U.S. Department
of Transportation

BUDGET ESTIMATES

FISCAL YEAR 2024

FEDERAL RAILROAD ADMINISTRATION

SUBMITTED FOR THE USE OF
THE COMMITTEES ON APPROPRIATIONS

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FY 2024 PRESIDENT'S BUDGET JUSTIFICATION

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DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

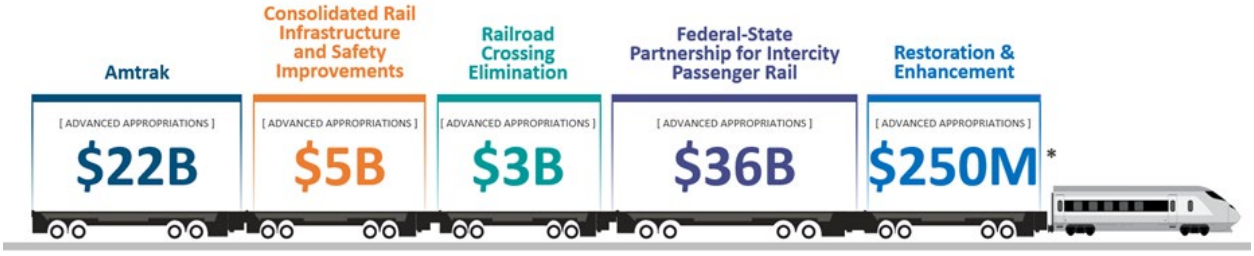
ADMINISTRATOR'S OVERVIEW

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 safety and the 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 cutting edge research and development, through which FRA advances technology innovations and new practices to improve rail safety and efficiency.

The FY 2024 President's Budget requests $4.77 billion for FRA, including $3.07 billion for Amtrak grants, $1.37 billion for discretionary rail grants, $273.46 million for the Safety and Operations account, and $59.00 million for the Research and Development account. FRA's programs and the funding requested in the FY 2024 President's Budget present an integrated and complimentary approach that ensures the safety and performance of the rail industry today, while supporting the growth and innovation required to deliver the rail network of the future.

Fiscal Year 2024 marks the third year of the Infrastructure Investment and Jobs Act (IIJA) and midpoint of the $66 billion in supplemental advance appropriations provided by the legislation. This funding is supporting critical investments to renew the nation's railroad infrastructure, expand and enhance intercity passenger rail service, strengthen the freight rail network, and improve railroad safety.

FRA IIJA Supplemental Advance Appropriations Grant Funding



**The $250 million for Restoration & Enhancement Grants is a takedown from Amtrak National Network funding.*

The FY 2024 President's Budget will advance the Biden-Harris Administration's transportation priorities, which include:

- **Safety**: While significant focus has been paid to the increased grant resources provided by IIJA, safety remains FRA's top priority and IIJA contains a number of measures intended to improve railroad safety. The FY 2024 President's Budget dedicates resources to address the three leading causes of fatalities in the rail industry—grade crossings, trespassing, and suicide—including $760 million under the Consolidated Rail Infrastructure and Safety Improvements (CRISI) program and Railroad Crossing Elimination program. Funding will also enable FRA to increase safety inspectors and specialists, and support FRA's efforts to enhance data collection and analysis to ensure FRA's resources target the safety hotspots that most require assistance and intervention.

  The FY 2024 President's Budget requests $4.5 million for the Confidential Close Call Reporting System (C^3RS), which enables railroad employees to report close calls and unsafe events, and learn from these events to prevent future safety incidents. The funding requested for FY 2024 will support the continued expansion of the program to include railroad employees from Class I railroads. The FY 2024 President's Budget also requests $17 million to deploy FRA's fleet of Automated Track Inspection Program (ATIP) vehicles across the rail network to collect data on track geometry and rail integrity. FRA utilizes this data to inform the agency's safety oversight and enforcement activities, develop regulations, and audit compliance with Federal Track Safety Standards.

- **Economic Strength and Global Competitiveness:** The importance of transportation infrastructure to a healthy economy and global competitiveness is indisputable. The FY 2024 President's Budget requests $510 million for the CRISI program, which assists freight railroads in advancing major infrastructure projects and provides needed resources to strengthen and maintain fluidity in the U.S. supply chain. In particular, the CRISI program has provided critical capital funding for more than 100 short line railroad projects since the program was first funded in FY 2017. These railroads often provide the "first- and last-mile" connections to the Class I network for freight shippers and customers. Similarly, expansion and improvement of intercity passenger rail through FRA's grant programs will generate skilled jobs, better connect communities and employment opportunities, and support the transportation needs of the fastest growing regions of the country.

  The FY 2024 President's Budget will also continue several workforce development programs first proposed in the FY 2023 President's Budget that are designed to improve railroad industry employee training, recruitment, and retention. The proposed National Railroad Institute will strengthen project development and delivery technical capacity that is required for the successful long-term implementation of IIJA investments.

- **Equity:** The FY 2024 President's Budget dedicates personnel resources and substantial programmatic funding and policy considerations to address persistent equity issues in both our rail transportation system and workforce, including:

    - Establishing a goal that at least 40 percent of competitive grant funding for projects benefits underserved or disadvantaged communities in order to build a more equitable transportation system, consistent with the Justice40 Initiative;
    - Encouraging project sponsors to take advantage of the broad eligibilities in the CRISI program to fund rail line relocations and other mitigations for the detrimental safety and quality of life effects rail transportation can have on communities. Many century-old rail lines and facilities bisect communities of color and low-income neighborhoods, impeding access to employment opportunities and critical community services. The Railroad Crossing Elimination program can similarly help communities grade separate or otherwise improve dangerous highway-rail crossings;
    - Reducing statutory cost-sharing requirements for underserved or disadvantaged communities;
    - Increasing funding for workforce development, outreach, and apprenticeship programs to foster a more robust and diverse workforce with greater representation from women, minorities, and other underrepresented groups; and
    - Strengthening FRA's enforcement of Title VI and small business contracting requirements under FRA grant programs.

- **Climate and Sustainability:** 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. Even though rail is already among the most energy-efficient modes of transportation—moving one-third of all freight on a ton-mile basis, while consuming less than 2 percent of energy used in the transportation sector[1]—further advances are needed to tackle the climate crisis. The FY 2024 President's Budget is supporting grants that will help divert passenger and freight from more carbon-intensive transportation modes. FRA is proposing to establish a locomotive replacement program within CRISI to hasten the rehabilitation, remanufacture, procurement, or overhauling of short line railroads' worst-polluting, most inefficient locomotives. Additionally, FRA's research and development will spur progress in battery technology, electrification, and clean fuels to reduce the negative environmental effects of transportation.

- **Transformation:** In late 2022, FRA issued the Northeast Corridor Project Inventory and began soliciting proposals under the Corridor Identification and Development program. The projects identified by these planning processes and implemented in part with the $560 million requested for the Federal-State Partnership for Intercity Passenger Rail program will build new rail corridors and replace aging assets with modern infrastructure

[1] U.S. Department of Transportation, Bureau of Transportation Statistics, Energy Consumption by Mode of Transportation, February 2022 and U.S. Ton-Miles of Freight, June 2022.

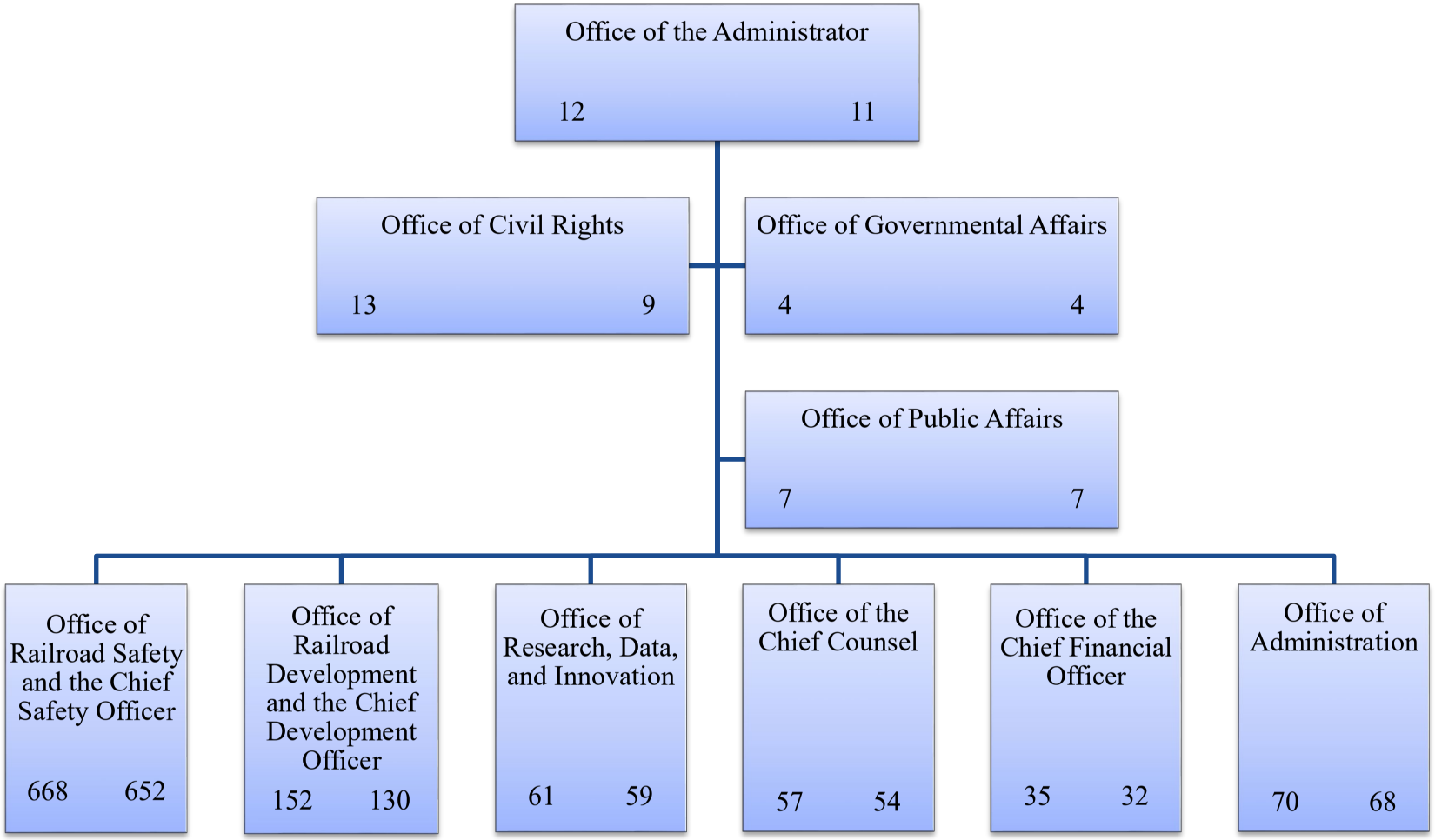
that will be able to withstand heavy usage for decades with proper maintenance. Similarly, FRA's research and development efforts are helping to deliver innovative new technologies and practices to enhance rail safety, operating efficiency, maintenance, and asset longevity.

The U.S. rail network is critical to national economic productivity and serves an indispensable role in fulfilling the freight and passenger mobility needs of a population that is expected to increase by nearly 70 million over the next 40 years. The FY 2024 President's Budget request will help FRA in enabling continuous safety, reliability, and efficiency improvements to meet our country's transportation challenges.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FY 2023 Organization Chart

1,079 Full-Time Positions (FTP); 1,026 Full-Time Equivalents (FTE)



DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FY 2024 Organization Chart

1,114 Full-Time Positions (FTP); 1,090 Full-Time Equivalents (FTE)

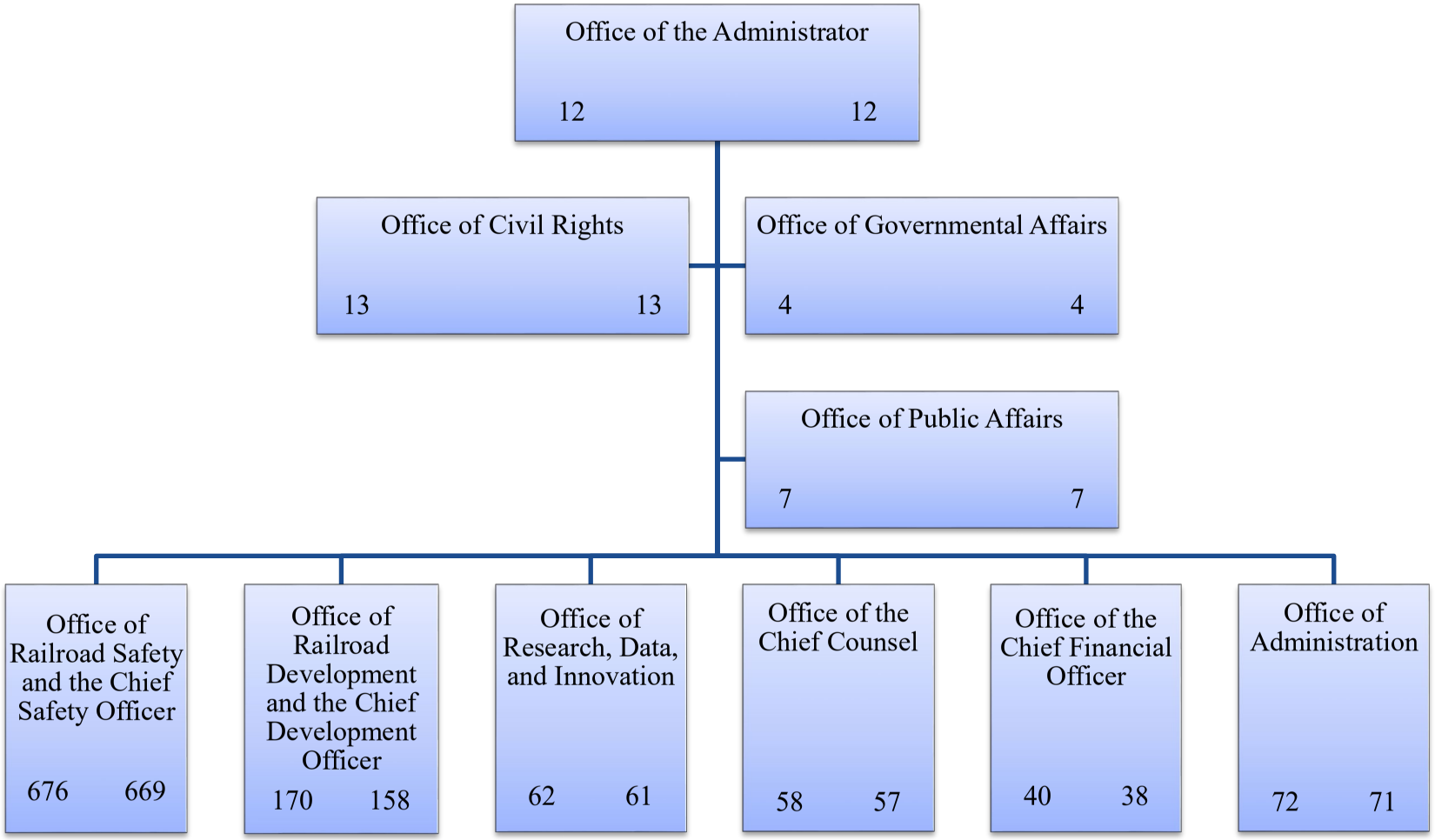


EXHIBIT II-1
FY 2024 BUDGET AUTHORITY
FEDERAL RAILROAD ADMINISTRATION
($000)

ACCOUNT NAME	M / D	(A) FY 2022 ENACTED	(B) FY 2023 ENACTED	(C) FY 2024 PRES. BUDGET
SAFETY AND OPERATIONS (GF)	D	$ 240,757	$ 250,449	$ 273,458
RAILROAD RESEARCH AND DEVELOPMENT (GF)	D	$ 43,000	$ 44,000	$ 59,000
NORTHEAST CORRIDOR GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION (GF)	D	$ 870,129	$ 1,253,700	$ 1,220,865
Budget Authority		$ 874,501	$ 1,260,000	$ 1,227,000
Transfers		$ (4,372)	$ (6,300)	$ (6,135)
NATIONAL NETWORK GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION (GF)	D	$ 1,452,386	$ 1,187,035	$ 1,831,795
Budget Authority		$ 1,456,870	$ 1,193,000	$ 1,841,000
Transfers		$ (4,484)	$ (5,965)	$ (9,205)
CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS (GF)	D	$ 612,510	$ 548,800	$ 499,800
Budget Authority		$ 625,000	$ 560,000	$ 510,000
Transfers		$ (12,490)	$ (11,200)	$ (10,200)
FEDERAL-STATE PARTNERSHIP FOR INTERCITY PASSENGER RAIL GRANTS (GF)	D	$ 98,000	$ 98,000	$ 548,800
Budget Authority		$ 100,000	$ 100,000	$ 560,000
Transfers		$ (2,000)	$ (2,000)	$ (11,200)
RESTORATION AND ENHANCEMENT GRANTS (GF)	D	$ -	$ -	$ 49,500
Budget Authority		$ -	$ -	$ 50,000
Transfers		$ -	$ -	$ (500)
RAILROAD CROSSING ELIMINATION PROGRAM (GF)	D	$ -	$ -	$ 245,000
Budget Authority		$ -	$ -	$ 250,000
Transfers		$ -	$ -	$ (5,000)

ACCOUNT NAME	M / D	(A) FY 2022 ENACTED	(B) FY 2023 ENACTED	(C) FY 2024 PRES. BUDGET
FINANCIAL ASSISTANCE OVERSIGHT AND TECHNICAL ASSISTANCE (GF)	D	$ 23,347	$ 25,465	$ 42,240
Transfers		$ 23,347	$ 25,465	$ 42,240
RAILROAD SAFETY GRANTS (GF)	D	$ (1,715)	$ (1,610)	$ -
Rescissions		$ (1,715)	$ (1,610)	$ -
CAPITAL ASSISTANCE FOR HIGH SPEED RAIL CORRIDORS AND INTERCITY PASSENGER RAIL SERVICE (GF)	D	$ (13,327)	$ -	$ -
Rescissions		$ (13,327)	$ -	$ -
RAIL LINE RELOCATION AND IMPROVEMENT PROGRAM (GF)	D	$ -	$ (1,811)	$ -
Rescissions		$ -	$ (1,811)	$ -
Gross New Budget Authority		**$ 3,340,128**	**$ 3,407,449**	**$ 4,770,458**
Rescissions		**$ (15,042)**	**$ (3,421)**	**$ -**
Transfers		**$ -**	**$ -**	**$ -**
NET NEW BUDGET AUTHORITY REQUESTED:		**$ 3,325,086**	**$ 3,404,028**	**$ 4,770,458**
[Discretionary BA]		$ 3,325,086	$ 3,404,028	$ 4,770,458
Supplemental Funding				
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]	D	$ 198,000	$ 183,000	$ 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		**$ 16,524,096**	**$ 16,603,038**	**$ 17,969,468**

EXHIBIT II-2
FY 2024 TOTAL BUDGETARY RESOURCES BY APPROPRIATION ACCOUNT
FEDERAL RAILROAD ADMINISTRATION
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

ACCOUNT NAME	M / D	(A) FY 2022 ENACTED	(B) FY 2023 ENACTED	(C) FY 2024 PRES. BUDGET
SAFETY AND OPERATIONS (GF)	D	$ 240,757	$ 250,449	$ 273,458
RAILROAD RESEARCH AND DEVELOPMENT (GF)	D	$ 43,000	$ 44,000	$ 59,000
NORTHEAST CORRIDOR GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION (GF)	D	$ 870,129	$ 1,253,700	$ 1,220,865
Budget Authority		$ 874,501	$ 1,260,000	$ 1,227,000
Transfers		$ (4,372)	$ (6,300)	$ (6,135)
NATIONAL NETWORK GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION (GF)	D	$ 1,452,386	$ 1,187,035	$ 1,831,795
Budget Authority		$ 1,456,870	$ 1,193,000	$ 1,841,000
Transfers		$ (4,484)	$ (5,965)	$ (9,205)
CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS (GF)	D	$ 612,510	$ 548,800	$ 499,800
Budget Authority		$ 625,000	$ 560,000	$ 510,000
Transfers		$ (12,490)	$ (11,200)	$ (10,200)
FEDERAL-STATE PARTNERSHIP FOR INTERCITY PASSENGER RAIL GRANTS (GF)	D	$ 98,000	$ 98,000	$ 548,800
Budget Authority		$ 100,000	$ 100,000	$ 560,000
Transfers		$ (2,000)	$ (2,000)	$ (11,200)
RESTORATION AND ENHANCEMENT GRANTS (GF)	D	$ -	$ -	$ 49,500
Budget Authority		$ -	$ -	$ 50,000
Transfers		$ -	$ -	$ (500)
RAILROAD CROSSING ELIMINATION PROGRAM (GF)	D	$ -	$ -	$ 245,000
Budget Authority		$ -	$ -	$ 250,000
Transfers		$ -	$ -	$ (5,000)

