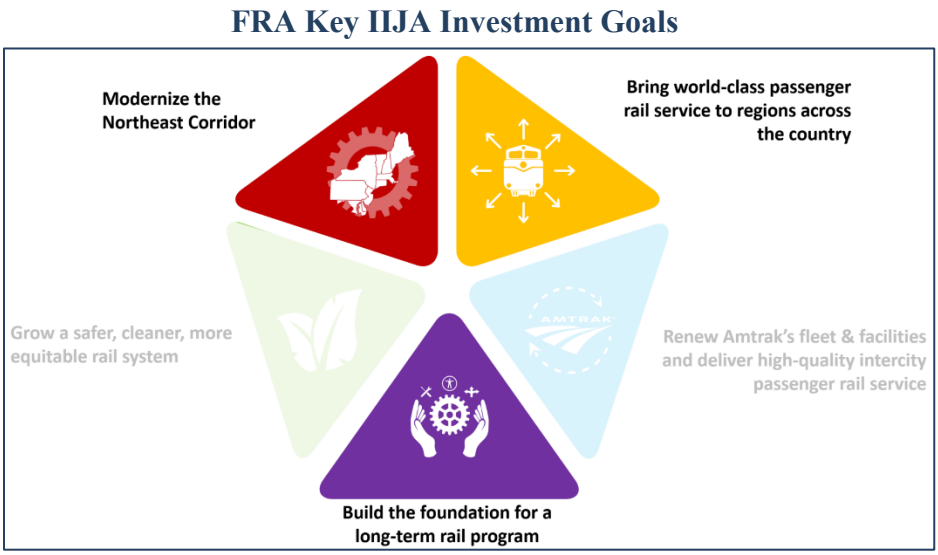
Detailed Justification for the Federal-State Partnership for Intercity Passenger Rail Grants

FY 2025 Federal-State Partnership for Intercity Passenger Rail Grants
Budget Request
($000)

Program Activity	FY 2023 Enacted Level	FY 2024 Full Year CR	FY 2025 President's Budget
Federal-State Partnership for Intercity Passenger Rail Grants	$100,000	$100,000	$100,000
Total	**$100,000**	**$100,000**	**$100,000**
FTE	**0**	**0**	**0**

What is this program and what does this funding level support?

The Federal-State Partnership for Intercity Passenger Rail (FSP) program is FRA's primary program for intercity passenger rail project development and capital investment. FSP has two components that are administered separately:



1. **FSP-NEC** provides assistance to Northeast Corridor (NEC) stakeholders to systematically address the NEC's state of good repair backlog and implement service improvements.

2. **FSP-National** provides assistance to stakeholders located outside the NEC to help improve other existing intercity passenger rail corridors or develop new corridor services across the country.

The FY 2025 President's Budget requests $100 million for the FSP program, which is in addition to the $7.2 billion advance appropriation provided to FSP under IIJA for FY 2025.

Despite the major increase in FSP funding made available from the IIJA advance appropriation, a staggering demand from stakeholders continues to exist for resources to plan, design, and construct intercity passenger rail infrastructure improvements and new services. More than $36 billion in applications were submitted for the nearly $13.6 billion available in FY 2022 and FY 2023 funding.

In order to ensure an equitable geographic distribution of FSP funding, IIJA requires that both projects on the NEC and projects located off the corridor funded from annual appropriations receive no less than 45 percent of funds each year. The IIJA advance appropriation specifies a different funding split, with up to two-thirds of the $36 billion provided for projects on the NEC. IIJA also requires robust planning processes to inform the selection of projects under FSP – the NEC Project Inventory for projects located on the NEC and the Corridor Identification and Development (Corridor ID) program for corridors and projects located off the NEC.

IIJA also provided new tools that allow FRA to make transparent, contingent commitments to projects that require multiple years of Federal funding. These tools are tailored to the project lifecycle stage and will help to maximize the use of FSP funding. These tools enable the Federal dollar to go further and recognize the multi-year process for building rail projects, as well as provide assurances to project sponsors that the Federal Government is a reliable partner that will see a selected project through to completion.

- Letter of Intent (LOI) – An LOI is a letter from FRA to a grantee announcing an intention to obligate an amount to its project from future available budget authority. LOIs are not binding obligations of the Federal government. LOIs demonstrate FRA's support for the project. FRA anticipates issuing LOIs to Major Projects[1] currently in, or beginning, the Project Development Lifecycle Stage. In issuing the LOI, FRA may outline conditions and/or define readiness thresholds which the grantee may use to inform future funding requests for FSP program funds.

- Phased Funding Agreement (PFA) – A PFA is a type of grant agreement that obligates funding from available resources under the FSP program and makes contingent commitments to obligate future available funds under the FSP program. FRA may enter into a PFA with a Project Sponsor only if the project is highly rated, based on the evaluations and ratings described in the FSP NOFO and as conducted by FRA, and if the FSP program funding to be provided for the project is more than $80 million.

  For a project with a PFA, FRA will provide grant funding in phases consistent with the terms of the PFAs and within the established maximum amount of FSP program funding to be provided for the project. FRA is limiting the use of PFAs to projects that have completed the Project Development Lifecycle Stage of Major Projects. A PFA's

[1] A Major Project is defined in FRA's Guidance on the Development and Implementation of Railroad Capital Projects as capital project with a Capital Cost Estimate equal to or greater than $500 million and with at least $100 million in federal assistance to improve railroad safety, efficiency, or reliability; improve capacity and mitigate passenger or freight rail congestion; enhance multi-modal connections; or improve or establish intercity passenger or freight rail transportation; or a capital project that FRA determines to be a Major Project. FRA considers the complexity of a project and how additional procedures for project development and management will benefit the agency or the Project Sponsor.

contingent commitments are not financial obligations of the Federal government. However, in a PFA, FRA commits to obligate a certain amount of future FSP funding in a specified number of fiscal years for the project, subject to available appropriations, and the grantee's compliance with the terms of the PFA. Accompanying the release of the FY 2025 President's Budget, FRA is submitting an annual report to Congress on the LOIs and PFAs intended to be utilized in the FSP program to date; below is a table of the PFAs and LOIs selected from the initial FY 2022-2023 FSP solicitations:

State	Project Sponsor	Project Title	FSP-NEC or FSP-National	FY22 – 23 Funding Award	Future PFA or LOI Amount
Phased Funding Agreements					
CA	California High-Speed Rail Authority	California Inaugural High-Speed Rail Service Project	National	$1,031,170,400	$2,042,429,600
MD	National Railroad Passenger Corporation (Amtrak)	Frederick Douglas Tunnel Replacement Program	NEC	$2,400,000,000	$2,307,571,556
MD	National Railroad Passenger Corporation (Amtrak)	Susquehanna River Bridge Replacement	NEC	$520,303,775	$1,560,911,325
NC	North Carolina Department of Transportation	Raleigh to Richmond (R2R) Innovating Rail Program	National	$479,416,000	$616,160,000
NJ/NY	Gateway Development Commission	Gateway Program: Hudson Tunnel Project Systems and Fit Out	NEC	$949,999,965	$2,849,999,855
NY	New York State Metropolitan Transportation Authority	Penn Station Access	NEC	$958,237,938	$685,341,966
NV	Nevada Department of Transportation	Brightline West Intercity Passenger Rail System Project	National	$2,020,292,014	$979,707,986
Letters of Intent					
CT	Connecticut Department of Transportation	Devon Bridge Replacement Program	NEC	$245,920,000	$2,213,280,000
MD	National Railroad Passenger Corporation (Amtrak)	Bush River Bridge Replacement Program	NEC	$18,800,000	$576,400,000
MD	National Railroad Passenger Corporation (Amtrak)	Gunpowder River Bridge Replacement	NEC	$30,000,000	$1,020,800,000
NJ	National Railroad Passenger Corporation (Amtrak)	Gateway Program: Sawtooth Bridge Replacement Project Enabling Components	NEC	$133,327,610	$1,486,000,000
NY	National Railroad Passenger Corporation (Amtrak)	Pelham Bay Bridge Replacement	NEC	$58,272,368	$514,537,632

Federal State Partnership – Northeast Corridor

FSP-NEC funds the following types of projects along the NEC:

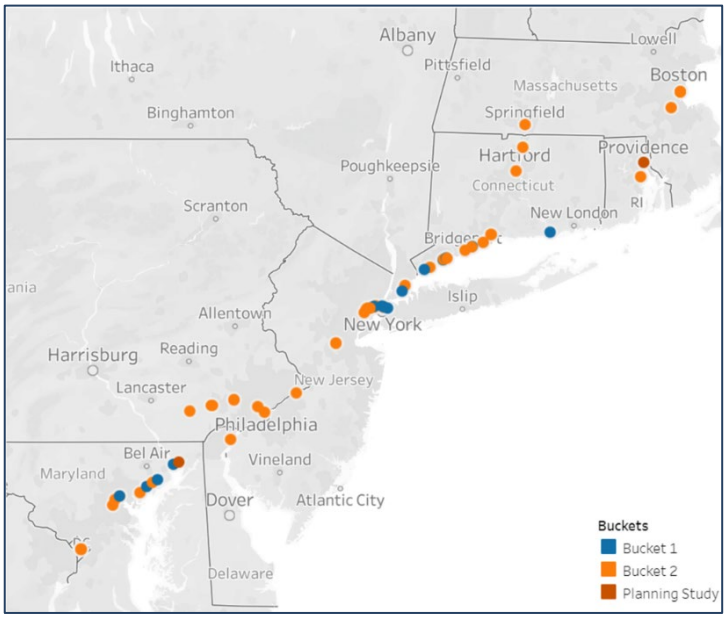
- Major state of good repair projects to completely overhaul or replace the 100+ years-old bridges and tunnels on the corridor;
- Major improvement projects to increase capacity and service performance on the corridor, including station redevelopment and expansion;
- The programmatic backlog of capital renewal work necessary to bring the NEC into a state of good repair;[2] and
- Planning, engineering, and environmental analyses necessary to move future projects toward construction.

On November 14, 2022, FRA published the first ever NEC Project Inventory, which is required by IIJA to identify and sequence projects to receive funding under the FSP program.[3] FRA collaborated extensively with the NEC Commission[4] in developing the NEC Project Inventory. Specifically, FRA relied on the data and inputs from the NEC Commission's comprehensive Connect NEC 2035[5] plan—which was first released in July 2021 to serve as an implementation strategy to deliver key state of good repair and service improvement and expansion projects between FY 2022 and FY 2036. The NEC Project Inventory identified 68 projects grouped into two "buckets":

1. **Bucket 1 – Major Backlog Projects:** The 15 major bridges and tunnels on the NEC that are each over 100 years old and represent a significant source of ongoing delay and risk of unexpected major disruptions on the corridor.

2. **Bucket 2 – Capital Renewal, Stations, and Improvement Projects:** 53 additional projects that will rehabilitate or replace aging assets, modernize and upgrade stations, and improve and expand service.

2022 NEC Project Inventory

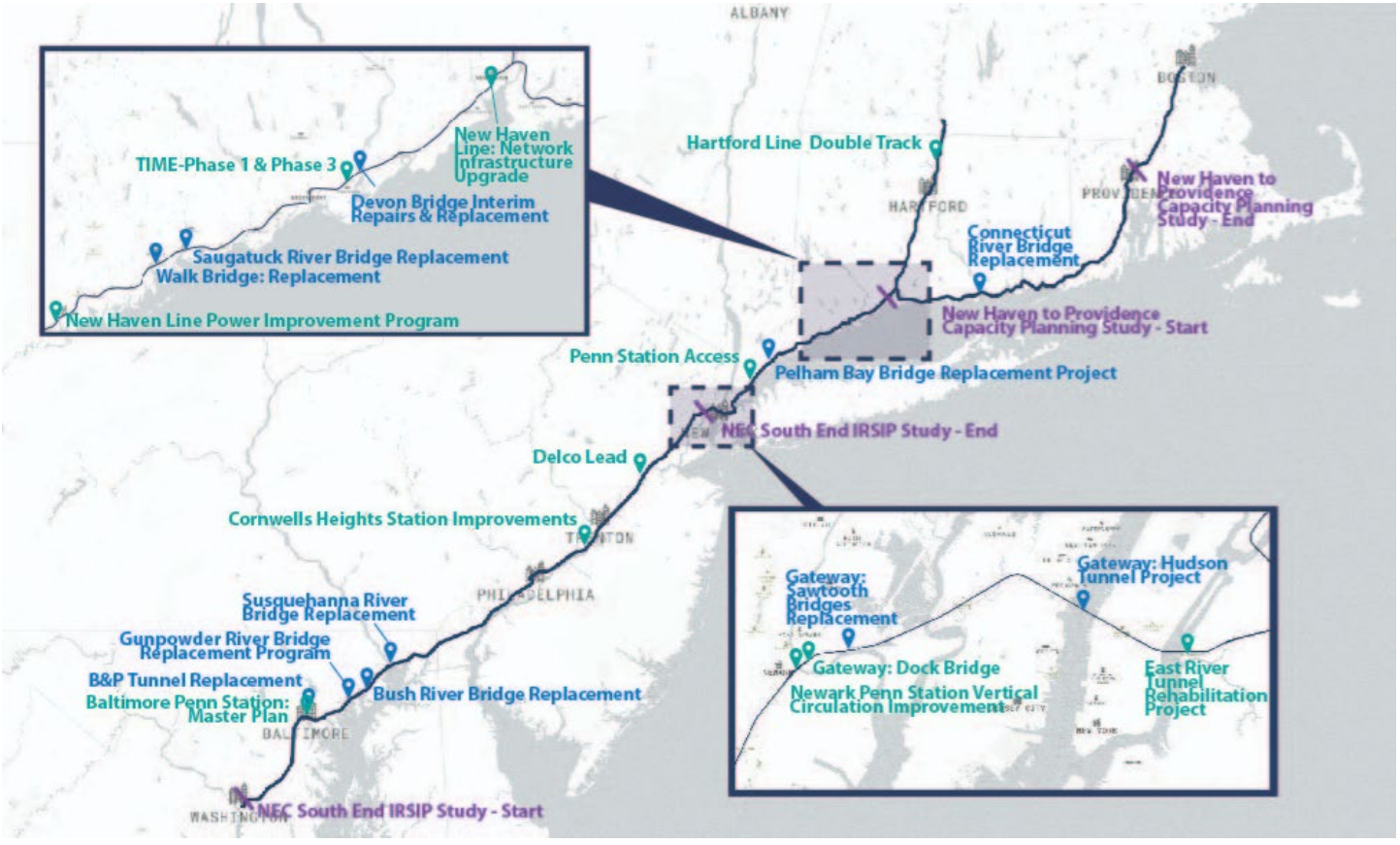


[2] The programmatic backlog of capital renewal projects includes: track infrastructure such as main line track and ballast, yards and sidings, turnouts and switches; bridges and structures such as undergrade bridges, signal bridges, and culverts; electric traction power systems such as substations, catenary structures, and power wire; and communications and signals systems such as switch machines, track circuits, and grade crossing devices.
[3] Federal Railroad Administration, NEC Project Inventory, November 2022.
[4] The NEC Commission is composed representatives from each of the eight NEC states, the District of Columbia, Amtrak, and the U.S. Department of Transportation.
[5] NEC Commission, Connect NEC 2035, July 2021.

FRA is publishing an updated NEC Inventory shortly after the release of the FY 2025 President's Budget to coincide with the upcoming FY 2024 FSP-NEC solicitation. Similar to the 2022 NEC Inventory, the 2024 update utilizes information and project data from the NEC Commission's own update to the Connect NEC 2035 plan, named the Connect NEC 2037,[6] and will help guide the selection of projects under the FY 2024 application solicitation.

In November 2023, FRA announced the selection of 25 projects in seven NEC states to receive more than $16.4 billion in FSP funds.[7] These initial FSP-NEC selections are composed of $9 billion in FY 2022-2023 funding and an additional $7.4 billion in PFA commitments to come from FY 2024-2026 IIJA advance appropriations. These selections mark an unprecedented milestone— resulting from years of planning and stakeholder coordination—that will enable project sponsors to address the corridor's aging infrastructure and implement service enhancements. FRA estimates that these initial selections alone will help to reduce the NEC state-of-good-repair backlog by nearly 25%.

FY 2022-2023 FSP-NEC Selections



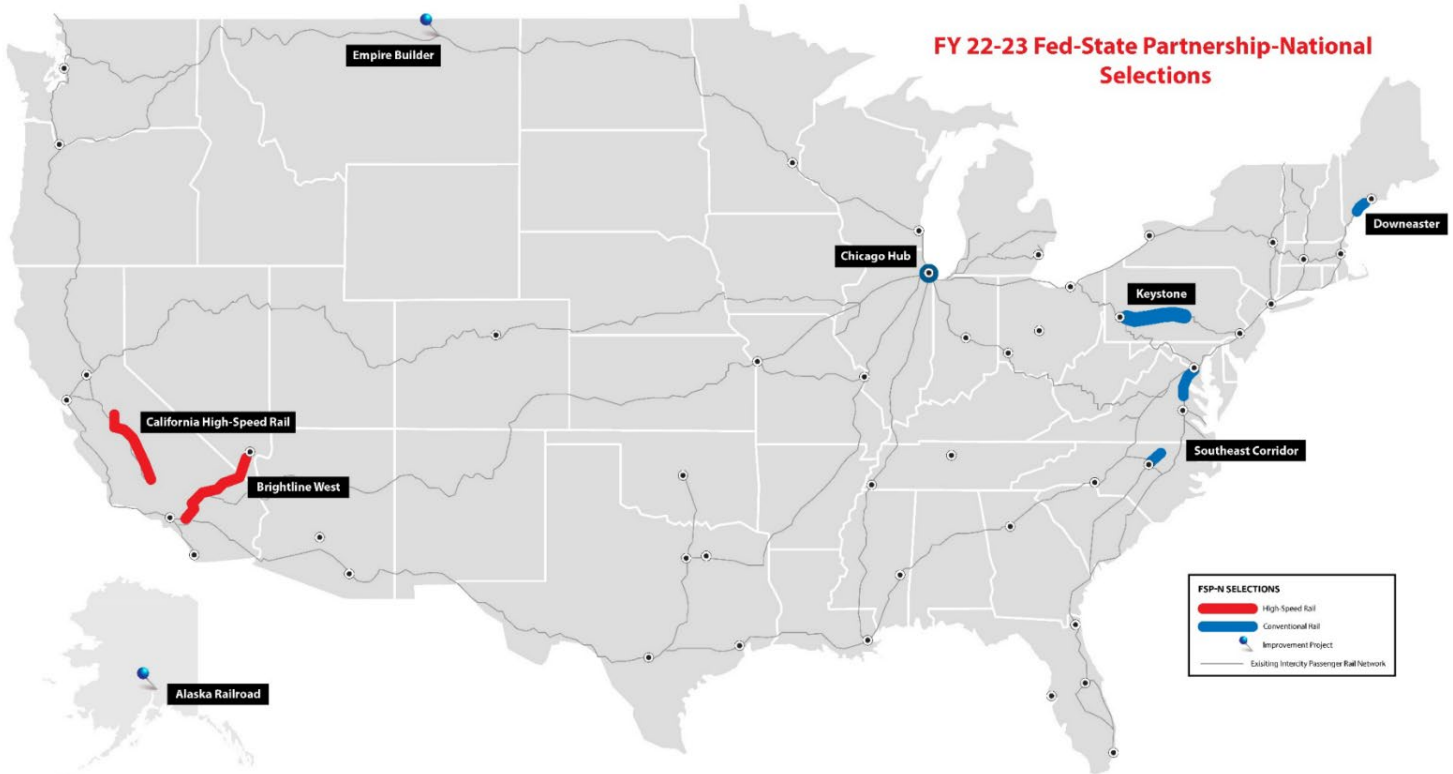
[6] NEC Commission, Connect NEC 2037, November 2023.
[7] Federal Railroad Administration, President Biden Advances Vision for World Class Passenger Rail with $16 Billion Investment in America's Busiest Corridor, November 6, 2023.