ACCOUNT NAME	M / D	(A) FY 2022 ENACTED	(B) FY 2023 ENACTED	(C) FY 2024 PRES. BUDGET
FINANCIAL ASSISTANCE OVERSIGHT AND TECHNICAL ASSISTANCE (GF)	D	$ 23,347	$ 25,465	$ 42,240
Transfers		$ 23,347	$ 25,465	$ 42,240
RAILROAD SAFETY GRANTS (GF)	D	$ (1,715)	$ (1,610)	$ -
Rescissions		$ (1,715)	$ (1,610)	$ -
CAPITAL ASSISTANCE FOR HIGH SPEED RAIL CORRIDORS AND INTERCITY PASSENGER RAIL SERVICE (GF)	D	$ (13,327)	$ -	$ -
Rescissions		$ (13,327)	$ -	$ -
RAIL LINE RELOCATION AND IMPROVEMENT PROGRAM (GF)	D	$ -	$ (1,811)	$ -
Rescissions		$ -	$ (1,811)	$ -
Gross New Budgetary Resources		**$ 3,340,128**	**$ 3,407,449**	**$ 4,770,458**
Rescissions		**$ (15,042)**	**$ (3,421)**	**$ -**
Transfers		**$ -**	**$ -**	**$ -**
TOTAL BUDGETARY RESOURCES:		**$ 3,325,086**	**$ 3,404,028**	**$ 4,770,458**
[Discretionary]		$ 3,325,086	$ 3,404,028	$ 4,770,458
Supplemental Funding				
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]	D	$ 198,000	$ 183,000	$ 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		**$ 16,524,096**	**$ 16,603,038**	**$ 17,969,468**

EXHIBIT II-3
FY 2024 BUDGET REQUEST BY DOT STRATEGIC AND ORGANIZATIONAL GOALS
Appropriations, Obligation Limitation, and Exempt Obligations
FEDERAL RAILROAD ADMINISTRATION
($000)

Account	Safety	Economic Strength	Equity	Climate & Sustainability	Transformation	Organizational Excellence	Total
Base Appropriations	$ 840,467	$ 1,037,690	$ 1,162,621	$ 1,028,065	$ 630,418	$ 71,196	$ 4,770,458
Safety and Operations	$ 160,904	$ 24,292	$ 26,138	$ 24,292	$ 24,292	$ 13,539	$ 273,458
Railroad Research and Development	$ 17,380	$ 2,792	$ 1,417	$ 5,417	$ 28,578	$ 3,417	$ 59,000
Northeast Corridor Grants to the National Passenger Railroad Corporation	$ 242,973	$ 242,973	$ 242,973	$ 242,973	$ 242,973	$ 6,000	$ 1,220,865
National Network Grants to the National Passenger Railroad Corporation	$ 160,000	$ 493,598	$ 493,598	$ 493,598	$ 185,000	$ 6,000	$ 1,831,795
Consolidated Rail Infrastructure and Safety Improvements	$ 99,960	$ 99,960	$ 199,920	$ 99,960	$ -	$ -	$ 499,800
Federal-State Partnership for Intercity Passenger Rail Grants	$ -	$ 137,200	$ 137,200	$ 137,200	$ 137,200	$ -	$ 548,800
Restoration and Enhancement Grants	$ -	$ 12,375	$ 12,375	$ 12,375	$ 12,375	$ -	$ 49,500
Railroad Crossing Elimination Program	$ 159,250	$ 24,500	$ 49,000	$ 12,250	$ -	$ -	$ 245,000
Financial Assistance Oversight and Technical Assistance	$ -	$ -	$ -	$ -	$ -	$ 42,240	$ 42,240
IIJA Supplemental Advance Appropriations	$ 1,371,600	$ 2,812,200	$ 3,467,000	$ 2,782,800	$ 2,557,400	$ 208,010	$ 13,199,010
Northeast Corridor Grants to the National Passenger Railroad Corporation	$ 221,800	$ 221,800	$ 301,800	$ 221,800	$ 221,800	$ 5,000	$ 1,194,000
National Network Grants to the National Passenger Railroad Corporation	$ 571,600	$ 571,600	$ 891,600	$ 571,600	$ 571,600	$ 6,000	$ 3,184,000
Consolidated Rail Infrastructure and Safety Improvements	$ 196,000	$ 196,000	$ 392,000	$ 196,000	$ -	$ -	$ 980,000
Federal-State Partnership for Intercity Passenger Rail Grants	$ -	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ -	$ 7,056,000
Railroad Crossing Elimination Program	$ 382,200	$ 58,800	$ 117,600	$ 29,400	$ -	$ -	$ 588,000
Financial Assistance Oversight and Technical Assistance	$ -	$ -	$ -	$ -	$ -	$ 197,010	$ 197,010
TOTAL	$ 2,212,067	$ 3,849,890	$ 4,629,621	$ 3,810,865	$ 3,187,818	$ 279,206	$ 17,969,468

Note: This exhibit includes transfers to and from the Financial Assistance Oversight and Technical Assistance account.

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 2024 OUTLAYS
FEDERAL RAILROAD ADMINISTRATION
($000)

	M / D	(A) FY 2022 ENACTED	(B) FY 2023 ENACTED	(C) FY 2024 PRES. BUDGET
SAFETY AND OPERATIONS	D	$ 242,807	$ 254,000	$ 267,000
RAILROAD RESEARCH AND DEVELOPMENT	D	$ 40,868	$ 43,000	$ 49,000
GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION	D	$ 202	$ 13,000	$ 8,000
NORTHEAST CORRIDOR GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION	D	$ 874,887	$ 1,259,000	$ 1,216,000
NATIONAL NETWORK GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION	D	$ 1,456,983	$ 1,192,000	$ 1,835,000
CAPITAL AND DEBT SERVICE GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION	D	$ 99	$ -	$ -
CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS	D	$ 99,892	$ 287,000	$ 309,000
FEDERAL-STATE PARTNERSHIP FOR INTERCITY PASSENGER RAIL	D	$ 29,678	$ 55,000	$ 190,000
RESTORATION AND ENHANCEMENT GRANTS	D	$ 49	$ 2,000	$ 5,000
RAILROAD CROSSING ELIMINATION PROGRAM	D	$ -	$ -	$ -
FINANCIAL ASSISTANCE OVERSIGHT AND TECHNICAL ASSISTANCE	D	$ 2,998	$ 19,000	$ 19,000
RAILROAD SAFETY GRANTS	D	$ 2,701	$ 10,000	$ 3,000
CAPITAL ASSISTANCE TO STATES - INTERCITY PASSENGER RAIL SERVICE	D	$ -	$ 7,000	$ -
NORTHEAST CORRIDOR IMPROVEMENT PROGRAM	D	$ 994	$ 10,000	$ -
PENNSYLVANIA STATION REDEVELOPMENT PROJECT	D	$ -	$ -	$ -
CAPITAL ASSISTANCE FOR HIGH SPEED RAIL CORRIDORS AND INTERCITY PASSENGER RAIL SERVICE	D	$ 4,267	$ 113,000	$ 107,000
NEXT GENERATION HIGH-SPEED RAIL	D	$ -	$ 1,000	$ -
RAIL LINE RELOCATION AND IMPROVEMENT PROGRAM	D	$ -	$ -	$ 1,000
RAILROAD SAFETY TECHNOLOGY PROGRAM	D	$ -	$ 1,000	$ -

	M / D	(A) FY 2022 ENACTED	(B) FY 2023 ENACTED	(C) FY 2024 PRES. BUDGET
MAGNETIC LEVITATION TECHNOLOGY DEPLOYMENT PROGRAM	**D**	$ -	$ -	$ -
TOTAL:		**$ 2,756,425**	**$ 3,266,000**	**$ 4,009,000**
Discretionary		$ 2,756,425	$ 3,266,000	$ 4,009,000
Supplemental Funding				
COVID-19 Supplementals				
NORTHEAST CORRIDOR GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION	**M/D**	$ -	$ -	$ 1,000
NATIONAL NETWORK GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION	**M/D**	$ 1,001	$ -	$ 1,000
IIJA Supplemental (Division J)				
NORTHEAST CORRIDOR GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION	**D**	$ -	$ 225,000	$ 447,000
NATIONAL NETWORK GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION	**D**	$ -	$ 732,000	$ 697,000
CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS	**D**	$ -	$ -	$ -
FEDERAL-STATE PARTNERSHIP FOR INTERCITY PASSENGER RAIL	**D**	$ -	$ -	$ 353,000
RAILROAD CROSSING ELIMINATION PROGRAM	**D**	$ -	$ -	$ 29,000
FINANCIAL ASSISTANCE OVERSIGHT AND TECHNICAL ASSISTANCE	**D**	$ 1,814	$ 30,000	$ 54,000
Grand Total, Outlays from all Appropriations		**$ 2,759,240**	**$ 4,253,000**	**$ 5,591,000**

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 2022 Enacted	FY 2023 Enacted	Annualization of Prior Pay Raises	Annualization of new FY 2023 FTE	FY 2024 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2024 Baseline Estimate	Program Increases/ Decreases	FY 2024 Request
PERSONNEL RESOURCES (FTE)												
Direct FTE	873	1,026	-	53	-	-	-	-	-	1,079	11	1,090
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES												
Salaries and Benefits	148,243	180,273	2,004	9,736	7,489	767	-	-	966	201,235	2,117	203,351
Benefits for Former Employees (AK RR)	450	419	-	-	-	-	-	-	(25)	394	-	394
Travel	8,524	11,218	-	-	-	-	-	-	223	11,440	209	11,649
Transportation	-	40	-	-	-	-	-	-	-	40	-	40
GSA Rent	5,947	3,883	-	-	-	-	12	-	(2,732)	1,163	-	1,163
Communications, & Utilities	257	98	-	-	-	-	-	-	-	98	(28)	70
Printing	502	509	-	-	-	-	-	-	-	509	(6)	503
Other Services:												
-WCF	22,158	23,468	-	-	-	-	-	4,741	-	28,209	-	28,209
-ESC	2,115	2,266	-	-	-	-	-	-	(138)	2,128	-	2,128
-Other contracts	246,448	200,254	-	-	-	-	-	-	4,005	204,259	28,749	233,008
Supplies	335	461	-	-	-	-	-	-	-	461	(232)	229
Equipment	184	664	-	-	-	-	-	-	-	664	(531)	132
Insurance Claims & Settlements	19	100	-	-	-	-	-	-	-	100	-	100
Admin Subtotal	**435,181**	**423,653**	**2,004**	**9,736**	**7,489**	**767**	**12**	**4,741**	**2,297**	**450,699**	**30,278**	**480,976**
PROGRAMS												
Safety and Operations	30,828	36,817	-	-	-	-	-	-	130	36,946	(2,590)	34,357
Railroad Research and Development	41,904	42,445	-	-	-	-	-	-	849	43,294	14,071	57,365
Grants to Amtrak	6,697,714	6,833,735	-	-	-	-	-	-	48,815	6,882,550	548,110	7,430,660
Consolidated Rail Infrastructure and Safety Improvements	1,592,500	1,528,800	-	-	-	-	-	-	-	1,528,800	(49,000)	1,479,800
Federal-State Partnership for Intercity Passenger Rail Grants	7,154,000	7,154,000	-	-	-	-	-	-	1,960	7,155,960	448,840	7,604,800
Restoration and Enhancement Grants	-	-	-	-	-	-	-	-	-	-	49,500	49,500
Railroad Crossing Elimination Program	588,000	588,000	-	-	-	-	-	-	-	588,000	245,000	833,000
Financial Assistance Oversight and Technical Assistance	-	-	-	-	-	-	-	-	-	-	-	-
Programs Subtotal	**16,104,947**	**16,183,797**	**-**	**-**	**-**	**-**	**-**	**-**	**51,753**	**16,235,550**	**1,253,932**	**17,489,482**
TOTAL	**16,540,128**	**16,607,449**	**2,004**	**9,736**	**7,489**	**767**	**12**	**4,741**	**54,051**	**16,686,249**	**1,284,209**	**17,970,458**

FRA Total			Baseline Changes									
	FY 2022 Enacted	FY 2023 Enacted	Annualization of Prior Pay Raises	Annualization of new FY 2023 FTE	FY 2024 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2024 Baseline Estimate	Program Increases/ Decreases	FY 2024 Request
CANCELLATIONS												
Railroad Safety Grants	(1,715)	(1,610)	-	-	-	-	-	-	-	(1,610)	1,610	-
Capital Assistance For High Speed Rail Corridors and Intercity Passenger Rail Service	(13,327)	(1,811)	-	-	-	-	-	-	-	(1,811)	1,811	-
Cancellations Subtotal	**(15,042)**	**(3,421)**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**(3,421)**	**3,421**	**-**
TRANSFERS												
Financial Assistance Oversight and Technical Assistance	(990)	(990)	-	-	-	-	-	-	-	(990)	-	(990)
Transfers Subtotal	**(990)**	**(990)**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**(990)**	**-**	**(990)**
TOTAL with Cancellations and Transfers	**16,524,096**	**16,603,038**	**2,004**	**9,736**	**7,489**	**767**	**12**	**4,741**	**54,051**	**16,681,838**	**1,287,630**	**17,969,468**

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

Safety & Operations			Baseline Changes									
	FY 2022 Enacted	FY 2023 Enacted	Annualization of Prior Pay Raises	Annualization of new FY 2023 FTE	FY 2024 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2024 Baseline Estimate	Program Increases/ Decreases	FY 2024 Request
PERSONNEL RESOURCES (FTE)												
Direct FTE	852	915	-	29	-	-	-	-	-	944	5	949
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES												
Salaries and Benefits [1/]	144,327	159,053	1,768	5,097	6,471	663	-	-	893	173,945	906	174,851
Benefits for Former Employees (AK RR)	450	419	-	-	-	-	-	-	(25)	394	-	394
Travel	8,349	10,748	-	-	-	-	-	-	213	10,961	-	10,961
Transportation	-	40	-	-	-	-	-	-	-	40	-	40
GSA Rent	5,947	3,883	-	-	-	-	12		(2,732)	1,163	-	1,163
Communications, & Utilities	257	98	-	-	-	-	-	-	-	98	(28)	70
Printing	502	509	-	-	-	-	-	-	-	509	(6)	503
Other Services:												
-WCF	22,158	23,468	-	-	-	-	-	4,741	-	28,209	-	28,209
-ESC	2,115	2,266	-	-	-	-	-	-	(138)	2,128	-	2,128
-Other contracts	25,285	11,923	-	-	-	-	-	-	238	12,162	8,159	20,321
Supplies	335	461	-	-	-	-	-	-	-	461	(232)	229
Equipment	184	664	-	-	-	-	-	-	-	664	(531)	132
Insurance Claims & Settlements	19	100	-	-	-	-	-	-	-	100	-	100
Admin Subtotal	**209,929**	**213,632**	**1,768**	**5,097**	**6,471**	**663**	**12**	**4,741**	**(1,551)**	**230,833**	**8,269**	**239,101**
PROGRAMS												
Automated Track Inspection Program	16,500	17,000	-	-	-	-	-	-	-	17,000	-	17,000
Rail Safety Partnership (C3RS)	3,300	4,300	-	-	-	-	-	-	86	4,386	114	4,500
Railroad Safety Information System (RSIS)	3,326	3,343	-	-	-	-	-	-	-	3,343	1,157	4,500
Rail Grade Crossing Safety	2,175	3,000	-	-	-	-	-	-	-	3,000	(2,000)	1,000
Washington Union Station	480	1,500	-	-	-	-	-	-	-	1,500	-	1,500
Positive Train Control (PTC) Support	1,000	1,000	-	-	-	-	-	-	-	1,000	-	1,000
Drug and Alcohol Program	1,002	1,125	-	-	-	-	-	-	23	1,148	53	1,200
Security, Other Security Grants	552	650	-	-	-	-	-	-	-	650	(61)	589
Rail Safety Advisory Committee (RSAC)	10	120	-	-	-	-	-	-	-	120	-	120
Technical Training Standards Division	615	700	-	-	-	-	-	-	14	714	609	1,323
Audit Management	225	225	-	-	-	-	-	-	-	225	-	225

Safety & Operations	FY 2022 Enacted	FY 2023 Enacted	Baseline Changes: Annualization of Prior Pay Raises	Annualization of new FY 2023 FTE	FY 2024 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2024 Baseline Estimate	Program Increases/ Decreases	FY 2024 Request
Trespass Prevention	400	3,000	-	-	-	-	-	-	-	3,000	(2,600)	400
Safe Transportation of Energy Products [2/]	-	-	-	-	-	-	-	-	-	-	-	-
Other Safety Grants	354	355	-	-	-	-	-	-	7	362	138	500
Grant & Project Development Technical Assistance and Oversight	890	500	-	-	-	-	-	-	-	500	-	500
Programs Subtotal	**30,828**	**36,817**	**-**	**-**	**-**	**-**	**-**	**-**	**130**	**36,946**	**(2,590)**	**34,357**
TOTAL	**240,757**	**250,449**	**1,768**	**5,097**	**6,471**	**663**	**12**	**4,741**	**(1,422)**	**267,779**	**5,679**	**273,458**

[1/] In the Salaries and Benefits row's FY 2022 Enacted column, the amount includes estimated salaries charged to the STEP program ($2,000).

[2/] The Safe Transportation of Energy Products (STEP) row's FY 2022 Enacted column has additional resources from Payroll ($2,000) that are not reflected in this line.

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

Railroad Research and Development			Baseline Changes									
	FY 2022 Enacted	FY 2023 Enacted	Annualization of Prior Pay Raises	Annualization of new FY 2023 FTE	FY 2024 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2024 Baseline Estimate	Program Increases/ Decreases	FY 2024 Request
PERSONNEL RESOURCES (FTE)												
Direct FTE	-	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES												
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-	-	-
Benefits for Former Employees (AK RR)	-	-	-	-	-	-	-	-	-	-	-	-
Travel	124	120	-	-	-	-	-	-	2	122	9	131
Transportation	-	-	-	-	-	-	-	-	-	-	-	-
GSA Rent	-	-	-	-	-	-	-	-	-	-	-	-
Communications, & Utilities	-	-	-	-	-	-	-	-	-	-	-	-
Printing	-	-	-	-	-	-	-	-	-	-	-	-
Other Services:												
-WCF	-	-	-	-	-	-	-	-	-	-	-	-
-ESC	-	-	-	-	-	-	-	-	-	-	-	-
-Other contracts	971	1,435	-	-	-	-	-	-	29	1,464	40	1,504
Supplies	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-	-
Insurance Claims & Settlements	-	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	**1,096**	**1,555**	**-**	**-**	**-**	**-**	**-**	**-**	**31**	**1,586**	**49**	**1,635**
PROGRAMS												
Track Research Program	8,679	9,859	-	-	-	-	-	-	197	10,056	1,727	11,783
Rolling Stock Program	8,822	8,922	-	-	-	-	-	-	178	9,100	1,453	10,553
Train Control & Communications	7,086	6,586	-	-	-	-	-	-	132	6,718	2,290	9,008
Human Factors Program	5,542	5,762	-	-	-	-	-	-	115	5,877	1,168	7,045
Railroad System Issues	11,775	11,316	-	-	-	-	-	-	226	11,542	7,434	18,976
Programs Subtotal	**41,904**	**42,445**	**-**	**-**	**-**	**-**	**-**	**-**	**849**	**43,294**	**14,071**	**57,365**
TOTAL	**43,000**	**44,000**	**-**	**-**	**-**	**-**	**-**	**-**	**880**	**44,880**	**14,120**	**59,000**

Amtrak	FY 2022 Enacted	FY 2023 Enacted	Baseline Changes: Annualization of Prior Pay Raises	Annualization of new FY 2023 FTE	FY 2024 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2024 Baseline Estimate	Program Increases/ Decreases	FY 2024 Request
PERSONNEL RESOURCES (FTE)												
Direct FTE	13	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES [1/]												
Salaries and Benefits	2,352	-	-	-	-	-	-	-	-	-	-	-
Benefits for Former Employees (AK RR)	-	-	-	-	-	-	-	-	-	-	-	-
Travel	41	-	-	-	-	-	-	-	-	-	-	-
Transportation	-	-	-	-	-	-	-	-	-	-	-	-
GSA Rent	-	-	-	-	-	-	-	-	-	-	-	-
Communications, & Utilities	-	-	-	-	-	-	-	-	-	-	-	-
Printing	-	-	-	-	-	-	-	-	-	-	-	-
Other Services:												
-WCF	-	-	-	-	-	-	-	-	-	-	-	-
-ESC	-	-	-	-	-	-	-	-	-	-	-	-
-Other contracts	407	-	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-	-
Insurance Claims & Settlements	-	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	**2,800**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
PROGRAMS												
Northeast Corridor Grants to Amtrak	870,128	1,253,700	-	-	-	-	-	-	25,074	1,278,774	(57,909)	1,220,865
National Network Grants to Amtrak	1,449,586	1,187,035	-	-	-	-	-	-	23,741	1,210,776	621,019	1,831,795
Programs Subtotal	**2,319,714**	**2,440,735**	**-**	**-**	**-**	**-**	**-**	**-**	**48,815**	**2,489,550**	**563,110**	**3,052,660**
BASE PROGRAMS TOTAL	**2,322,514**	**2,440,735**	**-**	**-**	**-**	**-**	**-**	**-**	**48,815**	**2,489,550**	**563,110**	**3,052,660**

1/ FY 2022 oversight funds of approxmately $8.9M were transferred to the Financial Assistance Oversight and Technical Assistance account. All oversight funds will be transferred to the Financial Assistance Oversight and Technical Assistance account in FY 2023 ($12.3M) and FY 2024 ($15.3M).

Amtrak (IIJA Supplemental)	FY 2022 Enacted	FY 2023 Enacted	Baseline Changes: Annualization of Prior Pay Raises	Annualization of new FY 2023 FTE	FY 2024 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2024 Baseline Estimate	Program Increases/ Decreases	FY 2024 Request
PERSONNEL RESOURCES (FTE)												
Direct FTE	-	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES [1/]												
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-	-	-
Benefits for Former Employees (AK RR)	-	-	-	-	-	-	-	-	-	-	-	-
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	1,194,000	1,194,000	-	-	-	-	-	-	-	1,194,000	-	1,194,000
National Network Grants to Amtrak	3,184,000	3,199,000	-	-	-	-	-	-	-	3,199,000	(15,000)	3,184,000
Programs Subtotal	**4,378,000**	**4,393,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**4,393,000**	**(15,000)**	**4,378,000**
IIJA SUPPLEMENTAL PROGRAMS TOTAL	**4,378,000**	**4,393,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**4,393,000**	**(15,000)**	**4,378,000**

1/ In FY 2022 and FY 2024, oversight funds of $22 million per year have or will be transferred to the Financial Assistance Oversight and Technical Assistance account. In FY 2023, oversight funds of $7 million per year will be transferred to the Financial Assistance Oversight and Technical Assistance account.

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

Consolidated Rail Infrastructure and Safety Improvements	FY 2022 Enacted	FY 2023 Enacted	Baseline Changes							FY 2024 Baseline Estimate	Program Increases/ Decreases	FY 2024 Request
			Annualization of Prior Pay Raises	Annualization of new FY 2023 FTE	FY 2024 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base			
PERSONNEL RESOURCES (FTE)												
Direct FTE	-	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES [1/]												
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-	-	-
Benefits for Former Employees (AK RR)	-	-	-	-	-	-	-	-	-	-	-	-
Travel	10	-	-	-	-	-	-	-	-	-	-	-
Transportation	-	-	-	-	-	-	-	-	-	-	-	-
GSA Rent	-	-	-	-	-	-	-	-	-	-	-	-
Communications, & Utilities	-	-	-	-	-	-	-	-	-	-	-	-
Printing	-	-	-	-	-	-	-	-	-	-	-	-
Other Services:												
-WCF	-	-	-	-	-	-	-	-	-	-	-	-
-ESC	-	-	-	-	-	-	-	-	-	-	-	-
-Other contracts	-	-	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-	-
Insurance Claims & Settlements	-	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	**10**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
PROGRAMS												
Consolidated Rail Infrastructure and Safety Improvements	612,500	548,800	-	-	-	-	-	-	-	548,800	(49,000)	499,800
Programs Subtotal	**612,500**	**548,800**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**548,800**	**(49,000)**	**499,800**
BASE PROGRAMS TOTAL	**612,510**	**548,800**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**548,800**	**(49,000)**	**499,800**

1/ FY 2022 oversight funds of $12.5 million were transferred to the Financial Assistance Oversight and Technical Assistance account. All oversight funds will be transferred to the Financial Assistance Oversight and Technical Assistance account in FY 2023 ($11.2M) and FY 2024 ($10.2M).

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

Consolidated Rail Infrastructure and Safety Improvements (IIJA Supplemental)	FY 2022 Enacted	FY 2023 Enacted	Baseline Changes							FY 2024 Baseline Estimate	Program Increases/ Decreases	FY 2024 Request
			Annualization of Prior Pay Raises	Annualization of new FY 2023 FTE	FY 2024 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base			
PERSONNEL RESOURCES (FTE)												
Direct FTE	-	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES												
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-	-	-
Benefits for Former Employees (AK RR)	-	-	-	-	-	-	-	-	-	-	-	-
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	980,000	980,000	-	-	-	-	-	-	-	980,000	-	980,000
Programs Subtotal	**980,000**	**980,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**980,000**	**-**	**980,000**
IIJA SUPPLEMENTAL PROGRAMS TOTAL	**980,000**	**980,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**980,000**	**-**	**980,000**

1/ In FY 2022 through FY 2024, oversight funds of $20 million per year have or will be transferred to the Financial Assistance Oversight and Technical Assistance account.

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 2022 Enacted	FY 2023 Enacted	Baseline Changes: Annualization of Prior Pay Raises	Annualization of new FY 2023 FTE	FY 2024 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2024 Baseline Estimate	Program Increases/ Decreases	FY 2024 Request
PERSONNEL RESOURCES (FTE)												
Direct FTE	-	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES [1/]												
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-	-	-
Benefits for Former Employees (AK RR)	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	1,960	99,960	448,840	548,800
Programs Subtotal	**98,000**	**98,000**	**-**	**-**	**-**	**-**	**-**	**-**	**1,960**	**99,960**	**448,840**	**548,800**
BASE PROGRAMS TOTAL	**98,000**	**98,000**	**-**	**-**	**-**	**-**	**-**	**-**	**1,960**	**99,960**	**448,840**	**548,800**

1/ FY 2022 oversight funds of $2.0 million were transferred to the Financial Assistance Oversight and Technical Assistance account. All oversight funds will be transferred to the Financial Assistance Oversight and Technical Assistance account in FY 2023 ($2.0M) and FY 2024 ($11.2M).

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 (IIJA Supplemental)	FY 2022 Enacted	FY 2023 Enacted	Baseline Changes							FY 2024 Baseline Estimate	Program Increases/ Decreases	FY 2024 Request
			Annualization of Prior Pay Raises	Annualization of new FY 2023 FTE	FY 2024 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base			
PERSONNEL RESOURCES (FTE)												
Direct FTE	-	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES [1/]												
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-	-	-
Benefits for Former Employees (AK RR)	-	-	-	-	-	-	-	-	-	-	-	-
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	7,056,000	7,056,000	-	-	-	-	-	-	-	7,056,000	-	7,056,000
Programs Subtotal	**7,056,000**	**7,056,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**7,056,000**	**-**	**7,056,000**
IIJA SUPPLEMENTAL PROGRAMS TOTAL	**7,056,000**	**7,056,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**7,056,000**	**-**	**7,056,000**

1/ In FY 2022 through FY 2024, oversight funds of $144 million per year have or will be transferred to the Financial Assistance Oversight and Technical Assistance account.

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

Restoration and Enhancement Grants			Baseline Changes									
	FY 2022 Enacted	FY 2023 Enacted	Annualization of Prior Pay Raises	Annualization of new FY 2023 FTE	FY 2024 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2024 Baseline Estimate	Program Increases/ Decreases	FY 2024 Request
PERSONNEL RESOURCES (FTE)												
Direct FTE	-	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES [1/]												
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-	-	-
Benefits for Former Employees (AK RR)	-	-	-	-	-	-	-	-	-	-	-	-
Travel	-	-	-	-	-	-	-	-	-	-	-	-
Transportation	-	-	-	-	-	-	-	-	-	-	-	-
GSA Rent	-	-	-	-	-	-	-	-	-	-	-	-
Communications, & Utilities	-	-	-	-	-	-	-	-	-	-	-	-
Printing	-	-	-	-	-	-	-	-	-	-	-	-
Other Services:												
-WCF	-	-	-	-	-	-	-	-	-	-	-	-
-ESC	-	-	-	-	-	-	-	-	-	-	-	-
-Other contracts	-	-	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-	-
Insurance Claims & Settlements	-	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
PROGRAMS												
Restoration and Enhancement Grants	-	-	-	-	-	-	-	-	-	-	49,500	49,500
Programs Subtotal	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**49,500**	**49,500**
BASE PROGRAMS TOTAL	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**49,500**	**49,500**

1/ All oversight funds will be transferred to the Financial Assistance Oversight and Technical Assistance account in FY 2024 ($0.5M).

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

Railroad Crossing Elimination Program	FY 2022 Enacted	FY 2023 Enacted	Baseline Changes							FY 2024 Baseline Estimate	Program Increases/ Decreases	FY 2024 Request
			Annualization of Prior Pay Raises	Annualization of new FY 2023 FTE	FY 2024 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base			
PERSONNEL RESOURCES (FTE)												
Direct FTE	-	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES [1/]												
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-	-	-
Benefits for Former Employees (AK RR)	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	245,000	245,000
Programs Subtotal	-	-	-	-	-	-	-	-	-	-	**245,000**	**245,000**
BASE PROGRAMS TOTAL	-	-	-	-	-	-	-	-	-	-	**245,000**	**245,000**

1/ All oversight funds will be transferred to the Financial Assistance Oversight and Technical Assistance account in FY 2024 ($5.0M).

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

Railroad Crossing Elimination Program (IIJA Supplemental)	FY 2022 Enacted	FY 2023 Enacted	Baseline Changes							FY 2024 Baseline Estimate	Program Increases/ Decreases	FY 2024 Request
			Annualization of Prior Pay Raises	Annualization of new FY 2023 FTE	FY 2024 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base			
PERSONNEL RESOURCES (FTE)												
Direct FTE	-	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES [1/]												
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-	-	-
Benefits for Former Employees (AK RR)	-	-	-	-	-	-	-	-	-	-	-	-
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 (IIJA Supp)	588,000	588,000	-	-	-	-	-	-	-	588,000	-	588,000
Programs Subtotal	**588,000**	**588,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**588,000**	**-**	**588,000**
IIJA SUPPLEMENTAL PROGRAMS TOTAL	**588,000**	**588,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**588,000**	**-**	**588,000**

1/ In FY 2022 through FY 2024, oversight funds of $12 million per year have or will be transferred to the Financial Assistance Oversight and Technical Assistance account.

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 2022 Enacted	FY 2023 Enacted	Baseline Changes: Annualization of Prior Pay Raises	Annualization of new FY 2023 FTE	FY 2024 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base	FY 2024 Baseline Estimate	Program Increases/ Decreases	FY 2024 Request
PERSONNEL RESOURCES (FTE)												
Direct FTE	-	37	-	8	-	-	-	-	-	45	2	47
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES												
Salaries and Benefits	-	7,071	79	1,546	339	35	-	-	37	9,105	403	9,509
Benefits for Former Employees (AK RR)	-	-	-	-	-	-	-	-	-	-	-	-
Travel	-	350	-	-	-	-	-	-	7	357	50	407
Transportation	-	-	-	-	-	-	-	-	-	-	-	-
GSA Rent	-	-	-	-	-	-	-	-	-	-	-	-
Communications, & Utilities	-	-	-	-	-	-	-	-	-	-	-	-
Printing	-	-	-	-	-	-	-	-	-	-	-	-
Other Services:												
-WCF	-	-	-	-	-	-	-	-	-	-	-	-
-ESC	-	-	-	-	-	-	-	-	-	-	-	-
-Other contracts	23,347	18,045	-	-	-	-	-	-	361	18,406	13,918	32,324
Supplies	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-	-
Insurance Claims & Settlements	-	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	**23,347**	**25,465**	**79**	**1,546**	**339**	**35**	**-**	**-**	**405**	**27,868**	**14,372**	**42,240**
PROGRAMS												
none	-	-	-	-	-	-	-	-	-	-	-	-
Programs Subtotal	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
BASE PROGRAMS TOTAL [1/]	**23,347**	**25,465**	**79**	**1,546**	**339**	**35**	**-**	**-**	**405**	**27,868**	**14,372**	**42,240**

1/ This account's FY 2022 and FY 2023 appropriation transfers are from the following four accounts - (1) Amtrak Northeast Corridor, (2) Amtrak National Network, (3) Consolidated Rail Infrastructure and Safety Improvements, and (4) Federal-State Partnership for Intercity Passenger Rail. This account's FY 2024 appropriation transfers are from the following six accounts - (1) Amtrak Northeast Corridor, (2) Amtrak National Network, (3) Consolidated Rail Infrastructure and Safety Improvements, (4) Federal-State Partnership for Intercity Passenger Rail, (5) Restoration and Enhancement Grants, and (6) Railroad Crossing Elimination Program.

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 (IIJA Supplemental)	FY 2022 Enacted	FY 2023 Enacted	Baseline Changes							FY 2024 Baseline Estimate	Program Increases/ Decreases	FY 2024 Request
			Annualization of Prior Pay Raises	Annualization of new FY 2023 FTE	FY 2024 Pay Raises	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase/ Decrease	Inflation and other adjustments to base			
PERSONNEL RESOURCES (FTE)												
Direct FTE	8	74	-	16	-	-	-	-	-	90	4	94
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES												
Salaries and Benefits	1,563	14,149	157	3,093	679	70	-	-	36	18,184	807	18,991
Benefits for Former Employees (AK RR)	-	-	-	-	-	-	-	-	-	-	-	-
Travel	-	-	-	-	-	-	-	-	-	-	150	150
Transportation	-	-	-	-	-	-	-	-	-	-	-	-
GSA Rent	-	-	-	-	-	-	-	-	-	-	-	-
Communications, & Utilities	-	-	-	-	-	-	-	-	-	-	-	-
Printing	-	-	-	-	-	-	-	-	-	-	-	-
Other Services:												
-WCF	-	-	-	-	-	-	-	-	-	-	-	-
-ESC	-	-	-	-	-	-	-	-	-	-	-	-
-Other contracts [2/]	196,437	168,851	-	-	-	-	-	-	3,377	172,228	6,631	178,859
Supplies	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-	-
Insurance Claims & Settlements	-	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	**198,000**	**183,000**	**157**	**3,093**	**679**	**70**	**-**	**-**	**3,413**	**190,412**	**7,588**	**198,000**
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/]	**197,010**	**182,010**	**157**	**3,093**	**679**	**70**	**-**	**-**	**3,413**	**189,422**	**7,588**	**197,010**

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/ Other contracts resources will be used for both contracts and future Salaries and Benefits costs.

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

	FY 2022 ENACTED	FY 2023 ENACTED	FY 2024 PRES. BUD.
DIRECT:			
Safety and Operations	$ 22,158	$ 23,468	$ 28,209
SUBTOTAL	$ 22,158	$ 23,468	$ 28,209
Total, All Sources	$ 22,158	$ 23,468	$ 28,209

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

	FY 2022 ENACTED	FY 2023 ENACTED	FY 2024 PRES. BUD.
DIRECT FUNDED BY APPROPRIATION			
Safety and Operations	852	915	949
National Network Grants to Amtrak	13	0	0
Financial Assistance Oversight and Technical Assistance	0	37	47
SUBTOTAL, DIRECT FUNDED	865	952	996
BASE TOTAL FTEs	**865**	**952**	**996**
SUPPLEMENTAL FUNDED FTE's			
IIJA Supplemental Funding			
Financial Assistance Oversight and Technical Assistance	8	74	94
SUBTOTAL, Supplemental Funded	8	74	94
TOTAL FTEs	**873**	**1,026**	**1,090**

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

	FY 2022 ENACTED	FY 2023 ENACTED	FY 2024 PRES. BUD.
DIRECT FUNDED BY APPROPRIATION			
Safety and Operations	885	944	954
National Network Grants to Amtrak	12	0	0
Financial Assistance Oversight and Technical Assistance	0	45	53
SUBTOTAL, DIRECT FUNDED	897	989	1,007
BASE TOTAL POSITIONS	**897**	**989**	**1,007**
SUPPLEMENTAL FUNDED FTP's			
IIJA Supplemental Funding			
Financial Assistance Oversight and Technical Assistance	10	90	107
SUBTOTAL, Supplemental Funded	10	90	107
TOTAL POSITIONS	**907**	**1,079**	**1,114**

Notes:
-- FY 2022 Enacted column represents actual on-board positions at the end of FY 2022

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]*$273,458,000*, 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 2022 ENACTED	FY 2023 ENACTED	FY 2024 PRES. BUD.
Safety and Operations	$ 240,757	$ 250,449	$ 273,458
TOTAL	$ 240,757	$ 250,449	$ 273,458
FTEs			
Direct Funded	852	915	949

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 2023 TO FY 2024
Appropriations, Obligations, Limitations, and Exempt Obligations
($000)

	$000	**FTE**
FY 2023 ENACTED	$250,449	915
ADJUSTMENTS TO BASE:		
Annualization of Prior Pay Raise(s)	1,768	
Annualization of FY 2022 FTE	5,097	29
FY 2024 Pay Raise	6,471	
Adjustment for Compensable Days	663	
GSA Rent	12	
Working Capital Fund	4,741	
Non-Pay Inflation and Other	-1,422	
SUBTOTAL, ADJUSTMENTS TO BASE	**17,330**	**29**
PROGRAM REDUCTIONS		
Communications, & Utilities	-28	
Printing	-6	
Supplies	-232	
Equipment	-531	
Rail Grade Crossing Safety	-2,000	
Security, Other Security Grants	-61	
Trespass Prevention	-2,600	
SUBTOTAL, PROGRAM REDUCTIONS	**-5,458**	**0**
PROGRAM INCREASES		
Salaries and Benefits	906	5
Other Contracts	8,159	
Rail Safety Partnership (C3RS)	114	
Railroad Safety Information System (RSIS)	1,157	
Drug and Alcohol Program	53	
Technical Training Standards Division	609	

	$000	FTE
Other Safety Grants	138	
SUBTOTAL, PROGRAM INCREASES	**11,136**	**5**
FY 2024 REQUEST	**273,458**	**949**

Detailed Justification for Railroad Safety and Operations

FY 2024 – Railroad Safety and Operations – Budget Request
($000)

Program Activity	FY 2022 Enacted Level	FY 2023 Enacted Level	FY 2024 President's Budget
Safety and Operations	$240,757	$250,449	$273,458
Total	**$240,757**	**$250,449**	**$273,458**
FTE	**852**	**915**	**949**

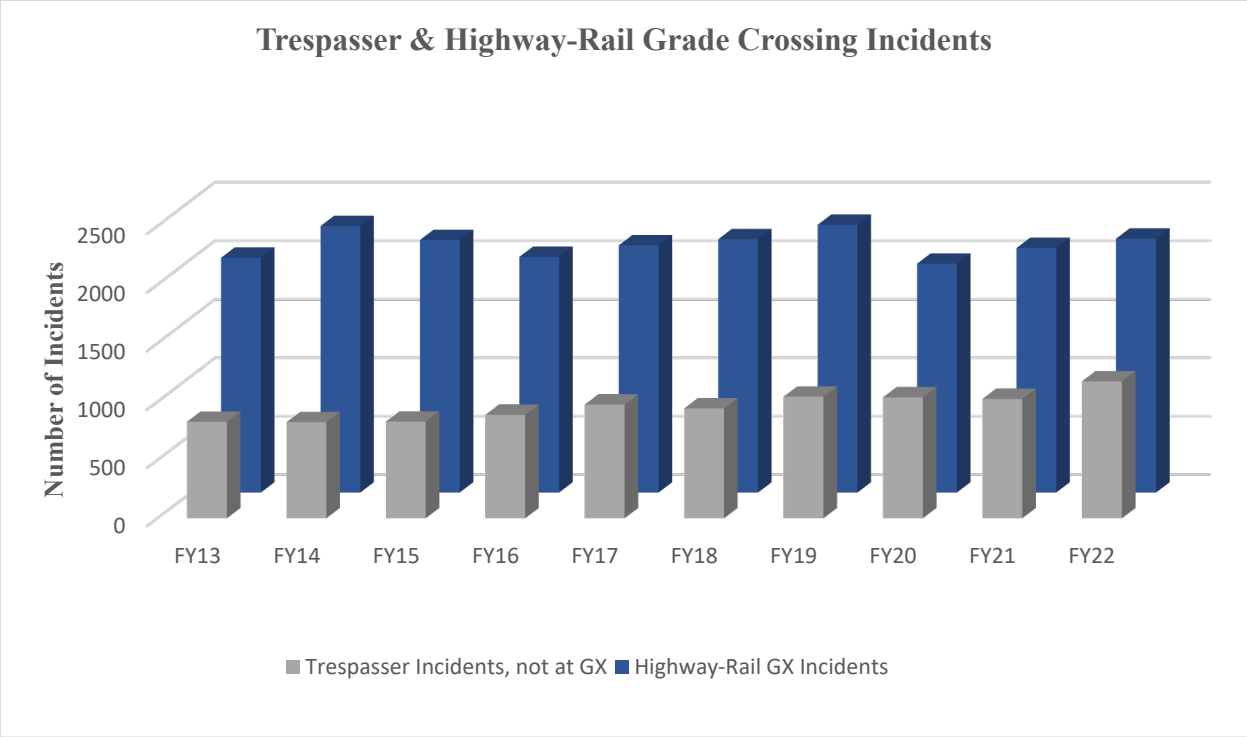
What is this program and what does this funding level support?