Federal State Partnership – National

FSP-National funds the following types of projects across the country:

- Initiating intercity passenger rail service on new or restored corridors;
- Improvements in frequencies and trip times on existing State-Supported and Long Distance services;
- New and improved stations; and
- Planning, engineering, and environmental analyses necessary to move future projects toward construction.

In December 2023, FRA announced the selection of 10 intercity passenger rail projects across the country to receive $8.2 billion in FSP funds.[8] These initial FSP-National selections are composed of nearly $4.6 billion in FY 2022-2023 funding and an additional $3.6 billion in PFA commitments to come from FY 2024-2026 IIJA advance appropriations. These projects will help to deliver new high-speed rail services in California's Central Valley and connecting Las Vegas, Nevada and southern California; expand service in Virginia, North Carolina, and Pennsylvania; and make targeted improvements to services in Alaska, Maine, Montana, and Chicago, Illinois.



[8] Federal Railroad Administration, President Biden Announces $8.2 Billion in New Grants for High-Speed Rail and Pipeline of Projects Nationwide, December 8, 2023.

Corridor Identification and Development (Corridor ID) Program | Planning Resources

For projects located off the NEC, IIJA required the Department to establish a Corridor ID program to (1) identify corridors with potential to support intercity passenger rail service, (2) partner with project sponsors, states, Amtrak, and other operators to develop a service development plan to guide the implementation of the intercity passenger rail service, and (3) establish and sequence a pipeline of capital projects to receive funding. Since the enactment of IIJA, FRA has conducted substantial stakeholder outreach and program building activities related to Corridor ID. FRA has structured the Corridor ID process into three separate steps to help guide corridors through the development process:

1. **Step 1 – Corridor Development Initiation –** Step 1 initiates the grantee's corridor development efforts by preparing a scope, schedule, and cost estimate for developing a Service Development Plan (SDP), or updating an existing SDP, for the selected corridor.

2. **Step 2 – Service Development Plan –** After successfully completing Step 1, the grantee will work with FRA—and relevant States, Amtrak, and other stakeholders, as appropriate—to develop the SDP. The SDP is the foundational planning document that determines and documents how the corridor will be implemented. The SDP will identify the draft purpose and need for intercity passenger rail development and incorporate an analysis of alternatives supported by technical transportation planning, conceptual engineering, high-level analysis and consideration of environmental factors, and public involvement.[9]

3. **Step 3 – Project Development –** After successfully completing Step 2, the grantee will commence the preliminary engineering, NEPA, and other activities necessary to advance the corridor's capital projects to final design and construction.

IIJA authorizes FRA to withhold up to 5 percent of FSP funds for planning grants and to support the creation of guidance, tools, and models to help stakeholders more efficiently develop and deliver projects. Grantees selected under the Corridor ID program will receive $500,000 from this set-aside to complete the Step 1 activities listed above. Once a corridor is selected to participate in the Corridor ID Program, the grantee will not compete for Program funding for Step 2 and Step 3 (subject to the availability of funding). Instead, funding under Corridor ID will be dictated by a grantee's successful completion of the prior Steps, as determined by FRA.

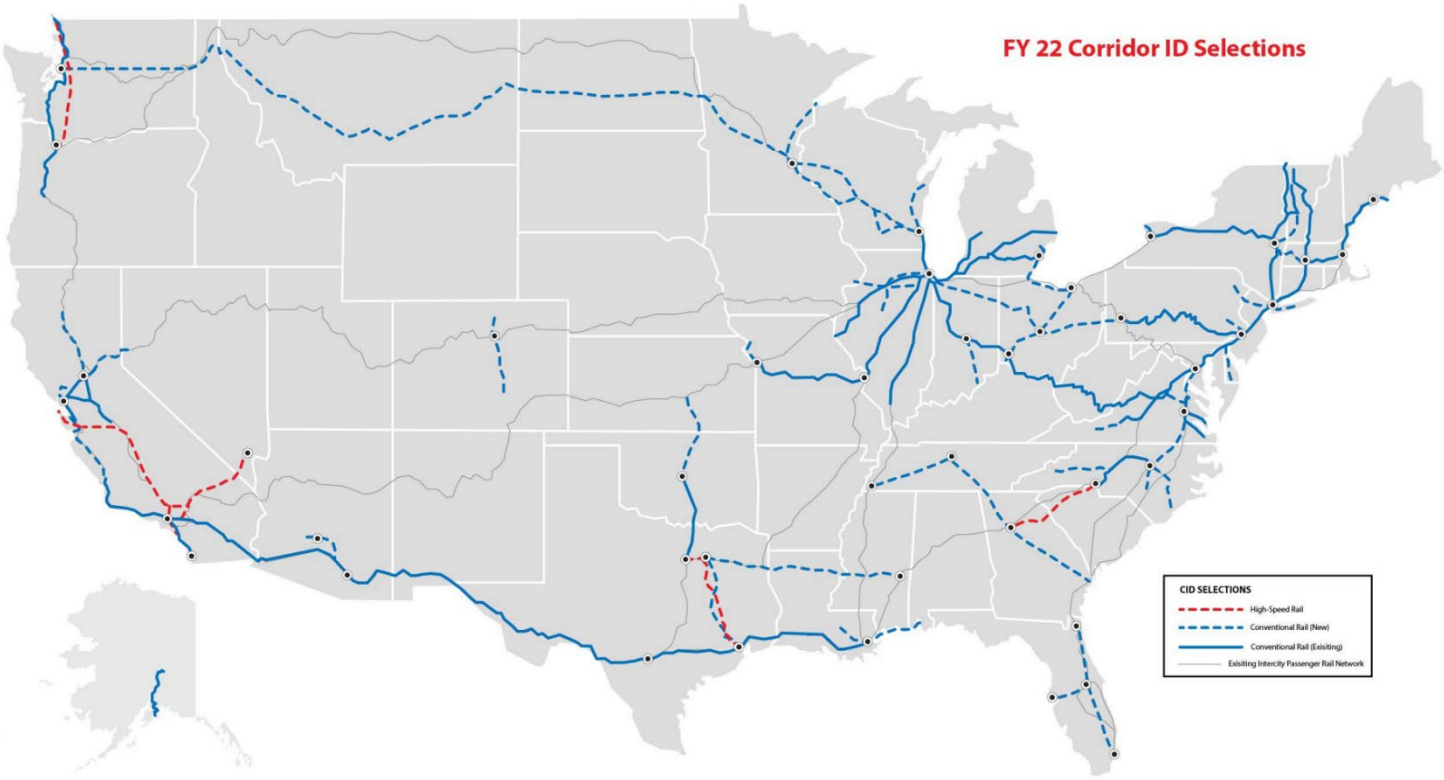
In addition to announcing the FSP-National awards in December 2023, FRA also announced the selection of 69 initial corridors for entry into the Corridor ID program.[10] These corridors generally fall into one of four categories:

- **New High-Speed Rail** – Services planned to operate at speeds of up to 186 mph or greater, primarily or solely on new, dedicated alignment.

[9] For more information on the components of an SDP, see FRA's December 20, 2022 Notice of Solicitation of Corridor Proposals and Funding Opportunity for the Corridor Identification and Development Program.
[10] Ibid.

- **New Conventional Rail** – Services generally planned to operate at speeds of up to 79-125 mph, and primarily on existing rail alignments shared with other railroad operations (freight and/or commuter).
- **Existing Routes with Extensions** – Existing intercity passenger rail services with planned extensions, operating at speeds of up to 79-125 mph and primarily on existing shared rail alignments.
- **Existing Routes** – Existing intercity passenger rail services with planned improvements to frequencies, trip times, stations, or other characteristics.

These corridors represent the future of intercity passenger rail service improvements and expansion across the county, and will help to guide investments for years to come. FRA is working with project sponsors and their partners to advance these planning and project development efforts, and will be providing future opportunities for new corridors to enter the Corridor ID program. FRA will also be transmitting to Congress with the FY 2025 President's Budget the Corridor ID project pipeline reflecting the initial corridors selected for entry into the program.



FRA is also using the 5 percent set-aside to develop a suite of guidance and tools to advance service planning, travel demand forecasting, operations analysis, alternatives analysis, station and access planning, engineering, and cost estimation, among other project development disciplines, to support the ambitious Corridor ID and FSP project development and delivery activities described above. The first of these guidance topics—Guidance on the Development and Implementation of Railroad Capital Projects—was published in January 2023 to establish clear practices and sets expectations for the development and implementation of railroad capital

projects that may be funded by FRA.[11] FRA is currently working on guidance related to Alternatives Analysis, Implementation of a Service Development Plan, and Data Transparency.

Washington Union Station Set-Aside

The FY 2025 President's Budget also proposes to set-aside $15 million in annual FSP funds for the Union Station Redevelopment Corporation (USRC) to remedy the state-of-good-repair deficiencies at Washington Union Station (WUS). This set-aside is envisioned as a limited two-year investment to advance critical and immediate state-of-good-repair projects at the station, building on an initial request in the FY 2024 President's Budget.

First opened in 1907 and designed by Daniel Burnham, Washington, D.C.'s Union Station was one of the grandest train stations in the world. However, by the 1970s, demand on the station, declining rail passenger transportation, and poor maintenance led to its deterioration. The first attempt to rehabilitate WUS was the 1970s effort by the U.S. Department of the Interior to turn the station into a National Visitor's Center. Following the bicentennial, the station continued to degrade, and the visitor's center was closed. In 1981, Congress passed the Union Station Redevelopment Act directing the U.S. Department of Transportation—through FRA—to embark on preserving the historic integrity of the station and restoring rail passenger services to the building, together with intermodal facilities for buses and Metro transit. The redeveloped station's grand opening was in 1988.

USDOT/FRA owns WUS on behalf of the United States. Since 1985, FRA has had a long-term lease with the USRC, a District of Columbia non-profit, to manage the historic station building, passenger concourse, and the parking garage. The Secretary of Transportation, Federal Railroad Administrator, D.C. Mayor, Amtrak President, and Federal City Council President (or their respective designees) serve as USRC's Board of Directors. Neither the owner of the station (USDOT/FRA) nor the non-profit that manages day-to-day operations (USRC) are eligible to receive funding under FRA's competitive grant programs.

[11] Federal Railroad Administration, Guidance on the Development and Implementation of Railroad Capital Projects, January 12, 2023.

After nearly 40 years of management, USRC has been unable to fund necessary building repairs due to declining parking garage receipts—USRC's primary revenue source—caused by the COVID-19 pandemic and a lease structure that provides little escalation in rent and capital maintenance contributions from USRC's private sublessee. The station's capital requirements are estimated at approximately $100 million to replace the aging roof and HVAC system, restore the parking garage, and address building code, fire alarm, and utilities' needs. Although WUS parking garage receipts have returned to 70% of pre-pandemic levels, USRC faces a shortfall of $87 million to complete these projects. As the owner of the station, the Federal Government has a clear responsibility in addressing these end-of-life station infrastructure and systems needs.

What benefits will be provided to the American public through this request and why is this program necessary?

The United States faces a number of interrelated transportation challenges that pose a significant threat to our nation today and in the future. The country and the world must act now to avoid the looming catastrophic impacts of climate change. Our transportation policies and investment decisions have also done a disservice to many Americans, from segregating and displacing communities to not ensuring that all individuals can access our rail stations and trains over 30 years after the passage of the Americans with Disabilities Act. The passage of IIJA represents an essential step in helping to right some of these inequities. Now railroad stakeholders must step up and do our part to deliver on the promise of IIJA. Policymakers must also recognize that a one-time infusion of $66 billion is not sufficient to solve climate change or provide underserved communities with the first-rate transportation choices all Americans deserve. Sustained investment in railroad infrastructure and services is necessary to continue advancing these priorities and to provide for the mobility and economic security needs of a population that is projected to grow by nearly 70 million over the next 40 years.

Greenhouse Gas Emissions – Each year, the U.S. Environmental Protection Agency compiles the *Inventory of U.S. Greenhouse Gas Emissions and Sinks*[12], which provides a comprehensive accounting of total greenhouse gas emissions for all man-made sources in the United States. In 2021, transportation activities accounted the largest portion of total U.S. greenhouse gas emissions, at over 28 percent. The transportation sector must do its part in reducing these harmful emissions and meeting our climate goals. This includes not only adopting more energy efficient vehicles and fuel alternatives, but expanding investment and use of passenger rail options for intercity travel. Trips on Amtrak are more energy efficient than similar trips by car or plane, with data from 2019 showing Amtrak used 45 percent less energy than car travel and 33 percent less than air travel per passenger mile.[13] Amtrak has reduced its greenhouse gas emissions by 20 percent since 2010 and continues to seek efficiencies and emissions reductions across its business.[14]

[12] U.S. Environmental Protection Agency, U.S. Greenhouse Gas Emissions and Sinks: 1990-2021, April 2023.
[13] U.S. Department of Energy, Oak Ridge National Laboratory, Transportation Energy Data Book, Edition 40, Table 2.13, June 2022.
[14] Amtrak, Travel Green, accessed January 2024.

Equity – The over 500 intercity passenger rail stations in the U.S. serve a wide diversity of communities, spanning major urban population centers to the suburbs to small, rural towns. It is critical that intercity passenger rail investments benefit everyone in the affected communities. For example, in the Northeast region, more than 18 million people live within 5 miles of an NEC rail station. Of this population, 23 percent live in low-income households, 57 percent belong to racial or ethnic minority groups, and a third do not own an automobile.[15] The IIJA and FY 2025 investments have the potential to fundamentally improve the quality of life for individuals living within close proximity of the rail network, including providing expanded transportation options for the public.

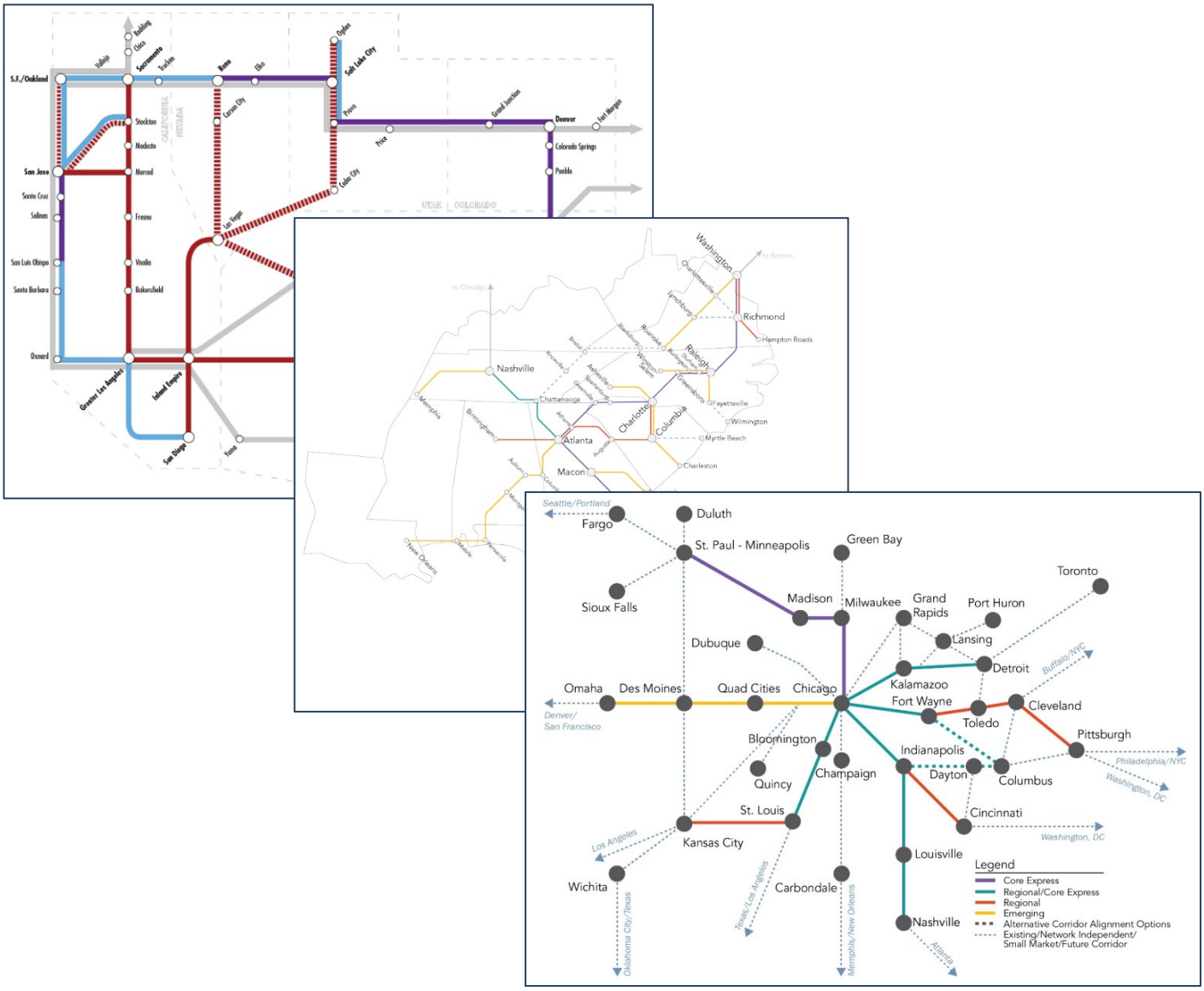
The Department is putting measures in place to proactively address equity and barriers to opportunity in the selection process for Federal transportation funding, and ensure funding gets to the communities that need it the most. The FY 2025 President's Budget proposes to dedicate at least 40 percent of competitive grant program funding to underserved or disadvantaged communities, and reduce the non-Federal match for such communities from 20 percent to 10 percent.

Demand for Rail – Following the significant decline in Amtrak ridership in 2020 due to the COVID-19 pandemic, Amtrak ridership is projected to set a new record in FY 2025, surpassing the company's previous high of 32.5 million passengers in FY 2019. This performance is even more impressive when taking into consideration that many major markets across the country – and particularly in the Southeast, Southwest, and Texas – are either grossly underserved or not served by rail at all.

Over the last 15 years, states, public rail authorities, and some private sector entities have led extensive planning efforts to prepare rail projects for investment. FRA has also led several studies over this timeframe, including NEC FUTURE and three regional rail plans. NEC FUTURE established a long-term vision and investment program for the NEC; the NEC Commission's Connect NEC 2035/2037 plans represent the initial phase towards advancing the NEC FUTURE vision. FRA's regional planning studies—carried out in partnership with transportation stakeholders in the Southwest, Southeast, and Midwest—are intended to establish a framework to guide each region's respective rail network planning objectives. The momentum and demand for passenger rail is further evidenced by the 69 corridors selected for entry to FRA's Corridor ID program.

[15] NEC Commission, Connect NEC 2035, July 2021.