The appropriation for the Safety and Operations (S&O) account funds many of FRA's programs to improve railroad safety. It also funds FRA's organizational infrastructure—payroll, rent, telecommunications, information technology, and contract support—that enables the agency to achieve its safety and infrastructure development goals.

FRA oversees, regulates, and enforces the safety of railroad operations nationwide. In addition, FRA supports the development of intercity passenger rail and freight rail services and new technologies and practices to improve 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.

Over the last 40 years, the railroad industry has made significant strides to improve safety, with the rate of rail-related accidents and incidents having fallen by 78 percent over that time.[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. While the industry continues to drive safety improvements, the rate of improvement has generally slowed over the last 15 years and not all areas of rail safety are trending in a positive direction. In particular, the number of grade crossing and trespassing incidents have increased over the last decade, by 8 percent and 41 percent, respectively. The FY 2024 President's Budget continues to request funds across the S&O, R&D, and competitive grant accounts to address grade crossing safety and trespass prevention.

[1] Data from public FRA Safety Data and Reporting site, Accident/Incident Overview, run date of February 2, 2023.



The following sections describe FRA's FY 2024 major cost categories for S&O.

Mission Support and Fixed Costs
FY 2022 Enacted: $209.93 million
FY 2023 Enacted: $213.63 million
FY 2024 President's Budget: $239.10 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 staff. These individuals include more than 350 railroad safety inspectors covering six safety disciplines: operating practices, motive power and equipment, signal and train control, track, hazardous materials, and grade crossing safety. In addition to the inspector workforce, FRA employs specialists, engineers, analysts, and managers with expertise in areas such as 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.

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 Railway, Canadian National Railway, Chicago Commuter District
SMT-5	Fort Worth, TX	BNSF Railway
SMT-6	Kansas City, MO	Union Pacific Railroad and Kansas City Southern
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; Research, Data, and Innovation; 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.

FRA's staff is integral to achieving the ambitious transportation agenda facing the Department. IIJA has transformed FRA into a major grant-making agency, with more than $66 billion provided over the IIJA horizon in supplemental advanced appropriations alone. Over the last 15 years, FRA has established a solid foundation from which to grow its grant administration program and capabilities, continuously iterating and improving from new responsibilities provided by the Passenger Rail Investment and Improvement Act of 2008 (PRIIA), the American Recovery and Reinvestment Act of 2009 (ARRA), and the Fixing America's Surface Transportation (FAST) Act of 2015. While the majority of FRA's staffing growth to implement the increased IIJA grants will be 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:** In addition to the new IIJA grant funding, the bill requires FRA to oversee and implement a number of important safety measures, including:
    - conducting a comprehensive rail safety review of Amtrak;
    - partnering with the National Academies of Science to conduct a study of the operation and safety of trains longer than 7,500 feet;

- instituting a system of audits of the training, qualification, and certification programs of railroad locomotive engineers and conductors; and
- issuing rulemakings to enable high-speed rail service and require pre-revenue service safety validation plans for certain railroads providing intercity or commuter rail passenger transportation.

These new IIJA mandates were added to an already robust FRA safety program that was managing, among many other initiatives:

- monitoring and providing technical assistance related to the implementation of the Risk Reduction Program (RRP) and System Safety Program (SSP) rules—which require railroads to implement a comprehensive, system-oriented approach to improving safety—as well as the requirement that railroads develop and implement Fatigue Risk Management Programs as part of their RRPs or SSPs;
- overseeing the continued implementation of PTC;
- addressing rising incidents of grade crossing and trespassing safety; and
- conducting a rigorous railroad inspection program that generated nearly 45,000 FRA inspection reports in FY 2022.

The FY 2024 President's Budget builds off the resources requested for the Office of Railroad Safety in the FY 2023 President's Budget, and will ensure the agency can meet the safety challenges facing the railroad industry and public today and in the future.

- **Equity Focus:** The passage of IIJA and President Biden's Executive Orders on "Advancing Racial Equity and Support for Underserved Communities Through the Federal Government" and "Preventing and Combating Discrimination on the Basis of Gender Identity or Sexual Orientation" have helped to embed the consideration of equity as a fundamental principle within FRA's decision-making processes and daily operations. In addition to the significant grant program funding and research dedicated to addressing equity within rail transportation, the FY 2024 President's Budget dedicates personnel resources to administer these efforts. This includes the most robust Civil Rights Office in the agency's history, which is enhancing enforcement of Title VI and small business contracting requirements under FRA grant programs.

- **Climate Focus:** FRA staff are also actively working to combat the climate crisis. In addition to generally supporting rail development initiatives—which represent a more energy-efficient and climate-friendly mode of transportation—FRA staff are ensuring FRA-funded projects and other agency actions properly account for their environmental impacts under the National Environmental Policy Act (NEPA) and other related laws. These employees are also conducting research and testing to advance the use of clean fuels and clean energy propulsion systems in railroad operations, as well as developing regulations, guidance, and policies that will lead to reductions in greenhouse gas emissions and adoption of climate change resiliency principles. More than 40 environmental protection specialists, attorneys, engineers, and analysts directly work on these activities as one of their core responsibilities.

Automated Track Inspection Program
FY 2022 Enacted: $16.50 million
FY 2023 Enacted: $17.00 million
FY 2024 President's Budget: $17.00 million

Defective track is one of the most frequent causes of derailments. Identifying track defects and other 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 evaluates new technologies to improve track evaluation and other safety benefits. In FY 2022, FRA's ATIP inspection vehicles collected track measurement data for over 174,000 miles of track, finding 9,469 exceptions to FRA's Track Safety Standards, of which 24 percent were deemed safety-critical. Over the last 5 years of ATIP operations, the number of track geometry-caused accidents has decreased by 23 percent. The ATIP program, by finding and reporting exception information to the railroads, has contributed to this improvement.

Additionally, FRA's second hi-rail vehicle commenced operations in FY 2023. While FRA's first hi-rail vehicle is deployed to make track geometry measurements like the other ATIP vehicles, this second hi-rail vehicle is used to perform rail integrity inspections. Specifically, this vehicle uses ultrasonic technology to identify internal rail flaws, which cannot be readily detected by track geometry technology or visual inspections.

Funding requested in FY 2024 will support FRA's fleet of vehicles that continue to complement FRA's field inspectors, validate the railroads' inspection programs, and when needed, advance research priorities.

FRA is also in the process of re-competing the two contracts to operate, maintain and enhance the ATIP fleet, and anticipates awarding the new contract(s) in FY 2023. The new ATIP contract(s) will contain updated performance metrics to better monitor fleet utilization and contractor performance.[2] FRA is also deploying a new Track Data Services database, which will house all ATIP survey data and incorporate reporting functionality to capture fleet performance and utilization information. These new tools will enhance FRA's capabilities to measure the effectiveness of the program. With these new tools in place, FRA intends to conduct an evaluation of the ATIP program in FY 2024.

[2] 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.

Positive Train Control (PTC)
FY 2022 Enacted: up to $1.00 million
FY 2023 Enacted: up to $1.00 million
FY 2024 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' safe operation and proper maintenance of PTC systems and enforce compliance with each railroad's PTC safety plan, as well as applicable statutes and regulations (including assessing penalties). IIJA also now requires host railroads to report on the status of PTC performance quarterly to FRA. FRA also provides technical oversight and approval of all material changes to PTC systems and related hardware and software; over the last two years, FRA has evaluated over twenty requests for amendment. FRA is also providing oversight and technical assistance to several new start passenger railroads, any railroad that is required to be PTC-equipped due to changes in traffic or poisonous- or toxic-by-inhalation hazardous (PIH/TIH) traffic levels, and any Class II/Class III railroads subject to the December 31, 2023 deadline to PTC-equip certain locomotives.

Funding requested for PTC in FY 2024 will be used for contractors that continue to provide FRA with direct project and data management support, along with subject matter expertise to review the material modifications of PTC systems. All material modifications of PTC systems, including software updates and functionality, must also be approved by FRA. Railroads have indicated that software updates and functionality changes are anticipated twice a year for the I-ETMS PTC system, and the NEC railroads will also have multiple safety updates and functionality changes each year. In FY 2022, FRA reviewed nine material modifications, as well as evaluated two test requests and over ten PTC Safety Plan updates. In FY 2023, FRA will evaluate Implementation and Safety Plans from Class II/III railroads and track progress as the December 31, 2023 compliance deadline approaches. Further, given the expanded data reporting requirements specified under BIL, FRA will continue evaluating PTC performance trends and investigating critical failures.

Rail Safety Partnerships
FY 2022 Enacted: $3.30 million
FY 2023 Enacted: up to $4.30 million
FY 2024 President's Budget: $4.50 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 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^{3}RS 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 over 18,300 de-identified incident reports. These reports 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^{3}RS program. At the end of 2018, eight railroads were participating in C^{3}RS. As of February 2023, 23 passenger, commuter, and Class II/III freight railroads—representing over 27,000 safety-related railroad employees—are participating. FRA is working through the Railroad Safety Advisory Committee (RSAC) to examine how to expand C^{3}RS industry-wide and enable greater participation from railroads and railroad employees, including the nearly 120,000 employees of Class I railroads.[3] RSAC accepted this task in 2022 and assigned a working group to begin collaborative discussions with industry stakeholders on C^{3}RS expansion efforts.

The FY 2024 President's Budget will provide resources needed to expand C^{3}RS and accommodate a greater number of reports to be processed under the program. 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. FRA believes a modified version of C^{3}RS provides an opportunity for FRA and the industry to enhance available data to provide vital insights into the safety of the railroad industry, learn from these close calls and unsafe events, and act to address preventable safety concerns before they can result in harm. Funding will also assist FRA in implementing recommendations from the Government Accountability Office to more broadly share C^{3}RS safety information, trends, and success stories with the railroad industry.[4]

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

[3] Surface Transportation Board, Employment Data, December 2022.

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

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^3RS.

Accordingly, FRA expects the C^3RS program to continue to grow in FY 2024, especially as employees of Class I railroads participate in the program. FRA strives to maintain the highest level of processing to ensure C^3RS Peer Review Teams have the high-quality, reliable data necessary to develop mitigation proposals for their railroad.

Trespass Prevention
FY 2022 Enacted: up to $0.40 million
FY 2023 Enacted: up to $3.00 million
FY 2024 President's Budget: $0.40 million

Trespassing on railroad rights-of-way is the leading cause of rail-related fatalities, accounting for 69 percent of U.S. rail-related deaths in FY 2022. An average of nearly 550 trespassers died each year between FY 2018 and FY 2022. 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 is requested in FY 2024 to continue data collection and stakeholder outreach to communities affected by trespass suicide:

1. **Continued collaboration with suicide prevention organizations on outreach to targeted communities.** This funding will be used to analyze high-risk trespassing areas in relation to nearby homeless shelters. FRA will work to design effective and timely messages to reach the target audiences, as well as determining the most effective communications channels. FRA will collaborate with suicide prevention organizations in the local areas to help support this mission of reducing trespasser strikes near or around homeless shelters.

2. **Procure and analyze new data sources.** FRA seeks to create a database for Law Enforcement to upload appropriate reports for any Railroad Grade Crossing and Trespass events. Many states require that law enforcement investigate all grade crossing and trespassing incidents but do not have a means to provide reports to the FRA. FRA is currently requesting these reports through phone call and email submission. The database would provide FRA the means to collect more relevant data than what is collected by the railroad during their normal investigation process.

3. **Trespasser Prevention Summits.** FRA will continue to host trespass prevention summits, during which FRA will meet with representatives from the counties with the highest instances of trespasser casualties to (1) collaborate with community leaders, business owners, law enforcement, railroads, and the public to identify and share best practices and develop local mitigation strategies; (2) provide information on availability of Federal grants; and (3) assist with outreach campaigns. For FY 2024, FRA intends to hold additional summits and add a second day to these meetings to also address grade crossing safety. These meetings will present analyses of statistical data from FRA's local and state-wide inspections.

Highway-Rail Grade Crossing Safety
FY 2022 Enacted: up to $2.18 million
FY 2023 Enacted: up to $3.00 million
FY 2024 President's Budget: $1.00 million

Collisions at highway-rail grade crossings are the second leading cause of rail-related fatalities, accounting for 27 percent of all such fatalities in FY 2022. At each of the approximately 212,000 U.S. highway-rail grade crossings there is a potential for a collision between a train and highway vehicle. FRA expects the risk of highway-rail grade crossing incidents to remain a significant rail and public safety issue during the next decade.

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.

In 2022, FRA hosted and led a multimodal virtual summit to promote collaboration between stakeholders and discuss agency responsibilities related to highway-rail grade crossings. This multimodal summit was attended by the Administrators of FRA, FHWA, FTA, FMCSA, and NHTSA.

FRA's Grade Crossing and Trespasser Outreach Division has also initiated a new State Focus Inspections process. The Focus Inspections are collaborative efforts involving State DOT's, 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. In 2022, FRA

completed five State Focus Inspections in California, Florida, Illinois, Texas, and Washington. In 2023, FRA is planning a State Focus Inspection in Georgia and to return to California, Florida, Illinois, and Texas to review additional grade crossings and to follow-up on 2022 recommendations. FRA intends to continue conducting these inspections in FY 2024.

FRA proposes to use FY 2024 S&O funding for the following efforts:

1. **Continue to evaluate highway-rail grade crossing and quiet zone incident trends and effectiveness.** Currently, there are approximately 977 quiet zones nationwide, which include 5,498 crossings. FRA seeks funding to continue evaluating highway-rail grade crossings within and outside of quiet zones to determine if the likelihood of collision risk is higher within quiet zones. FRA analysis will help to pinpoint overall risks within quiet zones, but also statistical analysis to ascertain if certain safety upgrades are not effective enough to be used in an area that the train horn has ceased to sound routinely. This analysis will compare quiet zones with similar operating characteristics and protection measures, as well as with non-quiet zones of similar operating characteristics and protection measures.

2. **Improve the functionality of grade crossing dashboards.** FRA's internal and public-facing grade crossing dashboards require an overhaul to automate accident data uploads and analytical capabilities. Improvements are also necessary to enable the public to more effectively retrieve data for their own analyses.

3. **Collect 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 intends to partner with commercial trucking associations and trucking labor organizations to collect data regarding commercial vehicles encounters and risks at humped crossings. FRA is also working with the National Reconnaissance Office to use satellite imagery to map the elevation and slope of humped crossings in FRA's grade crossing inventory.

<u>Operation Lifesaver Funding</u>

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 new Railroad Crossing Elimination program under changes proposed in the FY 2024 Request. FRA proposes to set aside $1.5 million for Operation Lifesaver under the Railroad Crossing Elimination program. This request represents a 50 percent increase in funding to enable Operation Lifesaver to expand its critical public safety mission. FRA is currently conducting an evaluation of the funding it provides to Operation Lifesaver to assess potential improvements to the program. The results of this evaluation will inform future budget requests and design of the FRA-Operation Lifesaver grant.

Grade Crossing Improvement Grant Effectiveness

FRA grant programs have funded improvements to more than 1,000 grade crossings since FY 2015. FRA's grade crossing experts will use funding provided under FRA's Financial Assistance Oversight and Technical Assistance account to continue the agency's evaluation and review of grade crossing projects funded under its grant programs and analyze these improvements to determine their effectiveness. This evaluation will inform programmatic changes that could maximize the safety benefits and cost-effectiveness of Federal grant funding. This work would focus on before and after analysis to identify if there was an increase in safety at grade crossings that received grant funds.

Washington Union Station

FY 2022 Enacted: $0.48 million
FY 2023 Enacted: $1.50 million
FY 2024 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. Recently, 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.

FRA contracts to obtain the specialized knowledge to support its AHJ duties, including inspections of the station, review of drawings and plans for new construction initiatives, 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.

Railroad Safety Information System
*FY 2022 Enacted: $3.33 million**
*FY 2023 Enacted: $3.34 million**
FY 2024 President's Budget: $4.50 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. Funding will support continued development and maintenance of FRA's data websites and systems.

Control of Drug and Alcohol Use
FY 2022 Enacted: $1.00 million
FY 2023 Enacted: $1.13 million
FY 2024 President's Budget: $1.20 million

FRA's Drug & Alcohol (D&A) testing program (49 CFR Part 219) currently covers 140,000 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 track construction and maintenance employers, as well as the 700 railroads in the industry. These employers require FRA-approved policies and Part 219 triennial compliance audit reports, which are currently produced as flat Microsoft Word files. In response to recommendations from a 2020 DOT Office of Inspector General (OIG) report[5], FRA is developing a systems approach and an IT system for compliance audits that would allow for rapid generation of reports, tracking of corrective actions, and analyzing findings in order to target audits with an empirical risk-

[5] 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.

based approach. Funding requested in FY 2024 will enable FRA to maintain is testing program and oversight activities.

Audit Management Program
FY 2022 Enacted: $0.23million
FY 2023 Enacted: $0.23 million
FY 2024 Request: $0.23 million

FRA established its audit management program in 2016 and created an Audit Management Division in the Office of Railroad Safety in 2020. 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. FRA coordinates oversight of compliance with regulations that require railroads to create and implement performance-based plans and conducts audits of railroads' plans and programs. Proposed funding will enable FRA to obtain 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 2024 request 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. These two leading causes of rail-related fatalities accounted for more than 900 deaths in FY 2022. The 212,000 at-grade highway-rail grade crossings in the United States each present the potential for a collision between a train and highway vehicle. 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 2024 Request 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 implementation of the Risk Reduction and System Safety rules issued in 2020. These new rules will bring a proven framework to improve railroad safety through the implementation of safety management systems. The freight rail Risk Reduction Plans (RRP) and passenger rail System Safety Plans (SSP) that railroads must develop

will bring a comprehensive, system-oriented approach to improving safety by describing how a railroad will manage risk by formally identifying and analyzing applicable hazards, determining risk, and developing mitigations to address the associated hazards and risks. RRPs and SSPs are proactive and systematic approaches to actively promote continuous safety improvement and improve safety culture. In June 2022, FRA issued the rulemaking for the related Fatigue Risk Management Programs that are to be developed and implemented as part of a railroad's RRP or SSP.