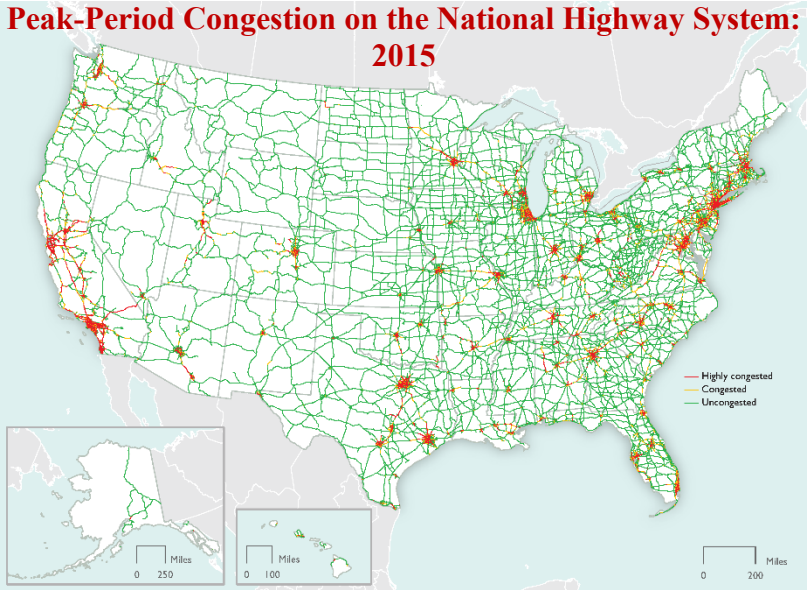
FRA Regional Rail Planning Studies[16]

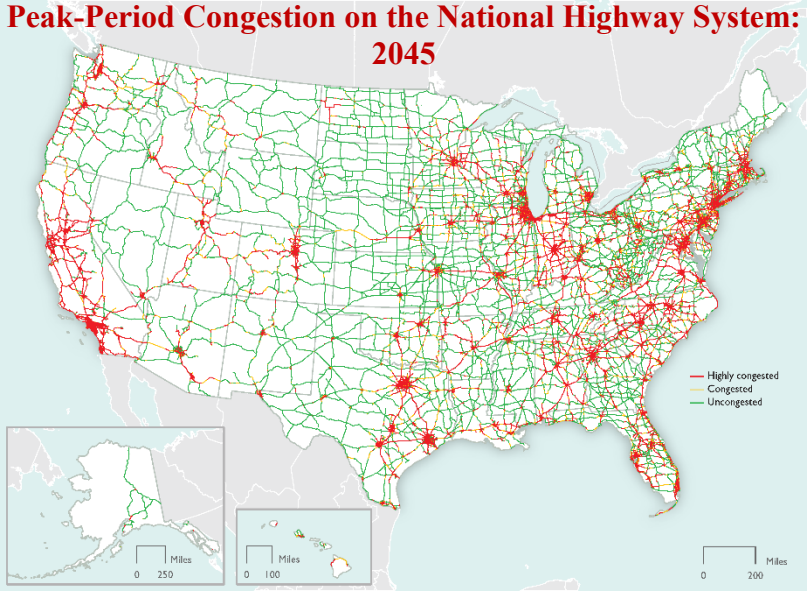


Mounting Congestion – As the U.S. population grows, so too does the use of its transportation systems. Prior to COVID's drastic effect on transportation, the Texas A&M Transportation Institute found that the cost of traffic congestion increased from $15 billion per year in 1982 to $190 billion in 2019, when factoring in lost time, productivity, and fuel consumption.[17] The U.S. Department of Transportation's Freight Analysis Framework projects significant increases in highway congestion over the next 25 years, as shown in the maps below[18]. Investing in intercity passenger rail will offer a release valve for highway and aviation congestion, especially in

[16] FRA, Regional Rail Planning, October 2021.
[17] Texas A&M Transportation Institute, 2021 Urban Mobility Report, June 2021.
[18] U.S. Department of Transportation, Bureau of Transportation Statistics, Freight Facts and Figures.

markets where further highway and airport expansion may be geographically infeasible due to land use, environmental, and community impacts – particularly the disadvantaged communities that were already failed by previous investments that displaced and disrupted residents.





Economic Opportunity – The rail investments that will result from the IIJA supplemental and annual funding will serve as a major employment generator across the railroad construction, manufacturing and supply, and support industries. The NEC Commission estimates that its CONNECT NEC 2037 plan could create more than 900,000 jobs over the plan's 15-year horizon if fully funded.[19] The major corridor construction anticipated in other regions of the country are similarly poised to provide new and expanded job opportunities across the railroad sector.

[19] NEC Commission, Connect NEC 2037, November 2023.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

ADMINISTRATIVE PROVISIONS
APPROPRIATIONS LANGUAGE

ADMINISTRATIVE PROVISIONS – FEDERAL RAILROAD ADMINISTRATION

Sec. 150 The amounts made available to the Secretary or to the Federal Railroad Administration for the costs of award, administration, and project management oversight of financial assistance which are administered by the Federal Railroad Administration, in this and prior Acts, may be transferred to the Federal Railroad Administration's "Financial Assistance Oversight and Technical Assistance" account for the necessary expenses to support the award, administration, project management oversight, and technical assistance of financial assistance administered by the Federal Railroad Administration, in the same manner as appropriated for in this and prior Acts: Provided, That this section shall not apply to amounts that were previously designated by the Congress as an emergency requirement pursuant to a concurrent resolution on the budget or the Balanced Budget and Emergency Deficit Control Act of 1985.

[Sec. 151 The Secretary may allocate up to 2 percent of the amounts made available in this Act to programs under chapter 229 and section 24911 of title 49, United States Code, for grants to States for State rail planning managers for implementation of chapter 227 of title 49, United States Code: Provided, That each State shall receive a minimum of $150,000 of the amounts made available under this section and the Secretary may distribute additional amounts to States based on the ratio of the population in each State to the total population of the United States according to the 2020 Decennial Census conducted by the Bureau of the Census: Provided further, That the amount allocated to a state in the previous proviso may be withdrawn if a state fails to demonstrate reasonable progress in meeting the requirements necessary for the Secretary to obligate funds, as determined by the Secretary, within one year of the funding being announced in a notice of funding opportunity: Provided further, That any unexpended balances of amounts provided for grants under this section may be deobligated if the recipient fails to demonstrate reasonable progress in delivering the scope of the award, as determined by the Secretary: Provided further, That, for the purposes of this section, the term "State" means each of the 50 States and the District of Columbia.]

Sec. [152]*151* Section 22909 of title 49, United States Code, is amended—

(1) in paragraph (3) of subsection (f), by striking subparagraph (C) and by redesignating subparagraph (D) as subparagraph (C); and

(2) in paragraph (2) of subsection (j), by striking "shall transfer" and inserting "may transfer".

Sec. 152 For amounts made available for the "Railroad Crossing Elimination Program" for fiscal year 2025 in title VIII of division J of the Infrastructure Investment and Jobs Act (Public Law 117-58) (IIJA)—

(1) section 22104(c) of division B of such Act shall be applied by substituting "up to 2.25" for "0.25": Provided, That notwithstanding section 22909(c) of title 49, United States Code, eligible recipients for such funds shall include nonprofit organizations; and
(2) for projects benefitting underserved communities, as determined by the Secretary, the Federal share of total project costs may exceed 80 percent but shall not exceed 90 percent, notwithstanding section 22909(g) of title 49, United States Code.

Sec. 153 Section 22908(e) of title 49, United States Code, is amended by striking paragraph (2) and by redesignating paragraph (3) as paragraph (2).

Explanation of Changes:

- The proposal under the previous section 151 from the FY 2024 President's Budget was modified and moved under the CRISI heading in the FY 2025 President's Budget.

- The proposal under section 152 would result in three changes to the Railroad Crossing Elimination program, two of which were included in the FY 2024 President's Budget under the Railroad Crossing Elimination heading. Subsection (b) proposes to increase the maximum Federal cost share from 80 percent to 90 percent for projects that benefit underserved communities. Subsection (a) proposes to increase the set-aside for highway-rail grade crossing safety information and education programs for two purposes. The first purpose is to provide $2 million to Operation Lifesaver, Inc. and make them eligible to receive funding through this set-aside. The second purpose is to provide $10 million to enable FRA to launch a new public awareness campaign focused on grade crossing safety and trespasser prevention. Funding for a previous campaign—titled "Stop. Trains Can't."—was last appropriated in FY 2021 to the National Highway Safety Administration (NHTSA), with the campaign concluding in December 2022. Similar to the previous campaign, the funding requested under the Railroad Crossing Elimination program will be used for a mix of paid media placements and social media messaging intended to:
    - Motivate drivers to exercise caution around grade crossings;
    - Promote awareness of the risks of not being alert near rail grade crossings; and
    - Encourage drivers to be conscientious and informed about the proper way to cross a rail grade crossings.

  Similar to how the "Stop. Trains Can't" campaign was previously administered, FRA intends to partner with NHTSA and leverage NHTSA's media expertise.

- Section 153 proposes to strike the statutory limitation that not more than six grants can be simultaneously active under the Restoration and Enhancement Grants (R&E) program. Given the three existing R&E grants previously selected

for funding prior to the passage of IIJA and the $250 million in new funding provided under the IIJA advance appropriation, FRA may not be able to award all available funds for years if this six grant limitation remains in place. A version of this proposal was included in the FY 2024 President's Budget under the R&E heading.