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 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]*$59,000,000*, 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 2022 ENACTED	FY 2023 ENACTED	FY 2024 PRES. BUD.
Track	$ 8,679	$ 9,859	$ 11,783
Rolling Stock	$ 8,822	$ 8,922	$ 10,553
Train Control and Communication	$ 7,086	$ 6,586	$ 9,008
Human Factors	$ 5,542	$ 5,762	$ 7,045
Railroad Systems Issues	$ 12,871	$ 12,871	$ 20,611
TOTAL	$ 43,000	$ 44,000	$ 59,000
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 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 System 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 2023 TO FY 2024
Appropriations, Obligations, Limitations, and Exempt Obligations
($000)

	$000	**FTE**
FY 2023 ENACTED	$44,000	0
ADJUSTMENTS TO BASE:		
Non-Pay Inflation and Other	880	
SUBTOTAL, ADJUSTMENTS TO BASE	**880**	**0**
PROGRAM INCREASES		
Travel	9	
Other contracts	40	
Track Research Program	1,727	
Rolling Stock Program	1,453	
Train Control & Communications	2,290	
Human Factors Program	1,168	
Railroad System Issues	7,434	
SUBTOTAL, PROGRAM INCREASES	**14,120**	**0**
FY 2024 REQUEST	**59,000**	**0**

Detailed Justification for the Railroad Research and Development

FY 2024 – Railroad Research and Development – Budget Request
($000)

Program Activity	FY 2022 Enacted Level	FY 2023 Enacted	FY 2024 President's Budget
Track	$8,679	$9,859	$11,783
Rolling Stock	$8,822	$8,922	$10,553
Train Control and Communication	$7,086	$6,586	$9,008
Human Factors	$5,542	$5,762	$7,045
Railroad Systems Issues	$12,871	$12,871	$20,611
Total	**$43,000**	**$44,000**	**$59,000**
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. FRA's R&D 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 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 of 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 2024 Request 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:** R&D by FRA is necessary for conducting 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:** R&D by FRA creates new technology for efficient and effective oversight of railroad compliance with safety regulations.
3. **Regulation:** R&D by FRA is necessary to develop the scientific and engineering foundation for regulatory actions to ensure safety.
4. **Incorporation into Industry Standards and Recommended Practices:** The results of research performed by FRA are often used to develop, modify, or update relevant industry standards. These include standards created by the American Public Transportation Association and the Association of American Railroads. Industry standards can use the output of FRA R&D to achieve safety benefits.

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 Association of American Railroads (AAR), the American Short Line and Regional Railroad Association (ASLRRA), and the American Public Transportation Association (APTA); individual freight and passenger railroads; universities; other DOT modal administrations, such as the Pipeline and Hazardous Materials Safety Administration (PHMSA) and 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
  - Hazardous materials 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**
  - Continue 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, 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)
- Program or project evaluation, including the TRB's independent review of FRA's R&D programs
- Technology Transfer
- Facilities at the Transportation Technology Center (TTC)

The FY 2024 President's Budget includes $59 million for FRA's R&D program, which represents a $15 million increase over the FY 2023 Enacted Budget of $44 million. In addition to the R&D program's core safety research functions, the FY 2024 President's Budget includes funding for the following 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 workforce development activities and research topics to better understand and improve racial, gender, and LGBTQ+ diversity, equity, and inclusion in the railroad industry.
- **Rail R&D Center of Excellence –** Up to $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. This 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 research, testing, safety training, and first responder training at the facility.

TRACK RESEARCH PROGRAM

The FY 2024 Request includes $11.78 million for the Track Research Program.

The number of accidents due to track-related causes decreased by nearly 27 percent from 2013 to 2022. 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 program includes two primary program areas: track structures and components, and systems performance and analysis.

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 furthers progress toward 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 2023 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 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 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 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 TTC. Because the two program areas and their associated research areas are so interdependent, the discussion of the upcoming program activities is addressed as a whole rather than broken into parts.

Activity:

- Pursue multiple projects related to better understanding what constitutes safe track. To be safe, the strength of the track must exceed the applied loads from both train operations and the environment. To get the necessary information, the work will not include just laboratory and field testing but also use advanced computer simulation, analytic, and machine learning methods. 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.
    - Attempt to quantify how quickly the performance of the track degrades.

Expected Outcomes:

- Better understand the minimum state-of-good-repair needed for track to sustain safe railroad operations.
    - This information contributes to reducing track-caused derailments, which reduces fatalities and protects communities and the environment from harm.
- A set of simulation and predictive analytic tools to aid in making maintenance decisions.
    - This information can guide how railroads fix and invest in track, ensuring the infrastructure can handle growing rail traffic safely and effectively.
- A more knowledgeable and effective maintenance workforce.

Activity:

- Pursue multiple projects related to improving how track is inspected. Supporting these efforts requires the same hands-on testing, combined with use of AI as the safe track research. Work will:
    - Find and develop new sensors or platforms that measure and assess track conditions that current equipment cannot.
    - Quantify and improve the accuracy and reliability of current inspection equipment.
    - Address how to better present inspection data to inspectors so they can make more effective use of this information.

Expected Outcomes:

- Better understanding of the inspection methods and inspection frequencies needed for track to sustain safe railroad operations.

    - This information contributes to reducing track-caused derailments, which reduces fatalities and protects communities and the environment from harm.
- Successful demonstrations of new technologies in the railroad operating environment that will encourage the industry to adopt these developments.
    - This allows for rapid adoption of new technologies throughout the industry, again contributing to safety and efficiency.
- A more knowledgeable and effective maintenance workforce

Activity:

- Develop new and better ways of assessing safety risk. The work will draw upon the research results from the safe track and improved inspection projects. Research aims to:
    - Devise a framework to quantify how safety risk varies as operating practices and inspection methods or frequencies change and track components improve.

Expected Outcomes:

- Results from the FY 2024 research projects may lead to updates to the Track Safety Standards rules.
    - Results from the Track research program help the Office of Railroad Safety set and enforce proper minimum regulatory standards related to track safety. The research provides the scientific and engineering basis for rulemaking while ensuring the rules are appropriate and defensible.

Activity:

- Improve and expand the test beds at TTC to better evaluate and develop inspection technologies and to quantify the effect of different factors on track strength.
- Award a significant portion of the anticipated FY 2024 projects to as many different universities as suitable, with an emphasis on working with minority-serving institutions (MSIs) whenever possible.

Expected Outcomes:

- Better research collaboration with other transportation modes and access to more advance technologies and analysis methods.
- More WFD opportunities by offering FRA inspectors, academic researchers, and industry personnel hands-on access to train with the latest technologies in a safe environment."
- A talent pool of more knowledgeable students who can fill industry research and staffing needs.

Deployment of Expected Outputs/Products:

- Partnerships and stakeholder engagement form the foundation of RD&T's technology transfer methodology leading to the adoption of research products. Autonomous Track Geometry Monitoring System (ATGMS) is an example of Track's collaboration with industry and universities that is leading to the deployment of ATGMS systems throughout the industry.

ROLLING STOCK PROGRAM

The FY 2024 Request includes $10.55 million for the Rolling Stock Research Program (RS).

The Rolling Stock Research Program performs research activities relating to critical transportation topics that promote rail safety, improve rail infrastructure and the mobility of goods and passengers, and helps preserve the environment. The Rolling Stock Research program 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. Hazardous material (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 different hazards of materials to be considered for transportation over the rail network.
- 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 structural integrity of locomotives and passenger cars, to decrease the risk of fatalities and injuries in the event of accidents.

Anticipated FY 2023 accomplishments for the Rolling Stock Research Program include:

- Provide DOT with information on the survivability of transportation vessels under fire conditions in case of train derailment accident.
- Determine the 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 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 grade-crossing impact test of cryogenic liquid tender and develop documents for the Office of Railroad Safety 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, improved train braking performance, operational safety, and reduced 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 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 sound engineering derived from research outcomes.
- 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 crashworthiness of legacy locomotives.
- Research and testing 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 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 rail transport of hazardous materials, 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 material.

HazMat – Tank Car Research

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

Activities:

- Conduct additional research on developing and improving packages that carry hazardous materials to reduce the release of hazardous material 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 impact, developing and improving test methods, providing data for improving modeling methods, design, and construct test fixtures, and preparing and testing various tank car designs.
- Research efforts to analyze and provide the data for validation of 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 regulation 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 current 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 rail cars 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 the loading and unloading practices of hazardous material to improve the operating practices and securement of packages for safe 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:

- 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 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, 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 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.
- Continue research to determine the best location in the bearing to sample bearing grease, as determined by the worst grease condition.
- Continue research to demonstrate if it is possible to identify the grease metrics associated with bearing failure modes based on grease sampling and state-of-the-art statistical methods.
- Continue research to test the ability of the current baseline bearing rubbing lip seals versus frictionless seals to prevent water ingress over the life of the bearing.
- Continue research to determine if water ingress will occur in revenue service bearing seals through environmental fluctuations and correctly identify fretting corrosion, as differentiated from water damage, and mitigate it in revenue service.
- 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.
- Continue research to design and build a three-car test rack for studying the selected prototype ecosystem platform and utilize the EPSS test rack to minimize build costs and utilize the test rack for in-lab testing/development.
- Continue research to initiate the development and acceptance of AAR interchange specifications/standards for an electrical power supply, electrical hand brake, and the subject eco-system 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 feedback of chain load for communications and control of application and release functions.

Expected Outcomes:

- Research, development, and Technology Transfer 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.
- Increased understanding of equipment failure mechanisms and facilitate mitigation to reduce public safety risks.

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. Develop 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.

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

Activities:

- 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.
- Continue research to document wayside system installations at Metro-North Railroad, Long Island Rail Road, and New York & Atlantic Railway, detect threshold analysis to help railroads establish detection thresholds for inspection, alarm emergency level actions balanced against shop capacity and commuter service demands, identify 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 extension 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 to evaluate different network- and capacity-related parameters and compare these to the conventional signaling and braking applications. Simulation scenarios include network topology, traffic type, and various scenarios.

This research will also focus on developing effective methodologies/models for evaluating the economic benefits of improving railroad network velocity and capacity. These tools will be critical in demonstrating the benefits of advanced technologies, higher-speed operations, and shared corridors.

This research includes a Very Long Trains (VLT) Study in collaboration with industry stakeholders – Evaluation and Risk Reduction through Improved Train Makeup and Train Handling of Very Long Trains.

- Continue a collaborative VLT study effort and air brake test program with industry participation by stakeholders, including railroads, AAR, air brake system vendors, railroad labor, and the Brake System Committee.
- Evaluate stationary and moving tests of VLT with instrumented cars and improve fidelity of air brake simulations.
- Enhance understanding of VLTs for railroads to better customize their operating instructions, based on their specific scenarios.

Impact on quality, timeliness, effectiveness, efficiency and/or cost savings:

- Assessment of emerging long trains operational safety
- Investigation of long train operations and train handling on crew efficiency and fatigue
- Potential train handling options for extra-long and heavy trains

Activities:

- Conduct research on a roadmap for next generation brake technology and development of a “mini-network” with representative characteristics of the North American rail system, including various types of traffic, tracks, signaling systems, and train configurations in North American network.
- Develop network simulation scenarios based on adjusting train braking algorithms with certain daily traffic volume out of the entire network.
- Conduct a comprehensive analysis of the simulated results in terms of network capacity parameters such as train delay, dwell time, train conflicts, train speed, network velocity, track occupancy level, number of meet-pass and stops, safety, and accident mitigation.
- Develop the necessary technology to analyze the topology of railroad networks to quantify, assess and enhance their resilience and improve its safety, productivity and cost effectiveness.

Expected Outcomes:

- Continue to improve the network topology to have the topological structure to offer robustness, resiliency, efficiency and effectiveness. Enhance the network to meet current and increasing challenges.
- Continue to improve passenger truck designs that can provide superior equalization and curving performance to better handle rough track geometry.
- Evaluate advanced bearing technology and testing that prevents water-related failures due to various environmental exposure.

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 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 the 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 crash energy management (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 apply them to the structural analyses of alternative passenger equipment designs. Outcomes will be technical data which can be used to 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 wheeled mobility devices 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 51 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 systems 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 resistant, provide emergency egress, provide emergency access, be fire resistant, and provide occupant containment.

FRA needs to invest in this research, as it has the responsibility for conceptualizing and demonstrating the effectiveness of technology solutions that improve safety and 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 improving current Federal regulations and industry standards for crashworthiness of passenger locomotive fuel tanks, fire performance of materials, and components used in passenger rail equipment through research activities. 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 for evaluation of 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 performance of full-size rail car for floor fire compliance testing, evaluate test layout and support of test article and to support update of industry standards.
- Conduct small-scale tests to validate computer modeling and scaling laws to determine and quantify 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 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 and safe evacuation of passengers and crew in emergency situations. Understanding the dynamics of passenger interaction as evacuation ensues 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 September 2021, FRA hosted the virtual "North American Workshops on Advancement of Safe, Clean Fuels and Motive Power for Rail Rolling Stock" to discuss the rail application of clean energy technologies, enhancing environmental protection, and improving environmental justice. 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 2022 and intends to hold an in-person session with stakeholders in FY 2023.

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 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 the 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 Technology Transfer 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 2024 Request includes $9.01 million for the FRA Train Control and Communication Research Program (TC&C).

The number of signal-related train accidents has decreased by 61 percent from 2013 to 2022. Further reduction is expected from the installation of PTC on certain routes, as PTC 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 intelligent rail systems, 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 Automated Train Operations (ATO).
- Developing safety application for connected vehicles (CV) 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 modeling non-invasive and non-destructive methods to predict traffic trends and accident reduction in a controlled environment.
- 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 to 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.
- Built 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 2023 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 automated train operation 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 connected vehicle technologies in a field environment, and develop rail industry-driven standards for communicating grade crossing status to connected or automated vehicles.
- Execute a public demonstration of connected vehicle technologies.
- Continue working on the effectiveness of mobile systems used for detection of trespassing activities within any given railroad, new work on AI applied to railroad trespassing, and develop new research ideas based on the input of stakeholders involved in trespassing issues.
- Work with universities, industry, railroads, and 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 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 efficiency 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 monitoring and analysis of the network. Interoperability will alleviate the regulatory burden requiring FRA check the interoperability among different railroads and will lead to development of an automated system that will ensure interoperability.

Activities:

- Continue interoperability research to ensure compliance with statutory requirements and assist industry in improving testing protocols and centralizing/streamlining testing and validation of PTC systems.
- Support the development of interoperable train automation technologies, hazard sensing solutions, and associated industry standards.

Expected Outcomes:

- Efficient and reliable interoperability controls among railroads
- Automated interoperability verification among railroads
- Automated file transfers between railroads to determine problem areas and corrections.
- Centralized test facilities that serve small freight and commuter railroads to streamline testing and validation of their PTC systems.

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. Multiple areas of consideration are under review for potential

development, including signaling, communications, and infrastructure enhancements to reduce PTC burden and improve safety.

Activities:

- Develop signaling, communications, and infrastructure enhancements to reduce PTC burden and improve safety.
- 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:

- Improved rail network capacity and decreased delays caused by PTC
- Rail network safety and efficiency improvements through interoperable automation
- Increased cyber security of PTC systems

Intelligent Transportation Systems (ITS)

Facilitate collaboration between 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 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 autonomous vehicles, those vehicles will need to interact with highway-rail grade crossings, and research needs to be conducted. Odds are that current highway-rail grade crossing safety systems will need to be altered to better communicate with autonomous vehicles so that the vehicles are "informed" of the position of the gates as well as informed about oncoming trains. A potential benefit that could come from the inclusion of autonomous 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 to conduct research on new sensor, computer, and digital communications for train control, braking systems, grade crossings, and defect detection; and new, innovative technologies in automation, AI, and unmanned aerial vehicles to improve safety and reduce incidents around railroad operations.

- Research 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.
- Develop test capabilities or test bed for connected vehicles-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 and 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.

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 advancement the use 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 hump crossings and prevent accidents resulting from low ground clearance vehicles being stuck at crossings.

<u>Trespass Countermeasures</u>

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 railroad rights-of-way.
- Document the effectiveness of local solutions to see if they can be adopted to larger scales.

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.

Expected Outcomes:

- Increased safety at grade crossings thanks to the increased awareness from those mapping providers that include grade crossings in their systems.
- Broad availability of grade crossing vertical profiles thanks to the scanning activities. Vertical profiles are key to prevent vehicle hang-ups at crossings.
- New technologies and solutions are expected to be developed or tested for feasibility under this set of activities 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 industry partners in researching and testing new methods to reduce the risk of accidents where pedestrians are involved.

Expected Outcomes:

- TC&C expects to increase safety for pedestrians at crossings thanks to this research described at a high level above.

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, as well as develop models for studying and better understand behavior in general at grade crossings.

Activities:

- Continue to evaluate scenarios of possible safety improvements at grade crossings without the actual need to perform field testing.

- 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:

- 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.
- Use of the simulation tools will allow to propose improvements in a non-destructive manner, allowing for an increase in safety in an innovative way.

Grade Crossing and Trespass Outreach and Education

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

Activities:

- Planned activities include direct outreach to the relevant stakeholders by working directly with the Office of Railroad Safety. R&D will continue to educate not only the general public on the dangers of grade crossings, in collaboration with Operation Lifesaver and other organizations, but also provide the relevant parties with funding opportunities and guide them through the application process.
- 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 Technology Transfer 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 2024 Request includes $7.05 million for the FRA Human Factors Research Program (HF).

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 behavior in operational settings, and research yielding human requirements for the better design of technology and processes. Human factors concepts, behavioral models, and research-derived tools are applied in research settings to define and understand human behavior related to safety issues.

HF manages the Cab Technology Integration Laboratory (CTIL), a full-scale locomotive simulator in Cambridge, Massachusetts, which provides FRA and the rail industry the capability to examine the effect of human-machine teaming, train controls, new and more meaningful displays and different operating procedures on human and system performance. CTIL also provides a system development test and prototyping capability in a virtual environment more suitable for new system concepts, where there is less risk, before moving on to an operational testing environment.

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 improve the situational awareness of operating personnel that could improve vigilance and sustained attention.
- Applying simulation and modeling tools to address crew attentiveness and situational awareness issues as well as the design of system safety technology, like PTC.
- 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 to understand human behavior at grade crossings.
- Conducting applied research and identifying and studying the causal factors that lead to trespassing and suicides incidents on railroad property.

Anticipated FY 2023 accomplishments for the HF 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 simulator as well as the driving simulator (shared with the National Highway Traffic Safety Administration), which includes conducting human subjects research, furnishing expert advice on experimental methodology, and promoting its use and applicability to other government and rail organizations.
- 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 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 Confidential Close Call Reporting System (C^3RS) Peer Review Team 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, to seek low-cost solutions to local trespassing issues, and to 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 safety implications of new technology and automation from a human-centered

design perspective. 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 new technologies. New systems are added one on top of another and may operate independently of each other. This creates challenges for railroad employees in making sense of the information they need to complete their tasks. For example, the locomotive engineer must contend with several technologies that impact train control but were developed for separate purposes. Because of the greater interdependence between system components, it also raises the potential for failures that cascade throughout the entire railroad system.

This research area researches safety issues associated with rail technology assessment and human performance, new technology concept demonstration and the human-machine interface, and human-systems integration as an acquisition and implementation process for new technology.

Activities:

- Continue research to catalog and survey the various Cautions, Alerts, Warnings, and Status associated with rail automated systems and displayed to engineers and operators.
- Continue operation and maintenance of CTIL simulator, including human subjects research, furnishing expert advice on experimental methodology, and promoting its applicability. Further, the Human Factors Division will continue to explore partnerships with labor, railroads, and academia in leading edge research on new human-machine interface (HMI) technology and systems engineering.
- Update the CTIL website, communicating to the public the latest activities and research accomplished at the CTIL.

Expected Outcomes:

- Enhanced locomotive crew situational awareness about vehicle status and potential hazards in the operating environment.
- Improved HMI that reduces operator workload, is easy to use, and improves overall system performance.

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 cause 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 2024 Request includes $20.61 million for the FRA Railroad System Issues Research Program (RSI). A portion of this funding is for staff to oversee contractors' and grantees' performance and Technology Transfer.

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 (OST-R), 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 2023 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 Technology Transfer reporting.
- Increase information sharing, partnerships, and utilization of TTC.
- Emphasize expanding initiatives and programming to address diversity, equity, and inclusion within the railroad industry, with regard to its 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.