Exhibit IV-1: Research, Development, and Technology (RD&T) Budget Authority

Federal Railroad Administration
FY 2025 Research, Development, & Technology Budget Authority
($000)

Budget Account	FY 2023 Enacted	FY 2024 Full Year CR	FY 2025 President's Budget	Basic Research	Applied Research	Experimental Development / Advanced Research	Technology Transfer
Railroad Research and Development	**$44,000**	**$44,000**	**$52,000**	**$0**	**$40,414**	**$9,714**	**$1,872**
Track	9,859	9,859	11,750	-	10,168	1,582	-
Rolling Stock	8,922	8,922	10,150	-	8,506	1,644	-
Train Control and Communication	6,586	6,586	7,250	-	6,525	725	-
Human Factors	5,762	5,762	6,450	-	5,601	849	-
Railroad Systems Issues	12,871	12,871	16,400	-	9,614	4,914	1,872
Safety and Operations	**$5,305**	**$6,061**	**$6,651**	**$0**	**$5,169**	**$1,242**	**$239**
Administrative	5,305	6,061	6,651	-	5,169	1,242	239
Total R&D Funding, all appropriations	**$49,305**	**$50,061**	**$58,651**	**$0**	**$45,584**	**$10,956**	**$2,111**

Exhibit IV-2: FY 2025 Budget Request – RD&T Program Funding by DOT Strategic Goal

Federal Railroad Administration
FY 2025 Research, Development, & Technology Budget
($000)

ACCOUNT/PROGRAM	FY 2025 President's Budget	DOT STRATEGIC GOALS: SAFETY	ECONOMIC STRENGTH	EQUITY	CLIMATE & SUSTAINABILITY	TRANSFORMATION	ORGANIZATIONAL EXCELLENCE
Railroad Research and Development	**$52,000**	**$16,926**	**$2,081**	**$1,123**	**$3,504**	**$26,971**	**$1,394**
Track	11,750	2,268	200	-	-	9,283	-
Rolling Stock	10,150	2,233	508	-	-	7,410	-
Train Control and Communication	7,250	1,069	363	-	-	5,818	-
Human Factors	6,450	4,902	323	-	-	1,226	-
Railroad Systems Issues	16,400	6,454	689	1,123	3,504	3,236	1,394
Safety and Operations	**$6,651**	**$2,165**	**$266**	**$144**	**$448**	**$3,450**	**$178**
Administrative	6,651	2,165	266	144	448	3,450	178
TOTAL	**$58,651**	**$19,091**	**$2,347**	**$1,267**	**$3,952**	**$30,421**	**$1,572**

FEDERAL RAILROAD ADMINISTRATION
RESEARCH, DEVELOPMENT, AND TECHNOLOGY (RD&T)

RD&T PROGRAM NAME: TRACK RESEARCH PROGRAM

Objectives: The Track Research Program conducts scientific and engineering research to reduce track-caused derailments and improve railroad safety. It especially aims to prevent high-consequence derailments that cause loss of human life and significant damage to communities and property.

Fiscal Year 2023: $9.86 million

In FY 2023, the Track Research Program continued to focus on track-caused derailments by improving inspection technology and processes and improving substructure and rail integrity assessments. Safety research on track structures, track components, systems performance, and systems analysis continued to reduce track-caused derailments to improve safety and minimize environmental impact. Rail performance, track inspection, and track stability research areas used ground-penetrating radar, acoustic imaging, unmanned aerial vehicles, and sensor suites to better understand rail service life and track hazards emerging from track welding, track ballast, and track geometric alignment issues. The predictive analytics research area improved predictive modeling, and vehicle and track performance research established the root causes of rolling contact fatigue methodologies. Rail infrastructure research improved the safety and state-of-good-repair of bridges, structures, track design, and special track work. New, drone-based inspection technologies complemented existing walking and hi-rail inspection methods.

Fiscal Year 2024: $9.86 million

The Track Research Program's anticipated activities for FY 2024 support the major program objectives. While the activities for FY 2024 are very similar to those of FY 2023, the emphasis for several research projects will shift to the Transportation Technology Center (TTC) in Pueblo, Colorado. Research will investigate both the forces being applied to the track and the response of rail vehicles, and especially passenger cars, to track irregularities; find ways to identify and monitor track at risk of damage or failure from climate change; explore what factors contribute the most to the strength of the track; and attempt to quantify how quickly the performance of the track degrades. The anticipated results will be a better understanding of the minimum state-of-good-repair needed for track safety, better predictive analytic tools and inspection methods to aid in maintenance decisions, and updates to Track Safety Standards rules.

Fiscal Year 2025: $11.75 million

In FY 2025, the Track Research Program's focus is on four broad objectives, each directly relates to DOT's Strategic Goals and Objectives: understand the root causes of track-related derailments and develop ways to prevent these derailments; improve how FRA and the industry inspect track and structures; improve how FRA and the industry assess safety risk for track; and develop a more productive, knowledgeable, and capable workforce. The Track Research Program plans to adjust its program and research areas to better align with the specific causes of track-related derailments and to eliminate overlap between the current research areas. These program areas are: Derailment Prevention – Derailment Mechanisms; Derailment Prevention – Component Failures; Risk Assessment and Predictive Intelligence – Technology Performance

Assessment and Use; Risk Assessment and Predictive Intelligence – Risk Analysis; Research Support – Field Testing and Technical Expertise.

RD&T PROGRAM NAME: ROLLING STOCK RESEARCH PROGRAM

Objectives: The focus of the Rolling Stock (RS) Research Program is to reduce derailments due to equipment failures, minimize the consequences of derailments, and minimize hazardous material (HazMat) releases to improve railroad safety. The program will investigate the efficacy of clean energy and advanced motive power technologies to improve energy efficiency and reduce rail transport emissions.

Fiscal Year 2023: $8.92 million

In FY 2023, RS research continued to improve safety and environmental mitigation. RS collaborated with stakeholders to study HazMat tank car failure modes and crash survivability by modeling, destructive testing, disseminating findings, and updating regulations. RS continued to model in-train forces with the Train Energy and Dynamics Simulator to reduce accident rates. Research on wheel temperature detection (WTD) and modeling techniques yielded better-performing components that are less likely to fail. Research in railcar passenger safety continued to test fire-resistant railcar material, egress scenarios, structural integrity, and passenger locomotive crashworthiness.

In addition, RS furthered its outreach and Technology Transfer (T2) on the decarbonization of rail. In November 2022, the program sponsored the Emerging Decarbonization Technologies and Safety in Rail webinar, an online gathering to promote discussions and interactions with rail industry leaders and practitioners in clean energy technology development and rail decarbonization. And in May 2023, RS hosted a multi-day event in Denver titled, Rail, On Track for Decarbonization. This international workshop featured a trip to the FRA Transportation Technology Center in Pueblo, Colorado.

Fiscal Year 2024: 8.92 million

RS will conduct additional research on developing and improving packages that carry hazardous materials (e.g., the DOT 113) to reduce the release of hazardous material and minimize the consequences during rail accidents and incidents. Research will also investigate effects of corrosion on railroad tank car structures and the potential use of state-of-the-art nondestructive evaluation (NDE) methodologies for remaining tank car shell thickness measurement. Corrosion, puncture resistance, and top fittings protection will all be improved. In addition, RS will study train makeup, train operations, and train handling developments to address air brake signal propagation time, the impact on application and release, air brake system leakage on long trains, brake pipe pressure on cars near the tail end of trains, high buff and draft forces under undulating territories, train handling of 200-car trains or longer, and individual car dynamic behavior and safety during curve negotiation. Moreover, RS plans to continue its examination of crash energy management, rolling contact fatigue, bearing grease failure modes, passenger emergency egress, wheeled mobility device access, window glazing systems, and the development of a wireless digital train line.

Fiscal Year 2025: $10.15 million

RS will provide stakeholders with information on tank car research, study the risk analysis of cryogenic hazardous materials transportation and fuel tenders, continue the development of an alternate mechanism for rapid brake signal propagation, perform analysis and impact testing of alternative fuel tenders, and engage the rail industry in testing and standards development for clean energy storage media. RS will continue to research malfunctioning or poorly performing equipment and components, including brake systems with the WTD technology and develop a system to power advanced detection devices to monitor conditions, detect defects and prevent failures. In addition, RS will develop industry recommendation for alternative glazing attachment methods to improve glazing retention capacity, continue studying the passenger railcar failure modes in rollover events and continue the development of a tool for assessing connectedness efficiency for intelligent rail network infrastructure.

RD&T PROGRAM NAME: TRAIN CONTROL AND COMMUNICATION RESEARCH PROGRAM

Objectives: The Train Control and Communication (TC&C) Research Program objectives are to improve railroad operation safety, reduce train-to-train collisions and train collisions with objects on the line and at grade crossings, and prevent trespassing. This program adapts innovative and emerging technologies from other industries to support its mission and provides stakeholders the benefits of its research through T2.

Fiscal Year 2023: $6.59 million

Interoperability research developed efficient and reliable controls and automated verification among railroads. TC&C supported the testing and evaluation of cellular vehicle-to-everything communication protocols. TC&C also publicly demonstrated the feasibility and performance of a rail crossing violation warning system. Collaboration with the Intelligent Transportations Systems-Joint Program Office continued.

TC&C worked with stakeholders to develop new tools and technologies for addressing trespassing on railroad rights-of-way. A grade crossing database to house the 3D grade crossing scans collected by the Automated Track Inspection Program car continued development, along with new accident prediction and severity models for grade crossings and models for studying human behavior at grade crossings. TC&C disseminated educational tools to the public, including local and State governments, law enforcement agencies, and schools. TC&C continued to coordinate with the Human Factors (HF) division and Operation Lifesaver and also established an international working group for trespass prevention.

Fiscal Year 2024: $6.59 million

In FY 2024, TC&C will continue to support evolutionary and innovative technologies to ensure Positive Train Control (PTC) interoperability and reliability continue to evolve with the pace of technology development, and coordinate with industry to develop solutions to improve reliability, availability, and maintainability of deployed PTC systems. Program research will develop signaling, communications, and infrastructure enhancements to reduce PTC burden and improve safety. It will also evaluate alternative methods of broken rail detection that can support next generation train control architectures and research on advanced train control concepts and

architectures that support higher levels of railroad automation, such as Full Moving Block and Line of Road Remote Locomotive.

TC&C will also sponsor research on new sensor, computer, and digital communications for train control, braking systems, grade crossings, and defect detection; and innovative technologies in automation, artificial intelligence (AI), and unmanned aerial vehicles (UAVs) to improve safety and reduce incidents around railroad operations. Research on the feasibility of a vital, connected vehicle communication protocol for rail grade crossing accident mitigation and the development of novel concepts for integrating road vehicle active safety systems into rail crossing infrastructure systems is also planned for FY 2024. For grade crossing safety, TC&C plans to develop technologies and tools to improve warning devices and integrate grade crossing locations into mapping devices and continue working on digitizing all the grade crossings in the U.S. for use by other researchers and Federal, State, and local agencies. The digitization of crossings will be carried out using LiDAR and/or photogrammetry techniques.

Fiscal Year 2025: $7.25 million

TC&C will continue to support evolutionary and innovative technologies to ensure PTC interoperability and reliability keeps pace with technological development; support the development of interoperable train automation technologies, hazard sensing solutions, and associated industry standards; and upgrade testing infrastructures and systems at TTC to support rail industry research and development needs. In addition, TC&C will research advanced methods of track-circuit-based rail break detection to support moving block operations; continue research on new sensor, computer, and digital communications for train control, braking systems, grade crossings; and defect detection and innovative technologies in automation, AI, and unmanned aerial vehicles will improve safety and reduce incidents around railroad operations, develop technologies and tools to improve warning devices and integrate grade crossing locations into mapping devices. TC&C anticipates using a new grade crossing testbed at TTC as part of its research activities.

RD&T PROGRAM NAME: HUMAN FACTORS RESEARCH PROGRAM

Objectives: The Human Factors (HF) Research Program improves rail safety by examining the interactions of human operators with railroad systems, reducing the potential for human error in railroad operations. The program develops decision support and planning tools, assesses automation and human-machine interface designs; advocates for human systems integration within the railroad industry; and works with stakeholders to improve safety culture.

Fiscal Year 2023: $5.76 million

In 2023, the HF program continued to support the DOT goal of having the safest transportation network in the world by reducing the potential for human error in railroad operations. HF researched head-up display interface designs that support human-automation teaming to improve automated systems. Short Line Safety Institute (SLSI) funding continued, including an assessment of safety culture change at participating railroads. HF collaborated with the FRA Office of Railroad Safety (RRS) on transitioning the Rail Information Sharing Environment from its pilot phase to determine the feasibility and scalability of a safety data trust for the railroad industry. Research on grade crossing safety and trespasser mitigation continued, with studies on motorist and trespasser behavior. Coordination with the Global Railway Alliance for Suicide

Prevention Program and Operation Lifesaver helped mitigate and prevent trespassing and suicide attempts. HF also worked with NASA to analyze the Confidential Close Call Reporting System (C^3RS) data and work with NASA and RRS to conduct an evaluation of the C^3RS program, in keeping with the Evidence Act.

Fiscal Year 2024: $5.76 million

HF will continue research to catalog and survey the various cautions, alerts, warnings, and statuses associated with rail automated systems and displayed to engineers and operators. It will also continue operation and maintenance of the Cab Technology Integration Laboratory (CTIL) simulator, including human subjects research, offering expert advice on experimental methodology, and promoting its applicability. Further, HF will continue to explore research partnerships with labor, railroads, and academia on new human-machine interface (HMI) technology and systems engineering. Studies on human fatigue, highway-rail grade crossings, railroad trespass, suicide prevention, and data sharing will be extended, as will SLSI support.

Fiscal Year 2025: $6.45 million

HF will continue operation and maintenance of the CTIL simulator, including human subjects research, providing expert advice on experimental methodology, and promoting its applicability. In addition, HF will continue to expand its research related to railroad worker and operator performance, such as fatigue, stress, and sleep; analyze grade crossing and trespass data to identify rail-related incidents and develop an understanding of risk factors and socioeconomic influences on trespass and suicide that could influence economic, social, and environmental equity; and provide program oversight of the SLSI.

RD&T PROGRAM NAME: RAILROAD SYSTEMS ISSUES RESEARCH PROGRAM

Objectives: The Railroad Systems Issues (RSI) Research Program prioritizes R&D projects based on relevance to safety risk reduction, climate change and energy efficiency, equity, and other DOT goals.

Fiscal Year 2023: $12.87 million

Workforce development (WFD) research activities will address challenges with inclusion and diversity in rail. Research includes industry-wide WFD surveys, projects to attract and retain underrepresented people in rail, and funding STEM programs to encourage underrepresented populations to pursue rail-related careers. University partnerships will focus on minority-serving institutions (MSIs) and historically Black colleges and universities (HBCUs). Broad Agency Announcements will seek innovative ideas from vendors and universities. Research will improve rail accessibility standards for rail passengers. In collaboration with RRS, RSI held a second climate and sustainability conference, including international experts, industry, and Federal agencies who discussed clean energy solutions and technologies for the decarbonization of rail. Moreover, infrastructure investments enhanced TTC's capabilities and capacity, and addressed maintenance requirements needed to meet current and future research and test activities.

Fiscal Year 2024: $12.87 million

RSI will make WFD progress with MSIs and HBCUs. It will also continue to fund its Research with Universities initiative. Both endeavors fulfill DOT Strategic Goals.

In partnership with the Transportation Research Board, the ongoing Rail Safety Innovations Deserving Exploratory Analysis project solicits innovation, ideas, and advanced technology in railroad safety.

RSI will fund a feasibility study for a grade crossing testbed at TTC and a research plan identifying how TTC will be used over the next five years. TTC capabilities will be expanded through the purchasing of heavy equipment and instrumentation.

Locomotive safety is another RSI focus area for FY 2024, aimed at reducing fuel consumption, improving engine component life, and improving the efficiency of older, less efficient locomotives. Research is conducted in collaboration with Class I railroads to develop and demonstrate prototype systems. This research area addresses the DOT Strategic Goals of Safety and Climate and Sustainability.

Part of the RSI budget involves supporting RRS. All RD&T divisions support RRS by providing subject matter expertise, research, data, and tools to improve railroad safety and reduce accidents and incidents. RRS works closely with RD&T to provide insight into research needs throughout the fiscal year. RD&T needs the ability to support requests for research and expertise for time-sensitive safety issues.

RSI also funds the Rail Research and Development Center of Excellence, as authorized by the Infrastructure Investment and Jobs Act. The Center will advance research and development that improves the safety, efficiency, and reliability of passenger and freight rail transportation. These grants may be awarded to institutions of higher education or consortiums of nonprofit institutions of higher education.

Fiscal Year 2025: $16.40 million

RSI will continue the ongoing Rail Safety Innovations Deserving Exploratory Analysis project that solicits innovation, ideas and advanced technology in railroad safety, WFD research activities, stakeholder engagement, MSI/HBCU outreach and relationship-building, STEM projects; expand programs that support industry efforts to increase the recruitment, retention, and training of underrepresented populations and support the development of new and improved accessibility standards for rail vehicles; and continue to develop and evaluate clean energy for rail transportation. RSI will continue to enhance and expand TTC capabilities through strategic investment in existing facilities, equipment, and instrumentation to support upcoming research and testing needs, and address the site's aging infrastructure and deferred maintenance needs, as funding for the repair and rehabilitation of buildings and facilities in FY 2025 allows.

INFORMATION TECHNOLOGY
DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
BUDGET AUTHORITY

($000)

Budget Account	FY 2023 Enacted	FY 2024 Full Year CR	FY 2025 President's Budget
Safety and Operations	**$33,883**	**$33,883**	**$27,683**
Commodity IT SS WCF	*$17,786*	*$17,786*	*$17,573*
Modal IT	*$16,097*	*$16,097*	*$10,110*
Financial Assistance Oversight and Technical Assistance	**$0**	**$0**	**$835**
Modal IT	*$0*	*$0*	*$835*
Total	**$33,883**	**$33,883**	**$28,518**

The Federal Railroad Administration (FRA) is requesting **$28.52 million** in FY 2025 for information technologies (IT) that support the full spectrum of FRA programs as well as the Department's initiative to transform and consolidate the management of certain IT solutions centrally by the Office of the Chief Information Officer (OCIO).

Commodity IT Shared Services (SS) through the Working Capital Fund

OCIO will continue to provide all modes Commodity IT Shared Services in FY 2025 to achieve economies of scale and increase consistency of cybersecurity protections across the Department. Commodity IT Shared Services include IT functions and activities dedicated to basic support services, including network operations, end-user computing, telecommunications services, and server operations.

- FRA requests **$17.57 million** from the Safety and Operations account for Commodity IT Shared Services. FRA's share was based on actual commodity IT consumption in prior years as well as planned future consumption. OCIO, in collaboration with FRA, assumed a one-to-one cost estimate to transition all commodity IT to OCIO. FRA will only be charged for services rendered.

Modal IT

The following major mission-critical IT systems will be maintained by FRA in FY 2025. This list is only a subset of all IT systems that support FRA and are reported in OMB's Comprehensive Information Management System (CIMS).

- **Railroad Safety Information System (RSIS)** - FRA requests **$1.50 million** from Safety and Operations for development, modernization, and enhancement (DME) and operation and maintenance (O&M) of FRA's RSIS. RSIS is a data management program comprised of the people, processes, and tools required to support the collection, processing, delivery, reporting, and analyzing of railroad safety and safety-related data. RSIS supports the fundamental FRA safety mission through data and data-driven decision-making processes; enables analysis of safety data for identification of safety issues and trends, prioritization of programs, regulatory reform, and resource planning; enables risk analysis and quiet zone establishment; supports policies and research (R&D) throughout the rail industry; directly supports the Rail Compliance System program; and provides the authoritative safety data source that preserves historical data.