    - Improving the number of underrepresented people in rail jobs industry wide – and ultimately more diverse individuals rising into leadership positions across the industry.
    - Identifying additional areas of research and new topics for exploration to continue progressing the inclusiveness and equity across the rail industry.
    - Engaging communities in the industry's efforts to build a pipeline of diverse, qualified talent for the railroad industry, including increasing the percentage of women employed in the railroad industry.
    - Increasing Federal funding opportunities to MSIs.
- Develop a robust research strategic plan focused on assessing the safety and efficacy of technologies for the decarbonization and improvement of rail transportation.
- Establish research cooperative partnerships to further the development of rail energy and emissions technologies, including further development of 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 emissions and energy use of different fuel pathways.
- Work with 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 workforce development.
- Continue development and application of new technology at TTC for Federal agencies and others involved in rail 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 around TTC.

Funding requested in FY 2024 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 (WFD)

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 establishment of the proposed National Railroad Institute, and help address equity, diversity, and access, by increasing engagement with minority serving institutions to encourage interest in transportation-related jobs.

Activities:

- Continue forums with stakeholders for best practice and information exchange.
- Support the third phase of 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 Minority-Serving Institutions (MSI) and increase awareness and interest in railroad careers.
- Conduct research and publish updates to the railroad industry workforce assessment, Railroad Industry Modal Profile.
- Capture and analyze workforce data on trends, skill gaps, skill demands, training opportunities, industry best practices, and cross-modal efforts through surveys and industry dialogues.
- Engage and collaborate with the railroad industry for a better understanding of WFD trends, and relevant data and insights to support sustainable initiatives.
- Fund the third year of research topics Addressing Equity Challenges in Evolving Railroad Workforce Training Trends and Best Practices, Workforce Recruitment – Attracting and Retaining Women in Rail, and Influencing Successful Practices in Knowledge Management within the Railroad Industry.
- Continue to fund research proposals from the following research topics published in FRA's Research with Universities – Research Initiatives in Support of Railroad Safety BAA: Precollege STEM Rail Transportation Club to increase Racial Equity in Rail Workforce Recruitment, Workforce Recruitment – Attracting and Retaining Women in Rail, Racial Equity in Rail Workforce Recruitment – Identifying and Training Leadership for Succession Planning, and LGBTQ+ Equity and Inclusion in the Railroad Industry.
- Continue partnerships with associations to create/support programs targeting underrepresented populations to encourage them to select railroad as a career.

- Continue public-private partnership for MSIs to work and conduct research with industry to encourage STEM learning and promote railroad as a career of choice.

Expected Outcomes:

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

Energy and Emissions Safety Research

In support of the DOT Strategic Goals of Safety and Climate and Sustainability, FRA undertakes research that will investigate the efficacy of clean energy and advanced motive power technologies to improve energy efficiency and reduce emissions of rail transportation. This research area focuses on supporting activities related to the real-world demonstration of clean fuels, technologies and improvements in standards for noise emissions to ensure their 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. Newer innovative solutions for freight and passenger operations such as hydrogen, fuel cell, and battery technologies hold great potential for the U.S. rail market. Research on the structural requirements for liquid and gaseous hydrogen containers and their structural design is needed. Research on the safety of refueling/recharging infrastructure is needed. The efficacy of current Federal regulations to address and ensure the safe use of such fuels will be analyzed and decisions made to adjust accordingly. 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 plan and execute a conference to include international participants on the advancement of safe, clean energy and motive power technologies for railroad applications.
- Continue an impact study of hydrogen for rail applications.
- 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 rail industry.
- Provide feedback and direction to the Office of Railroad Safety on 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.

Rail Safety Innovations Deserving Exploratory Analysis

The Transportation Research Board (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 the 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 the prioritization 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 about project evaluation techniques, develop performance measures, improve project progress, and reduce cost. Program managers 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. R&D program managers will also assist colleagues in other FRA offices as they undertake evaluations of 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 utilized 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 demonstrate and develop 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 Technology Transfer 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 furthering the RISE pilot.

- 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 to support their research.

Research with Universities

Research with Universities provides research opportunities to American academic institutions. This project 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 (IRS). In addition, this project incorporates participation from the railroad IRS industry.

FRA will incorporate input that it receives from the railroad industry to determine research themes. These research 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.

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 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. Additional funds will be used to purchase heavy equipment necessary to maintain the physical track infrastructure and rolling stock, such as track maintenance equipment and heavy maintenance equipment. These funds would also be used to 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 using 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 2024 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 construction projects for FY 2024. 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 2024 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. Exterior Structures – This funding would address priority repairs caused by erosion issues around exterior structures throughout the site.
4. Communications Systems – This funding would be used to replace aged and obsolete telecommunications, information technology, and repeater equipment at the site.
5. 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.

Based on the assessment results, FRA is currently developing a long-term, prioritized list of rehabilitation and replacement projects for the facility. However, that work is not yet complete. 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.

Rail R&D Center of Excellence

IIJA authorized a new initiative directing the Department to award grants to establish and maintain a Center of Excellence 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. FRA intends to allocate $2.5 million of funding requested in FY 2024 for Center of Excellence grants.

Recipients can use grant funds for a wide variety of purposes, including basic and applied research, evaluation, education, workforce development, and training efforts. These efforts may be related to 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 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.

As stated, FRA's research, development, and technology projects provide tangible safety and operational benefits to the railroad industry. FRA's applied research efforts help to develop innovative solutions to challenges facing the rail industry and ensures that the best available science and technology are the basis for FRA's safety regulatory actions, enforcement, and programs. FRA also develops technology that 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 Technology Transfer 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 Technology Transfer 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 risks 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 leads to reduced incidents of grade crossings being blocked, 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 a pipeline of 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]*$1,227,000,000*, 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)[: Provided further, That in addition to the project management oversight funds authorized under section 22101(c) of the Infrastructure Investment and Jobs Act (Public Law 117-58), the Secretary may retain up to an additional $5,000,000 of the amounts made available under this heading in this Act to fund expenses associated with the Northeast Corridor Commission established under section 24905 of title 49, United States Code].

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 ([division B of]Public Law 117-58), [$1,193,000,000]*$1,841,000,000*, to remain available until expended:[Provided, That the Secretary may retain up to an additional $3,000,000 of the funds provided under this heading in this Act to fund expenses associated with the State-Supported Route Committee established under section 24712 of title 49, United States Code: Provided further, That at least $50,000,000 of the amount provided under this heading in this Act shall be available for the development, installation and operation of railroad safety improvements, including the implementation of a positive train control system, on State-supported routes as defined under section 24102(13) of title 49, United States Code, on which positive train control systems are not required by law or regulation as identified on or before the date of enactment of this Act: Provided further, That any unexpended balances from amounts provided under this heading in this Act and in prior fiscal years for the development, installation and operation of railroad safety technology on State-supported routes on which positive train control systems are not required by law or regulation

shall also be available for railroad safety improvements on State-supported routes as identified on or before the date of enactment of Public Law 117-103: Provided further, That none of the funds provided under this heading in this Act shall be used by Amtrak to give notice under subsection (a) or (c) of section 24706 of title 49, United States Code, with respect to long-distance routes (as defined in section 24102 of title 49, United States Code) on which Amtrak is the sole operator on a host railroad's line and a positive train control system is not required by law or regulation, or, except in an emergency or during maintenance or construction outages impacting such routes, to otherwise discontinue, reduce the frequency of, suspend, or substantially alter the route of rail service on any portion of such route operated in fiscal year 2018, including implementation of service permitted by section 24305(a)(3)(A) of title 49, United States Code, in lieu of rail service: Provided further, That the National Railroad Passenger Corporation may use up to $66,000,000 of the amounts made available under this heading in this Act to support planning and capital costs, and operating assistance consistent with the Federal funding limitations under section 22908 of title 49, United States Code, of corridors selected under section 25101 of title 49, United States Code, that are operated by the National Railroad Passenger Corporation] *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 2024 President’s Budget updates Amtrak’s appropriations language to remove specific references to set-asides for the Northeast Corridor Commission and State-Supported Route Committee. These set-asides are authorized by the Infrastructure Investment and Jobs Act (IIJA), and FRA intends to use the fully authorized amounts and does not require appropriations language. The language also limits Amtrak to using $100 million of National Network funds for authorized corridor development activities, rather than the 10 percent authorized under IIJA.

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

	FY 2022 ENACTED	FY 2023 ENACTED	FY 2024 PRES. BUD.
Northeast Corridor Grants to Amtrak	$ 874,501	$ 1,260,000	$ 1,227,000
National Network Grants to Amtrak	$ 1,456,870	$ 1,193,000	$ 1,841,000
Transfer to Financial Assistance Oversight and Technical Assistance	$ (8,857)	$ (12,265)	$ (15,340)
TOTAL, Base appropriations	$ 2,322,514	$ 2,440,735	$ 3,052,660
FTEs			
Direct Funded	13	0	0
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	$ (22,000)	$ (7,000)	$ (22,000)
TOTAL, Supplemental appropriations	$ 4,378,000	$ 4,393,000	$ 4,378,000
FTEs			
Direct Funded	0	0	0
TOTAL, Account	$ 6,700,514	$ 6,833,735	$ 7,430,660

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 2023 TO FY 2024
Appropriations, Obligations, Limitations, and Exempt Obligations
($000)

	$000	**FTE**
FY 2023 ENACTED, net transfer	2,440,735	0
ADJUSTMENTS TO BASE:		
Non-Pay Inflation and Other	48,815	
SUBTOTAL, ADJUSTMENTS TO BASE	**48,815**	**0**
PROGRAM REDUCTIONS		
Northeast Corridor Grants to Amtrak	-57,909	
SUBTOTAL, PROGRAM REDUCTIONS	**-57,909**	**0**
PROGRAM INCREASES		
National Network Grants to Amtrak	621,019	
SUBTOTAL, PROGRAM INCREASES	**621,019**	**0**
FY 2024 REQUEST, net transfer	**3,052,660**	**0**
Supplemental Appropriations	**4,400,000**	**0**
Transfer to Financial Assistance Oversight and Technical Assistance	-22,000	
Supplemental Appropriations, net transfer	**4,378,000**	**0**
TOTAL, net transfer	**7,430,660**	**0**

Detailed Justification for the Grants to the National Railroad Passenger Corporation

FY 2024 – Grants to the National Railroad Passenger Corporation – Budget Request ($000)

Program Activity	FY 2022 Enacted Level	FY 2023 Enacted Level	FY 2024 President's Budget
Northeast Corridor Grants to the National Railroad Passenger Corporation	$874,501	$1,260,000	$1,227,000
National Network Grants to the National Railroad Passenger Corporation	$1,456,870	$1,193,000	$1,841,000
Total	**$2,331,371**	**$2,453,000**	**$3,068,000**
FTE	**13**	**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 and certain basic capital obligations, 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 28 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 2024 President's Budget represents the third year of the IIJA reauthorization and midpoint of the $22 billion in direct supplemental advance appropriation for Amtrak. In FY 2022 and FY 2023, FRA granted Amtrak over $8.6 billion in supplemental funds to begin working to eliminate Amtrak's backlog of aging rolling stock, facilities, stations, and infrastructure across the United States. Coinciding with the release of the FY 2024 President's Budget, FRA is also transmitting to Congress an updated Detailed Spend Plan for Amtrak's supplemental advance appropriation. The Detailed Spend Plan identifies approximately $1 billion in spending for 34 projects in FY 2024. This funding is in addition to the more than $940 million that is forecasted to be spent through FY 2023. Approximately three-quarters of this anticipated spending through FY 2024 is dedicated to the following three categories of projects:

Stations

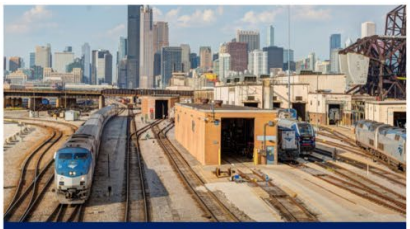
FY22-FY24 Expenditures: $484M

Surveys, assessments, design, and construction projects to advance the goal of bringing 284 Amtrak-served stations into compliance with the Americans with Disabilities Act.

Passenger Equipment

FY22-FY24 Expenditures: $697M

Vendor payments for new Long Distance locomotives and NEC/State-Supported intercity trainsets.



ICT Facilities

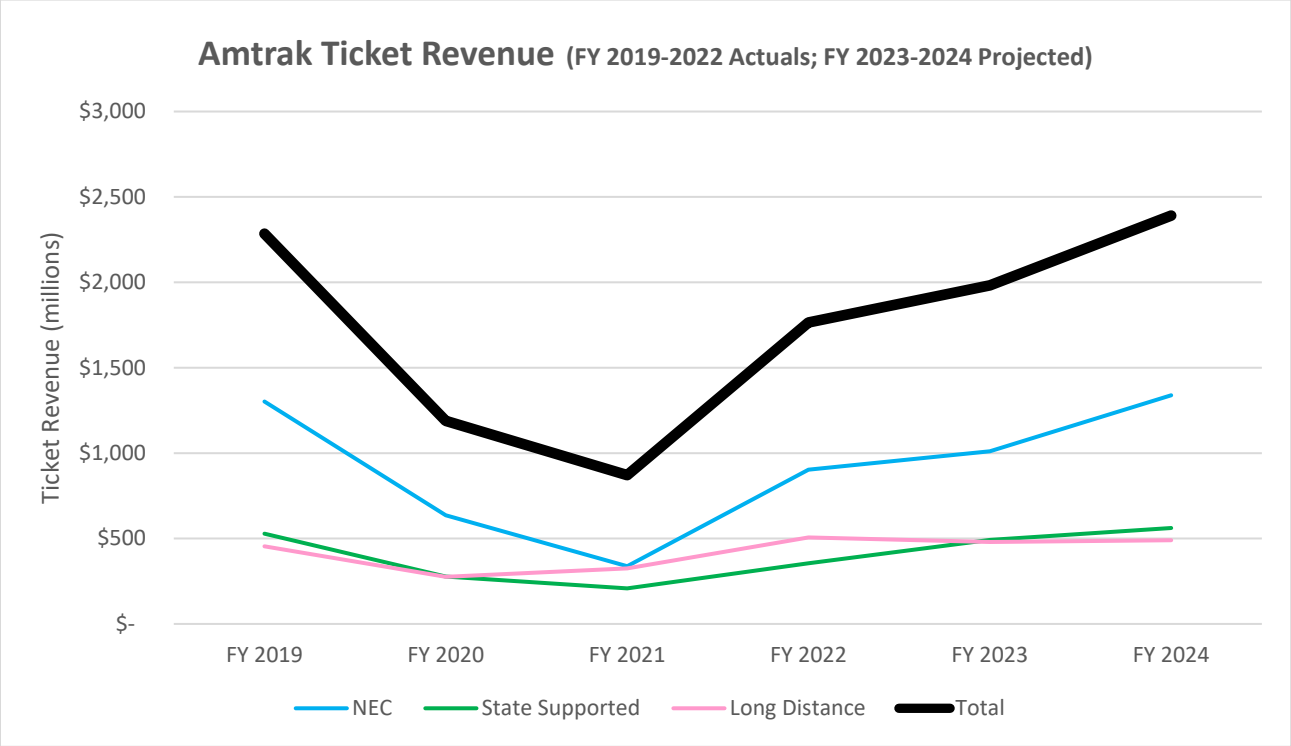
FY22-FY24 Expenditures: $354M

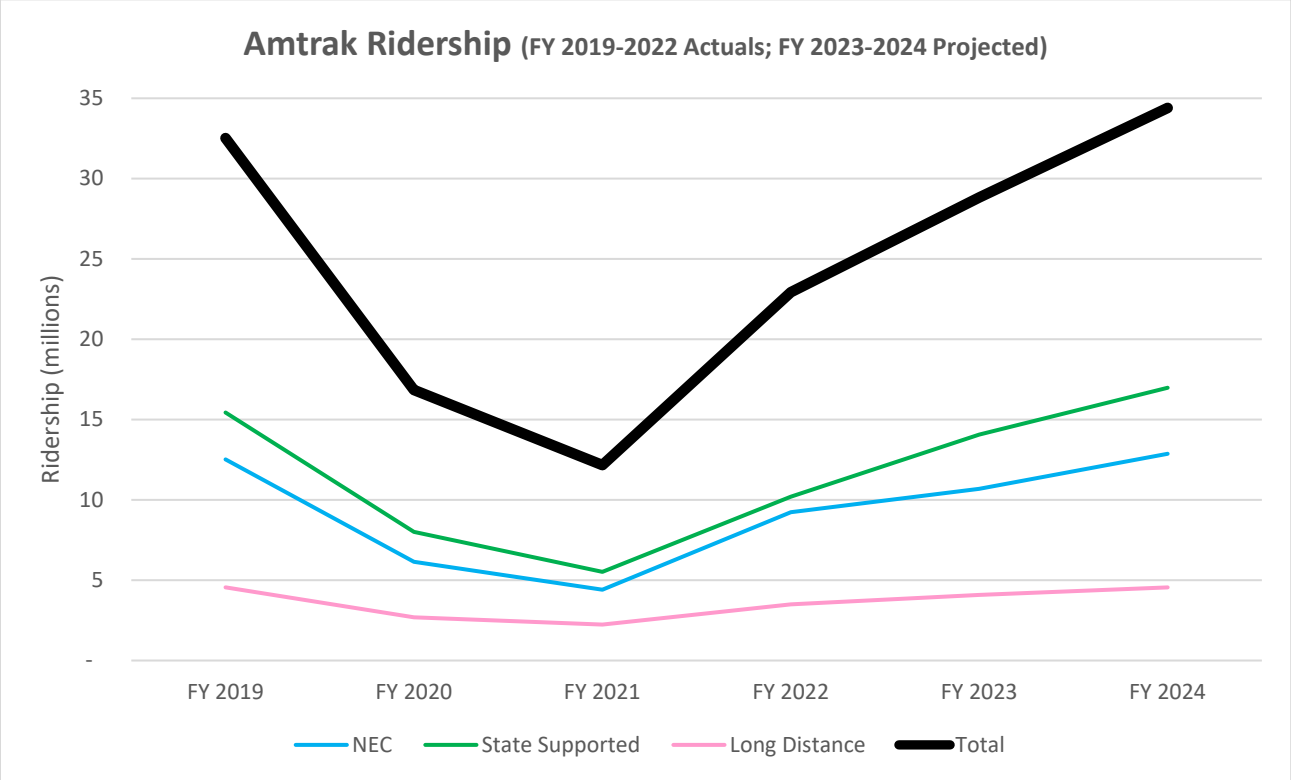
Design and construction of improvements to 14 facilities to maintain the new intercity trainsets, including Pacific Northwest (Seattle, Eugene, Portland); NEC (DC, Philadelphia, NYC, Boston); Virginia (Newport News, Norfolk, Richmond, Roanoke); Rensselaer, NY; Springfield, MA; and Charlotte, NC.

In addition to the unprecedented infrastructure renewal activities taking place across the Amtrak network, FY 2024 represents an important turning point for Amtrak, as the company forecasts to approach or exceed pre-COVID levels for many of its ridership, revenue, and operating performance metrics.[1] However, Amtrak's returning ridership and revenue are offset by the company's rising operating expenses, which, as experienced by many operators across the transportation sector, have outpaced historical averages. Operating expenses are projected to grow by more than 30 percent from FY 2019 levels, with increases in fuel/power expenses and salaries, wages, and benefits representing two of Amtrak's primary cost drivers. These factors necessitate increased annual investment in Amtrak to ensure quality intercity passenger rail service is provided to the traveling public.

[1] Amtrak, FY22-27 Five Year Service and Asset Line Plans, April 2022.

Amtrak's Recovery from COVID-19





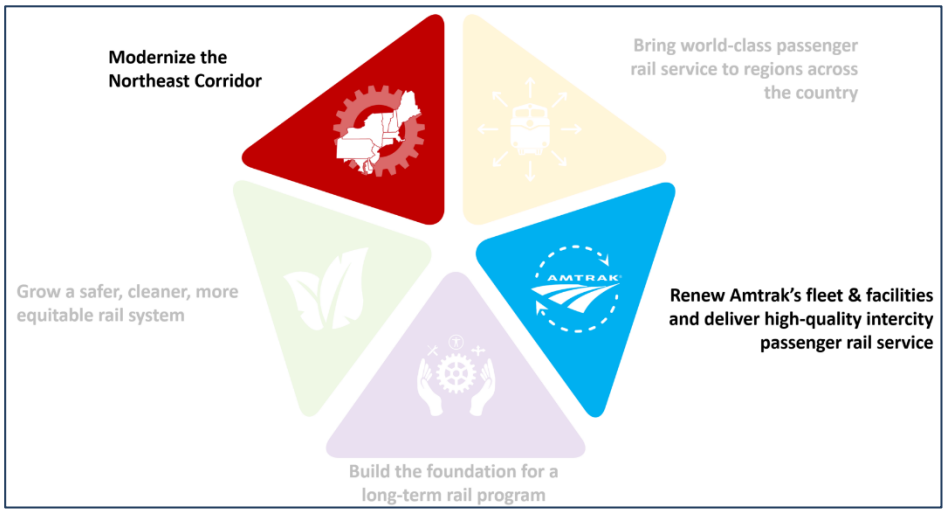
Delineating the Purpose of Amtrak's IIJA Funding and Annual Grants

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 Partnership 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.
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 substantial IIJA supplemental funding provided directly to Amtrak or through competitive capital assistance programs was necessary to rectify decades of underinvestment in intercity passenger rail that enabled a backlog of state of good repair needs to accumulate across the network. The FY 2024 President's Budget recognizes that sustained and robust annual Amtrak funding levels are crucial to ensuring future generations are not faced with the maintenance backlogs, inadequate infrastructure, and at times substandard service experienced today.