- **Automated Track Inspection Program (ATIP)** - FRA requests **$1.40 million** from Safety and Operations for DME and O&M of FRA's ATIP to ensure track safety, support FRA's vision of "ensuring the safe, reliable, and efficient movement of people and goods for a strong America, now and in the future" by developing and advancing inspection technologies and also using these technologies in compliance programs for identification of deteriorating and substandard track conditions.

- FRA requests **$7.21 million** from Safety and Operations and **$0.84 million** from Financial Assistance Oversight and Technical Assistance for DME and O&M for the remaining IT support and systems staying within the mode, such as Railroad Safety Inspection Tools, GrantSolutions, Railroad Network Systems, Web Information Services, Business Intelligence, and Rail Compliance System.

EXHIBIT VI
HISTORY OF APPROPRIATIONS, FY 2015 - 2024
FEDERAL RAILROAD ADMINISTRATION
($000)

Account	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020 [4/]	FY 2021 [6/]	FY 2022 [8/]	FY 2023 [10/]	FY 2024 [12/]
Safety and Operations	186,870	199,000	218,298	221,698	221,698	224,448	234,905	240,757	250,449	250,449
Safety and Operations (rescissions)	--	(6,710) [1/]	--	--	--	--	--	--	--	--
Railroad Research and Development	39,100	39,100	40,100	40,600	40,600	40,600	41,000	43,000	44,000	44,000
Railroad Research and Development (rescissions)	--	(1,960) [1/]	--	--	--	--	--	--	--	--
Consolidated Rail Infrastructure and Safety Improvements	--	--	68,000	592,547	255,000	325,000	375,000	1,625,000	1,560,000	1,560,000
Federal-State Partnership for Intercity Passenger Rail	--	--	25,000	250,000	400,000	200,000	200,000	7,300,000	7,300,000	7,300,000
Restoration and Enhancement Grants	--	--	5,000	20,000	5,000	2,000	4,720	--	--	--
Magnetic Levitation Technology Deployment Program	--	--	--	--	10,000	2,000	2,000	--	--	--
Railroad Crossing Elimination Program	--	--	--	--	--	--	--	600,000	600,000	600,000
Northeast Corridor Grants to the National Railroad Passenger Corporation	--	--	328,000	650,000	650,000	1,192,000	2,325,819	2,074,501	2,460,000	2,460,000
Northeast Corridor Grants to the National Railroad Passenger Corporation (rescissions)	--	--	--	--	--	--	--	--	(1,000) [11/]	--
National Network Grants to the National Railroad Passenger Corporation	--	--	1,167,000	1,291,600	1,291,600	1,826,000	2,374,181	4,656,870	4,393,000	4,393,000
National Network Grants to the National Railroad Passenger Corporation (rescissions)	--	--	--	--	--	--	--	--	(1,000) [11/]	
Operating Grants to the National Railroad Passenger Corporation	250,000	288,500	--	--	--	--	--	--	--	--
Capital and Debt Service Grants to the National Railroad Passenger Corporation	1,140,000	1,101,500	--	--	--	--	--	--	--	--
Capital and Debt Service Grants to the National Railroad Passenger Corporation (rescissions)	--	(5,000) [1/]	--	--	--	--	(10,458) [7/]	--	--	--
Grants to the National Railroad Passenger Corporation	--	(267) [1/]	13,480 [3/]	--	--	--	--	--	--	--
Pennsylvania Station Redevelopment Project	--	40,200 [2/]	--	--	--	--	--	--	--	--
Railroad Safety Grants	10,000	50,000	--	--	--	--	--	(1,715) [9/]	(1,610) [11/]	
Railroad Safety Technology Program (rescissions)	--	--	--	--	--	--	(613) [7/]	--	--	--
Rail Line Relocation and Improvement Program (rescissions)	--	(2,241) [1/]	--	--	--	--	(12,650) [7/]	--	(1,811) [11/]	
Next Generation High-Speed Rail (rescissions)	--	(4,945) [1/]	--	--	--	--	(3,035) [7/]	--	--	--
Northeast Corridor Improvement Program	--	19,163 [1/]	--	--	--	--	--	--	--	--
Intercity Passenger Rail Grant Program (rescissions)	--	--	--	--	--	--	(10,165) [7/]	--	--	--
Capital Assistance for High Speed Rail Corridors and Intercity Passenger Rail Service (rescissions)	--	--	--	--	--	--	--	(13,327) [9/]	--	--
Railroad Rehabilitation and Improvement Financing Program (discretionary)	--	1,960 [1/]	--	25,000	17,000	-- [5/]	--	--	--	--
Railroad Rehabilitation and Improvement Financing Program (mandatory)	31,455	563	1,809	100,371	60,811	-- [5/]	--	--	--	--
Total FRA Budget Authority	**1,657,425**	**1,718,863**	**1,866,687**	**3,191,816**	**2,951,709**	**3,812,048**	**5,520,704**	**16,525,086**	**16,602,028**	**16,607,449**

Notes:
1/ FY 2016 Omnibus (P.L. 114-113) reflects the following rescissions from prior year unobligated balances: $6,710,477 from Safety & Operations, $1,960,000 from Railroad Research and Development, $2,241,385 from Rail Line Relocation and Improvement, $5,000,000 from Capital and Debt Service Grants to the National Railroad Passenger Corporation (NEC 2015), $267,019 from Grants to the National Railroad Passenger Corporation, and $4,944,504 from Next Generation High-Speed Rail. These amounts were then reallocated to: $19,163,385 for Northeast Corridor Improvement Program and $1,960,000 to Railroad Rehabilitation and Improvement Financing Program.

2/ In FY 2016, $40.2M from the Disaster Relief Appropriations Act of FY 2013 (P.L. 113-2) was transferred from FTA to FRA for risk reduction projects at Pennsylvania Station, which was an area impacted by Hurricane Sandy.
3/ In FY 2017, $13.48M from the Disaster Relief Appropriations Act of FY 2013 (P.L. 113-2) was transferred from FTA to FRA for the MTA/LIRR River to River Rail Resilience project, which was an area impacted by Hurricane Sandy.
4/ FY 2020 amounts are the Enacted Budget plus supplemental funds. The CARES Act (COVID-19) provided $0.25M to Safety & Operations, $492M to Northeast Corridor Grants to Amtrak, and $526M to National Network Grants to Amtrak.
5/ In FY 2020, the Railroad Rehabilitation and Improvement Financing Program accounts moved to the Office of the Secretary.
6/ FY 2021 amounts are the Enacted Budget plus COVID-19 supplemental funds. Supplemental funds from the Coronavirus Response and Relief Supplemental Appropriations (CRRSA) Act include $655,431,000 for Northeast Corridor Grants to Amtrak and $344,569,000 to National Network Grants to Amtrak. Supplemental funds from the American Rescue Plan (ARP) Act include $970,388,160 for Northeast Corridor Grants to Amtrak and $729,611,840 to National Network Grants to Amtrak.
7/ The Consolidated Appropriations Act, 2021 (P.L. 116-260) includes the following rescissions of prior year unobligated balances: $10,458,135.54 from Capital and Debt Service Grants to the National Railroad Passenger Corporation, $613,252.29 from Rail Safety Technology Program, $10,164,8855.13 from Intercity Passenger Rail Grant Program, $16,650,365.14 from Rail Line Relocation and Improvement, and $3,034,848.52 from Next Generation High-Speed Rail.
8/ FY 2022 amounts are the Enacted Budget plus $13.2B of supplemental funds from the Infrastructure Investment and Jobs Act (IIJA) of: $1.2B for Amtrak Northeast Corridor, $3.2B for Amtrak National Network, $1.0B for Consolidated Rail Infrastructure and Safety Improvements, $7.2B for Federal-State Partnership for Intercity Passenger Rail, and $0.6B for Railroad Crossing Elimination. This column excludes any transfers of carryover, regular, and/or supplemental appropriations to the Financial Assistance Oversight and Technical Assistance account.
9/ The Consolidated Appropriations Act, 2022 (P.L. 117-103) includes the following rescissions of prior year unobligated balances: $1,715,414.34 from Railroad Safety Grants and $13,327,006.39 from Capital Assistance for High Speed Rail Corridors and Intercity Passenger Rail Service.
10/ FY 2023 amounts are the Enacted Budget plus $13.2B of supplemental funds from the Infrastructure Investment and Jobs Act (IIJA) of: $1.2B for Amtrak Northeast Corridor, $3.2B for Amtrak National Network, $1.0B for Consolidated Rail Infrastructure and Safety Improvements, $7.2B for Federal-State Partnership for Intercity Passenger Rail, and $0.6B for Railroad Crossing Elimination. This column excludes any transfers of carryover, regular, and/or supplemental appropriations to the Financial Assistance Oversight and Technical Assistance account.
11/ The Consolidated Appropriations Act, 2023 (P.L. 117-328) includes the following rescissions of prior year unobligated balances: $1,610,000.00 from Railroad Safety Grants and $1,811,124.16 from Rail Line Relocation and Improvement Program. The Fiscal Responsibility Act of 2023 (P.L. 118-5) includes the following rescissions of prior year unobligated balances: $1,000,000 from Amtrak Northeast Corridor and $1,000,000 from Amtrak National Network.
12/ FY 2024 amounts are the FY 2024 Full Year CR plus $13.2B of advance appropriations from the Infrastructure Investment and Jobs Act (IIJA) of: $1.2B for Amtrak Northeast Corridor, $3.2B for Amtrak National Network, $1.0B for Consolidated Rail Infrastructure and Safety Improvements, $7.2B for Federal-State Partnership for Intercity Passenger Rail, and $0.6B for Railroad Crossing Elimination. This column excludes any transfers of carryover, regular, and/or supplemental appropriations to the Financial Assistance Oversight and Technical Assistance account.