The $3.07 billion requested for Amtrak in the FY 2024 President's Budget will support the continued operations of the State-Supported and Long Distance routes 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 FY 2022 IIJA supplemental grant 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.

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 2023 Accomplishments

Anticipated FY 2023 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 2024 President's Budget that identifies the projects to be funded with FY 2024 supplemental funds.

- Continued monitoring and oversight of Amtrak's use of remaining COVID-19 relief funds provided under the American Rescue Plan (ARP) Act.

- 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, testing, and initial operations of 28 new, next generation high-speed trainsets for the Acela service on the NEC, which are expected to commence operations in 2023. 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.

- Delivery of new locomotives serving Long Distance routes.

- 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 2024 President's Budget request of $3.07 billion for Amtrak includes:

Northeast Corridor ($1.23 billion): The Northeast Corridor is the lifeblood to the region's economy, carrying more than 800,000 people each day on Amtrak and commuter services prior to the COVID-19 pandemic. Amtrak's NEC train operations account for 38 percent of its ridership (12.5 million) and more than 40 percent of its operating revenue ($1.3 billion).[2]

The FY 2024 President's Budget requests $1.23 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 ($1.84 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 2024 President's Budget requests $1.84 billion for the National Network account to fund the following needs:

- Long Distance Routes ($1.10 billion): The 15 Long Distance routes currently operated by Amtrak serve more than 300 stations in 39 states. This funding will be used to

[2] Amtrak, Monthly Performance Report, FY 2019, April 10, 2020.

provide the operating, capital, and debt service funding necessary to operate Long Distance trains.

- State-Supported Routes ($478 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 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. As directed by IIJA, the State-Amtrak Intercity Passenger Rail Committee (SAIPRC) revised and adopted a new cost methodology policy in September 2022.

  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, primarily police, security, and insurance expenses.

  Of this funding, $3 million will support the operations of the SAIPRC, as authorized by IIJA.

- Infrastructure Access ($150.80 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 prior to COVID-19, National Network revenues are not sufficient to fully cover operating costs and Federal assistance is required.

- Corridor Development ($100 million): 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. The FY 2024 President's Budget proposes to limit this category of funding to $100 million to focus Amtrak funding on its core capital and operating responsibilities.

- 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 Oversight ($15.3 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 has weathered many challenges over its 50-year existence, including multiple economic downturns, major regulatory changes affecting Amtrak's common carrier competition and partners, natural disasters, and a lack of sufficient capital funding to provide the optimal rail services our country deserves. Through it all, Amtrak has persevered and is relied on by millions of Americans for their business and personal travel needs. As the nation looks to overcome existing and new challenges—ranging from meeting the mobility needs of our increasing population to the Biden-Harris Administration's commitment to advancing equity and addressing the climate crisis—Amtrak will continue to play an instrumental and expanding role in our transportation system.

Among major travel modes, Amtrak's intercity passenger rail network uniquely links small, midsize, and large communities to each other within a single journey, connecting Americans across the country and serving a wide diversity of trips. 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 516 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 386 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. Critically, FRA and Amtrak are also pursuing options for Amtrak to fund and implement ADA improvements at stations where Amtrak is not the responsible legal entity. The traveling public should not have to worry about which station is accessible for all individuals or which entity is responsible for ensuring compliance. Full compliance is long overdue and the IIJA will help to correct this inequity.

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 2024 President's Budget will provide opportunities for thousands more families to achieve economic security through rail industry employment. Amtrak is undertaking significant hiring across the many labor crafts that will contribute to the Second Great Railroad Revolution (e.g., Maintenance of Way; Sheet Metal, Air, Rail and Transportation Workers; and Electrical Workers). Workers that support the new and expanded operations that will result from the IIJA competitive grant programs—such as locomotive engineers, conductors, and dispatchers—are also needed.

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.[3] A loss of all NEC services for just one day would cost the economy an estimated $100 million.[4] 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 Amtrak NEC trains were delayed over 5,200 hours and 19 percent of trains were late in FY 2019. 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

[3] NEC Commission, Connect NEC 2035, July 2021.
[4] Northeast Corridor Commission, NEC Annual Report FY17, April 2018.

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. [5]

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.[6] In total, Amtrak provides a transportation choice to more than 500 communities across 46 of the 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 – In 2014, Amtrak and its passengers generated an economic benefit of approximately $10.8 billion, which supported 117,200 jobs and generated $1.7 billion in taxes for Federal, state, and local governments.[7] 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. Recent station redevelopment examples include Raleigh, North Carolina and Niagara Falls, New York.

[5] Northeast Corridor Commission, NEC Annual Report FY20, March 2021.
[6] Amtrak, New Passenger Information Displays Improve Customer Experience at Penn Station New York, October 11, 2016.
[7] Amtrak, FY 2016 Budget and Business Plan.

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, [$535,000,000]*$510,000,000*, to remain available until expended:[Provided, That of the amounts made available under this heading in this Act—]

[(1) not less than $150,000,000 shall be for projects eligible under section 22907(c)(2) of title 49, United States Code, that support the development of new intercity passenger rail service routes including alignments for existing routes;]
[(2) not less than $25,000,000 shall be for projects eligible under section 22907(c)(11) of title 49, United States Code: Provided, That for amounts made available in this paragraph, the Secretary shall give preference to projects that are located in counties with the most pedestrian trespasser casualties;]
[(3) $5,000,000 shall be for preconstruction planning activities and capital costs related to the deployment of magnetic levitation transportation projects;]
[(4) $30,426,000 shall be made available for the purposes, and in amounts, specified for Community Project Funding/Congressionally Directed Spending in the table entitled "Community Project Funding/Congressionally Directed Spending" included in the explanatory statement described in section 4 (in the matter preceding division A of this consolidated Act): Provided, That requirements under subsections (g) and (l) of section 22907 of title 49, United States Code, shall not apply to this paragraph: Provided further, That any remaining funds available after the distribution of the Community Project Funding/Congressionally Directed Spending described in this paragraph shall be available to the Secretary to distribute as discretionary grants under this heading; and]
[(5) not less than $5,000,000 shall be available for workforce development and training activities as authorized under section 22907(c)(13) of title 49, United States Code:]

[Provided further, That for amounts made available under this heading in this Act, eligible projects under section 22907(c)(8) of title 49, United States Code, shall also include railroad systems planning (including the preparation of regional intercity passenger rail plans and State Rail Plans) and railroad project development activities (including railroad project planning, preliminary engineering, design, environmental analysis, feasibility studies, and the development and analysis of project alternatives): Provided further, That section 22905(f) of title 49, United States Code, shall not apply to amounts made available under this heading in this Act for projects that implement or sustain positive train control systems otherwise eligible under section 22907(c)(1) of title 49, United States Code: Provided further, That amounts made available under this heading in this Act for projects selected for commuter rail passenger transportation may be transferred by the Secretary, after selection, to the appropriate agencies to be

administered in accordance with chapter 53 of title 49, United States Code: Provided further, That for amounts made available under this heading in this Act, eligible recipients under section 22907(b)(7) of title 49, United States Code, shall include any holding company of a Class II railroad or Class III railroad (as those terms are defined in section 20102 of title 49, United States Code): Provided further, That section 22907(e)(1)(A) of title 49, United States Code, shall not apply to amounts made available under this heading in this Act: Provided further, That section 22907(e)(1)(A) of title 49, United States Code, shall not apply to amounts made available under this heading in previous fiscal years if such funds are announced in a notice of funding opportunity that includes funds made available under this heading in this Act: Provided further, That the preceding proviso shall not apply to funds made available under this heading in the Infrastructure Investment and Jobs Act (division J of Public Law 117-58): Provided further, That unobligated balances remaining after 6 years from the date of enactment of this Act may be used for any eligible project under section 22907(c) of title 49, United States Code:] *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 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.

Explanation of Changes: The FY 2024 President's Budget proposes certain changes under the CRISI program to increase the program's effectiveness and maximize the authorities provided under the Infrastructure Investment and Jobs Act. Proposed changes include clarifying the recipient eligibility for the program's trespass prevention project eligibility, increasing the maximum Federal cost share from 80 percent to 90 percent for projects that benefit underserved communities, and allowing the Department to retain $5 million to establish a National Railroad Institute.

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

	FY 2022 ENACTED	FY 2023 ENACTED	FY 2024 PRES. BUD.
Consolidated Rail Infrastructure and Safety Improvements	$ 625,000	$ 560,000	$ 510,000
Transfer to Financial Assistance Oversight and Technical Assistance	$ (12,490)	$ (11,200)	$ (10,200)
TOTAL, Base appropriations	$ 612,510	$ 548,800	$ 499,800
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
Transfer to Financial Assistance Oversight and Technical Assistance	$ (20,000)	$ (20,000)	$ (20,000)
TOTAL, Supplemental appropriations	$ 980,000	$ 980,000	$ 980,000
FTEs			
Direct Funded	0	0	0
TOTAL, Account	$ 1,592,510	$ 1,528,800	$ 1,479,800

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 2023 TO FY 2024
Appropriations, Obligations, Limitations, and Exempt Obligations
($000)

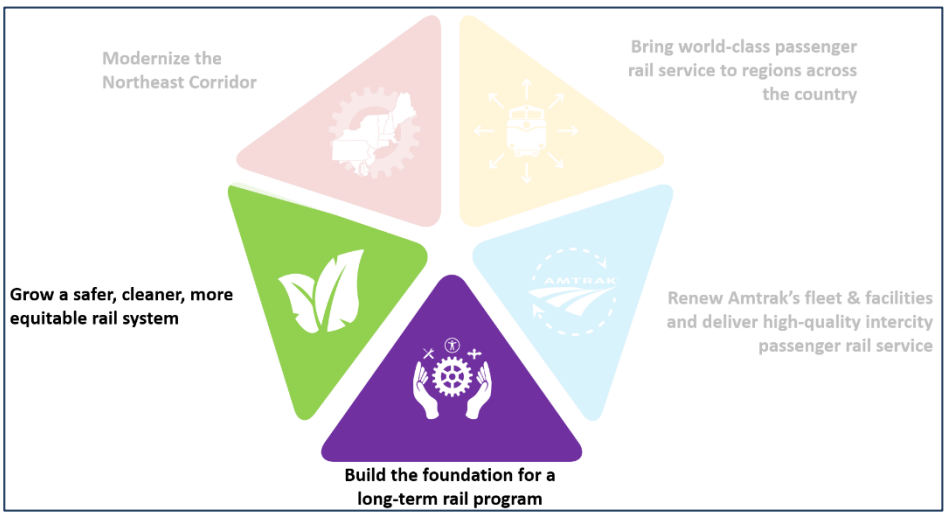
	$000	FTE
	-	-
FY 2023 ENACTED, net transfer	$548,800	0
	-	-
PROGRAM REDUCTIONS		
Consolidated Rail Infrastructure and Safety Improvements	-49,000	
SUBTOTAL, PROGRAM REDUCTIONS	**-49,000**	**0**
FY 2024 REQUEST, net transfer	**499,800**	**0**
Supplemental Appropriations	**1,000,000**	**0**
Transfer to Financial Assistance Oversight and Technical Assistance	-20,000	
Supplemental Appropriations, net transfer	**980,000**	**0**
TOTAL, net transfer	**1,479,800**	**0**

Detailed Justification for the Consolidated Rail Infrastructure and Safety Improvements

FY 2024 Consolidated Rail Infrastructure and Safety Improvements Budget Request ($000)

Program Activity	FY 2022 Enacted Level	FY 2023 Enacted	FY 2024 President's Budget
Consolidated Rail Infrastructure and Safety Improvements	$625,000	$560,000	$510,000
Total	**$625,000**	**$560,000**	**$510,000**
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 is FRA's most oversubscribed competitive grant program, due in part to the wide range of eligible projects that are able to be funded. Since appropriations were first provided for the program in FY 2017, FRA has received over $4.8 billion in funding requests for the nearly $1.6 billion that has been made available and awarded through FY 2021. This award amount is set to double once selections for the over $1.6 billion appropriated for CRISI in FY 2022 are announced in 2023.

The Infrastructure Investment and Jobs Act (IIJA) reauthorized CRISI and provided a separate supplemental advance appropriation totaling $5 billion over five years. **The FY 2024 President's Budget requests $510 million for the CRISI program, in addition to the $1**

billion provided in advance appropriations for FY 2024, which will advance FRA's Key IIJA Investment Goals.[1]

One of the driving factors in the success of the CRISI program to date has been the program's wide-ranging eligibility, which has enabled the program to garner broad stakeholder support across the railroad industry. 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 Crossing Elimination programs.

For FY 2024, FRA proposes to continue prioritizing CRISI funding to project types not addressed by the Partnership and Railroad Crossing Elimination programs. Therefore, Partnership will cover 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. The Railroad Crossing Elimination program will be first in line to fund highway-rail grade crossing projects among FRA grant programs. However, FRA intends to maintain the full flexibility 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 or disadvantaged communities; and
- Congestion relief projects to address freight and passenger rail chokepoints and improve network fluidity.

Supporting a Strong Railroad Industry Workforce

The FY 2024 President's Budget proposes to continue two efforts identified 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

[1] While each FRA program supports and advances all five of FRA's Key IIJA Investment Goals, only the primary area(s) of alignment are highlighted in the callout box.

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. Grants for workforce development and training programs have been eligible under CRISI since the program was first authorized by the FAST Act. However, FRA has received few applications for these types of activities, and has only funded four such projects through FY 2021 funding rounds. By dedicating funding and a formal program for these activities, FRA is confident it can spur greater interest in workforce development and training. 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 in FY 2024 will ensure these activities remain an important focus of the CRISI program.

Tackling the Climate Crisis

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]

CRISI was designed in part to assist short line railroads in addressing their backlog of infrastructure needs.[5] Short line railroads play a vital role in the U.S. transportation system, often providing the "first- and last-mile" connections to the Class I network for freight shippers and customers. Ensuring these railroads can accommodate growth in freight rail shipments is essential to both maximizing the environmental benefits of moving freight by rail and

[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, February 2022.
[4] Association of American Railroads, Freight Railroads & Climate Change, March 2021.
[5] In 2014, FRA surveyed the industry and estimated that a nearly $7 billion funding gap existed to address the current and near-term capital needs of Class II and Class III railroads. FRA, Summary of Class II and Class III Railroad Capital Needs and Funding Sources, October 2014.

maintaining a strong supply chain. The FY 2024 President's Budget proposes a new initiative to support these efforts:

- **Dedicate $25 million 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 that affect vulnerable communities, diesel fuel consumption, and CO2 emissions.

Equity and Justice40 Initiatives

In addition to the workforce development, capacity building, and climate initiatives proposed above, the FY 2024 President's Budget for CRISI continues policies to further the Biden-Harris Administration's efforts to create a more equitable transportation system. While many towns and cities were built around rail investments dating back a century or more, these rail lines often bisect communities and neighborhoods, and present barriers to important services and opportunities. CRISI is well-positioned to support efforts to reconnect downtown neighborhoods. To achieve these goals, the FY 2024 President's Budget proposes to continue the following two initiatives proposed in FY 2023:

- Consistent with the Justice40 initiative, dedicate at least 40 percent of CRISI funds for rail line relocations and other projects to mitigate the detrimental safety and quality of life effects rail transportation can have on underserved or disadvantaged communities and;
- 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. These changes to CRISI will enable the communities most in need 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.

Summary of Key CRISI Project Funding Statistics (FY 2017 – FY2021)

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. In 2019, rail carried over 32.5 million passengers on Amtrak services[6] and approximately 1.6 billion tons of freight valued at over $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 would-class freight network can meet the mobility demands of a growing population.

U.S. Rail System

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

[6] Amtrak, Monthly Performance Report, FY 2019, April 10, 2020.
[7] U.S. Department of Transportation, Bureau of Transportation Statistics, Freight Facts and Figures.
[8] OneRail, Rail Safety in the United States, 2016.

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 16 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 more than 13 million barrels of petroleum products every day for transportation, representing two-thirds of the nation's petroleum usage.[10] On average, rail transportation is four times more fuel efficient than trucks. On average, U.S. railroads move one ton of freight an average of nearly 500 miles per gallon of fuel.[11]

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 $760 billion since 1980 to maintain and improve their assets.[12] 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.

[9] U.S. Department of Transportation, Bureau of Transportation Statistics, Freight Facts and Figures.
[10] U.S. Energy Information Administration, Monthly Energy Review, January 2023.
[11] Association of American Railroads, Sustainability Fact Sheet, October 2022.
[12] 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]*$560,000,000*, 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*.

Explanation of Changes: The FY 2024 President's Budget proposes to increase the maximum Federal cost share under the program from 80 percent to 90 percent for projects that benefit underserved communities. The FY 2024 President's Budget also proposes to set-aside $15 million for a grant to the Union Station Redevelopment Corporation for critical and immediate state of good repair projects at Washington Union Station, which is owned by the Federal government.

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

	FY 2022 ENACTED	FY 2023 ENACTED	FY 2024 PRES. BUD.
Federal-State Partnership for Intercity Passenger Rail Grants	$ 100,000	$ 100,000	$ 560,000
Transfer to Financial Assistance Oversight and Technical Assistance	$ (2,000)	$ (2,000)	$ (11,200)
TOTAL, Base appropriations	$ 98,000	$ 98,000	$ 548,800
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
Transfer to Financial Assistance Oversight and Technical Assistance	$ (144,000)	$ (144,000)	$ (144,000)
TOTAL, Supplemental appropriations	$ 7,056,000	$ 7,056,000	$ 7,056,000
FTEs			
Direct Funded	0	0	0
TOTAL, Account	$ 7,154,000	$ 7,154,000	$ 7,604,800

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 2023 TO FY 2024
Appropriations, Obligations, Limitations, and Exempt Obligations
($000)

	$000	**FTE**
FY 2023 ENACTED, net transfer	$98,000	0
ADJUSTMENTS TO BASE:		
Non-Pay Inflation and Other	1,960	
SUBTOTAL, ADJUSTMENTS TO BASE	**1,960**	**0**
PROGRAM INCREASES		
Federal-State Partnership for Intercity Passenger Rail Grants	448,840	
SUBTOTAL, PROGRAM INCREASES	**448,840**	**0**
FY 2024 REQUEST, net transfer	**548,800**	**0**
Supplemental Appropriations	**7,200,000**	**0**
Transfer to Financial Assistance Oversight and Technical Assistance	-144,000	
Supplemental Appropriations, net transfer	**7,056,000**	**0**
TOTAL, net transfer	**7,604,800**	**0**

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

FY 2024 Federal-State Partnership for Intercity Passenger Rail Grants
Budget Request
($000)

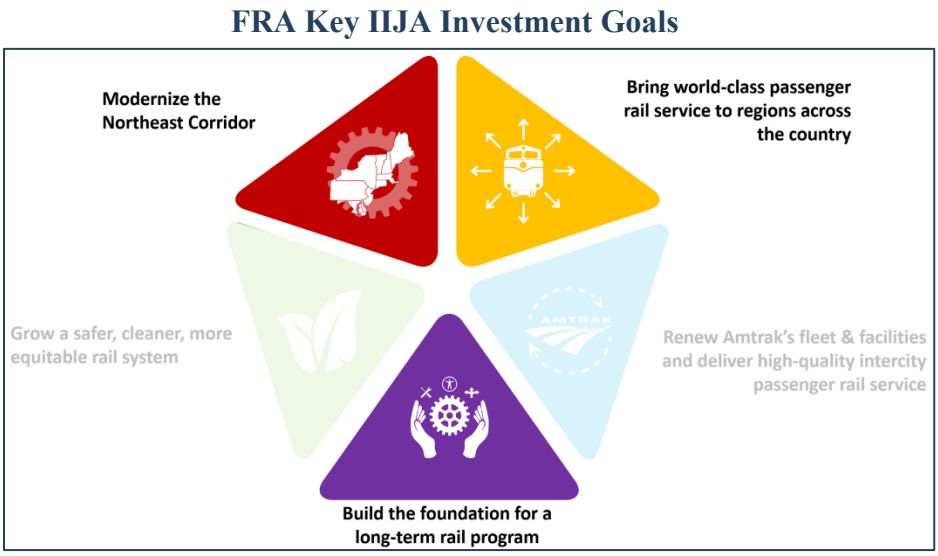
Program Activity	FY 2022 Enacted Level	FY 2023 Enacted Level	FY 2024 President's Budget
Federal-State Partnership for Intercity Passenger Rail Grants	$100,000	$100,000	$560,000
Total	**$100,000**	**$100,000**	**$560,000**
FTE	**0**	**0**	**0**

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

The Federal-State Partnership for Intercity Passenger Rail program[1] has funded 43 projects totaling over $1 billion through FY 2021. The Infrastructure Investment and Jobs Act (IIJA) expanded and reauthorized the program, and provided a separate supplemental advance appropriation totaling $36 billion over five years. The IIJA reauthorization contained several significant changes that enables the program to more broadly support intercity passenger rail projects across the country—including projects located on private host freight railroads, which represent the majority of the rail network— and allow previously ineligible planning and project development activities to be funded.

[1] The Federal State Partnership for Intercity Passenger Rail was previously titled the Federal State Partnership for State of Good Repair.

The FY 2024 President's Budget requests $560 million for the Partnership program, in addition to the $7.2 billion provided in advance appropriations for FY 2024, which will advance FRA's Key IIJA Investment Goals.[2] The Partnership program will serve as FRA's primary program for intercity passenger rail project development and capital investment, outside of Amtrak funding. Partnership will help Northeast Corridor (NEC) stakeholders systematically address the NEC's state of good repair backlog and implement service improvements, and help improve existing intercity passenger rail corridors or develop new corridor services across the country.



In order to ensure an equitable geographic distribution of Partnership 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 supplemental 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 for Partnership funding. FRA will fund projects to achieve the following purposes under the program:

- **Northeast Corridor**
  - 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;[3] and
  - Planning, engineering, and environmental analyses necessary to move future projects toward construction.

[2] While each FRA program supports and advances all five of FRA's Key IIJA Investment Goals, only the primary area(s) of alignment are highlighted in the callout box.
[3] 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.

- **Non-Northeast Corridor**
  - 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.

Planning Processes and Resources

IIJA requires separate planning processes for projects located on and off the NEC to (1) inform project selection and (2) develop and maintain a pipeline of projects ready for future funding.

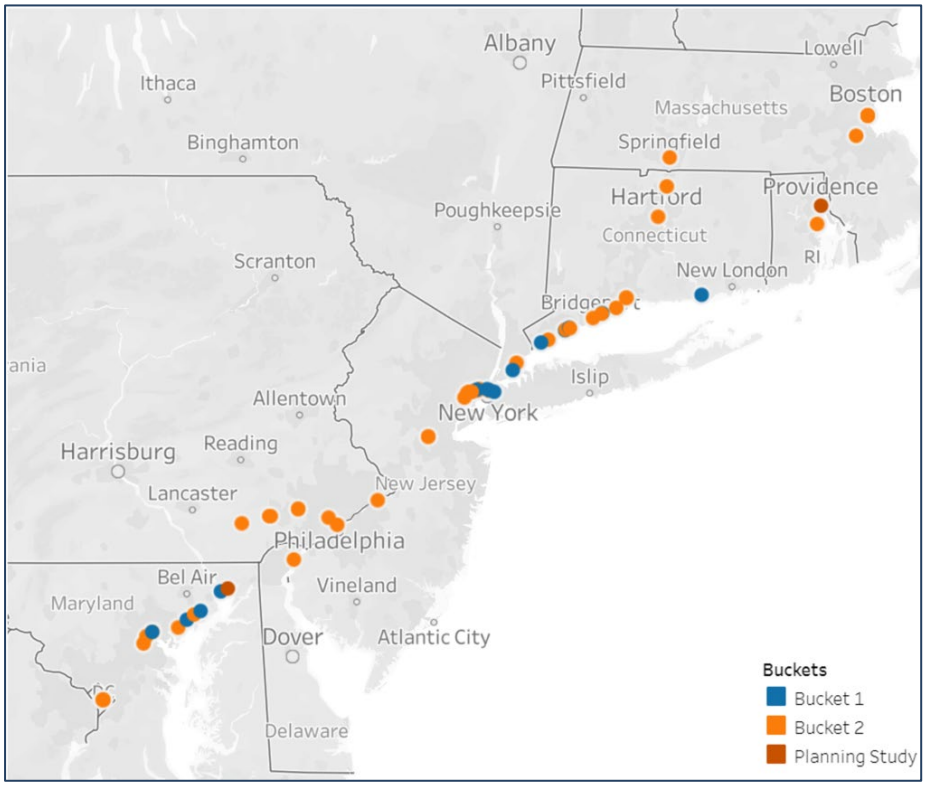
NEC Project Inventory

For NEC projects, IIJA requires the Department to develop a NEC Project Inventory to identify and sequence projects to receive funding under the Partnership program. FRA will make Partnership funding selections consistent with the NEC Project Inventory. FRA published the first NEC Project Inventory on November 14, 2022.[4] 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.

NEC Project Inventory



[4] Federal Railroad Administration, NEC Project Inventory, November 2022.

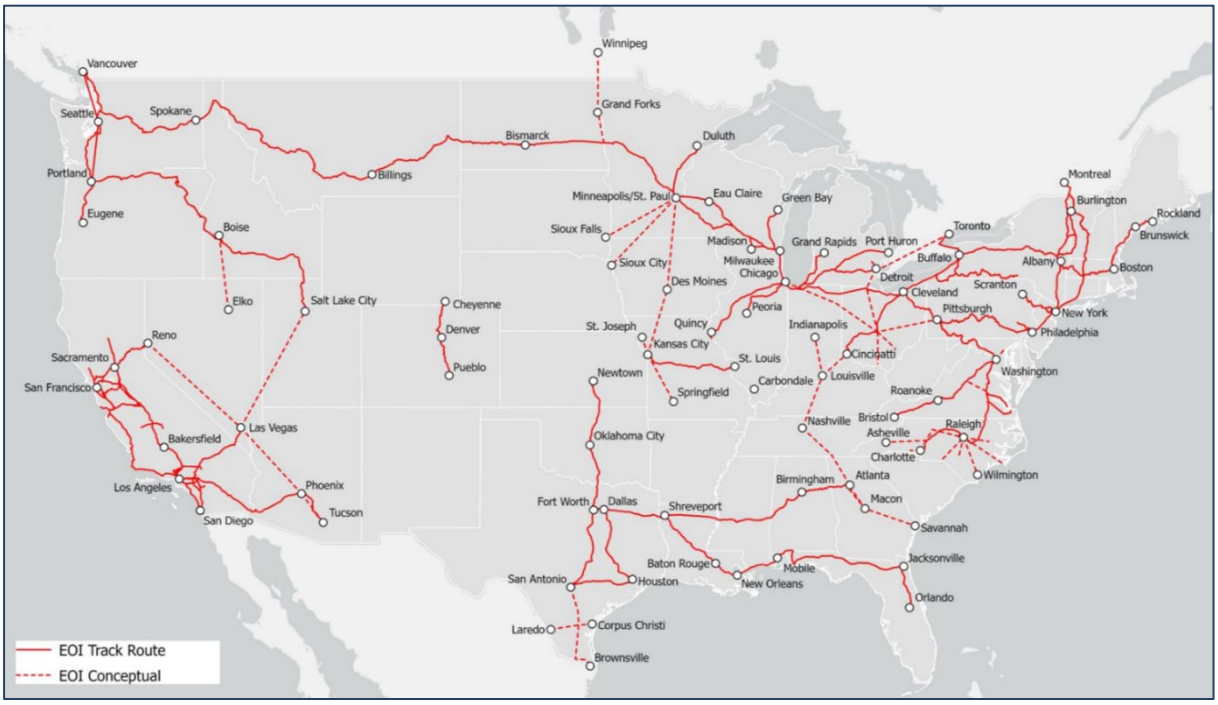
The NEC Project Inventory prioritizes and allocates funding to the Major Backlog projects, identifying more than $7 billion in potential obligations under the FY 2022/FY 2023 Partnership appropriations.

FRA collaborated extensively with the NEC Commission[5] in developing the NEC Project Inventory. Specifically, FRA relied on the data and inputs from the NEC Commission's comprehensive Connect NEC 2035[6] 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.

Corridor Identification and Development (Corridor ID) Program

For projects located off the NEC, IIJA requires 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. FRA established the framework for the Corridor ID program on May 13, 2022 and encouraged eligible entities to submit expressions of interest in the program; expressions of interest for more than 100 corridors were submitted to FRA.[7]

Corridor ID Expressions of Interest

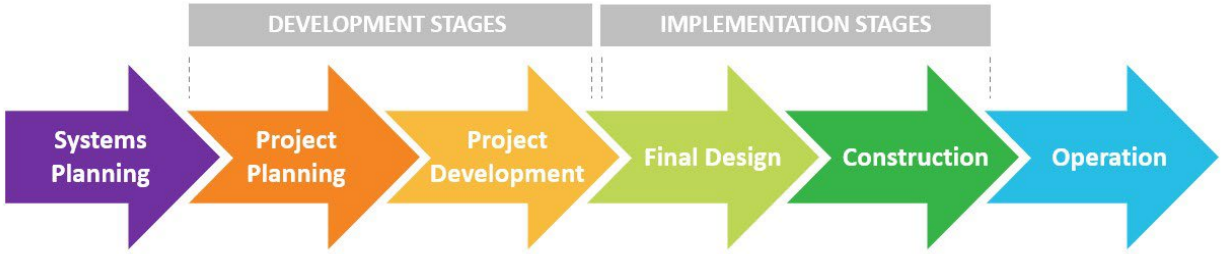


[5] The NEC Commission is composed representatives from each of the eight NEC states, the District of Columbia, Amtrak, and the U.S. Department of Transportation.
[6] NEC Commission, Connect NEC 2035, July 2021.
[7] Federal Railroad Administration, FRA Announces New Bipartisan Infrastructure Law Program to Guide Nationwide Expansion and Enhancement of Intercity Passenger Rail Service, May 13, 2022.

On December 20, 2022, FRA issued the formal solicitation for proposals into the Corridor ID Program. Corridor sponsors selected under the program will partner with FRA to prepare a Service Development Plan for their selected corridor and advance capital projects identified in those plans to ready them for final design and construction. Projects that are identified and fully developed through the program will benefit from a selection preference for future Partnership funding opportunities, ensuring that investments yield benefits for communities affected by new intercity passenger rail projects.

Planning Resources

IIJA authorizes FRA to withhold up to 5 percent of Partnership funds for planning grants and to support the creation of guidance, tools, and models to help stakeholders more efficiently develop and deliver projects. Rail planning grants are intended to fund service development plans for corridors selected under the Corridor Identification and Development program. FRA is also working on 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. On January 12, 2023, FRA issued the first such guidance under IIJJA – Guidance on the Development and Implementation of Railroad Capital Projects, which establishes clear practices and sets expectations for the development and implementation of railroad capital projects that may be funded by FRA.[8]



FRA is also evaluating how to provide more direct resources and technical support to assist states in building their internal rail planning capacity. **For FY 2024, FRA is proposing to set-aside up to 2 percent—or $27 million—from the agency's competitive grant programs to provide formula funding to states for state rail planning managers to carryout state rail planning activities.** 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 four years, which will allow states to identify and dedicate internal resources to support long-term rail project planning, implementation, and management.

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

Project Commitment Tools

IIJA also provides new tools that will allow FRA to make transparent, contingent commitments to projects that may require multiple years of Federal funding. These tools are tailored to the project lifecycle stage and will help to maximize the use of Partnership funding. These tools will 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

A Letter of Intent (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[9] 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 Partnership program funds.

Phased Funding Agreement

A Phased Funding Agreement (PFA) is a grant agreement that obligates funding from available resources under the Partnership program and makes contingent commitments to obligate future available funds under the Partnership 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 Partnership program NOFO and as conducted by FRA, and if the Partnership program funding to be provided for the project is more than $80 million.

For a project with a PFA, FRA would provide grant funding in phases consistent with the terms of the PFAs and within the established maximum amount of Partnership program funding to be provided for the project. FRA anticipates limiting the use of PFAs to fund the Final Design and Construction Lifecycle Stages of Major Projects. A PFA's contingent commitments are not financial obligations of the Federal government. However, in a PFA, FRA commits to obligate a certain amount of future Partnership program 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.

[9] 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.

Washington Union Station Set-Aside

The FY 2024 President's Budget proposes to dedicate $15 million from annual Partnership program funding to advance critical and immediate state of good repair projects at Washington Union Station.

First opened in 1907 and designed by Daniel Burnham, Washington, D.C.'s Union Station (WUS) was one of 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 Union Station Redevelopment Corporation (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.

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 $50 million to replace the aging roof and HVAC system, restore the parking garage, and address building code, fire alarm, and utilities' needs. USRC faces a funding shortfall of $20 to $30 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. **FRA envisions this set-aside as a limited, two-year effort that will ensure the immediate state of good repair needs at the station can be remedied.**

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*[10], which provides a comprehensive accounting of total greenhouse gas emissions for all man-made sources in the United States. In 2020, transportation activities accounted the largest portion of total U.S. greenhouse gas emissions, at over 27 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 2018 showing Amtrak used 45 percent less energy than car travel and 33 percent less than air travel per passenger mile.[11] Amtrak has reduced its greenhouse gas emissions by 20 percent since 2010 and continues to seek efficiencies and emissions reductions across its business.[12]

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

[10] U.S. Environmental Protection Agency, U.S. Greenhouse Gas Emissions and Sinks: 1990-2020, April 2022.
[11] U.S. Department of Energy, Oak Ridge National Laboratory, Transportation Energy Data Book, Edition 40, Table 2.13, February 2022.
[12] Amtrak, Travel Green, accessed April 2021.

racial or ethnic minority groups, and a third do not own an automobile.[13] The IIJA and FY 2024 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.

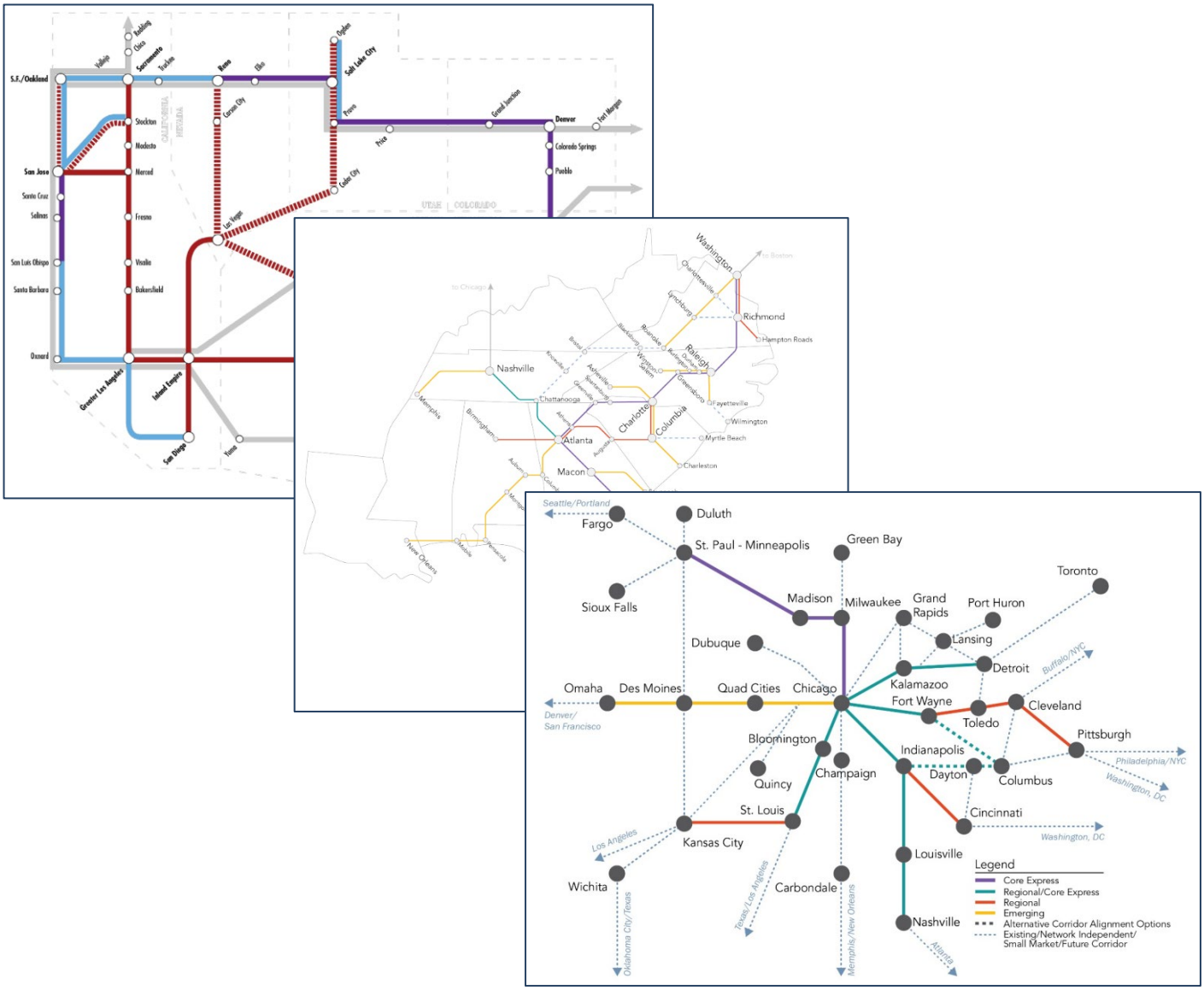
The Department is putting measures in place to proactively address equity and barriers to opportunity in the selection process for Federal transportation funding, and ensure funding gets to the communities that need it the most. The FY 2024 President's Budget proposes to dedicate at least 40 percent of competitive grant program funding to underserved or disadvantaged communities, and the reduce the non-Federal match for such communities from 20 percent to 10 percent.

Demand for Rail – In 2019, Amtrak set an all-time ridership record, carrying over 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 plan represents 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 more than 100 expressions of interest submitted for FRA's Corridor ID program. These expressions of interest proposals ranged from incremental upgrades to existing corridors to extensions of existing rail lines to entirely new services and corridors.

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

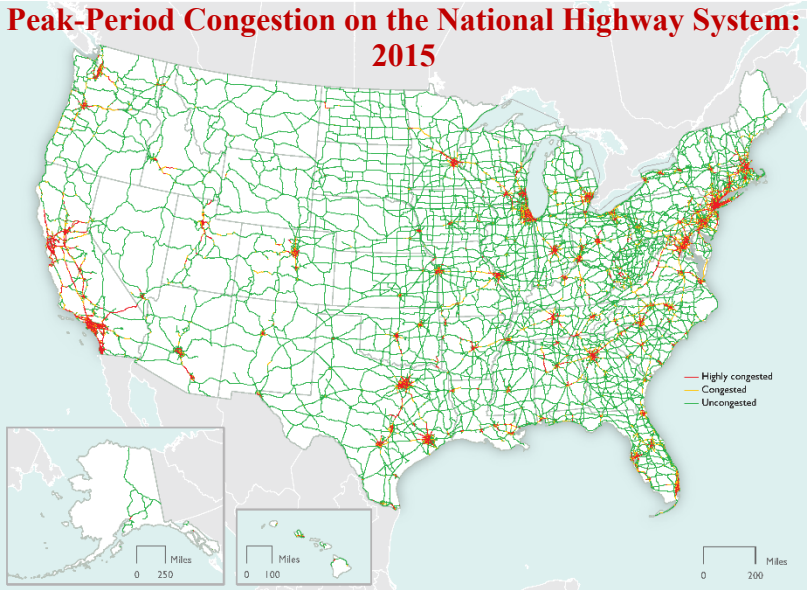
FRA Regional Rail Planning Studies[14]

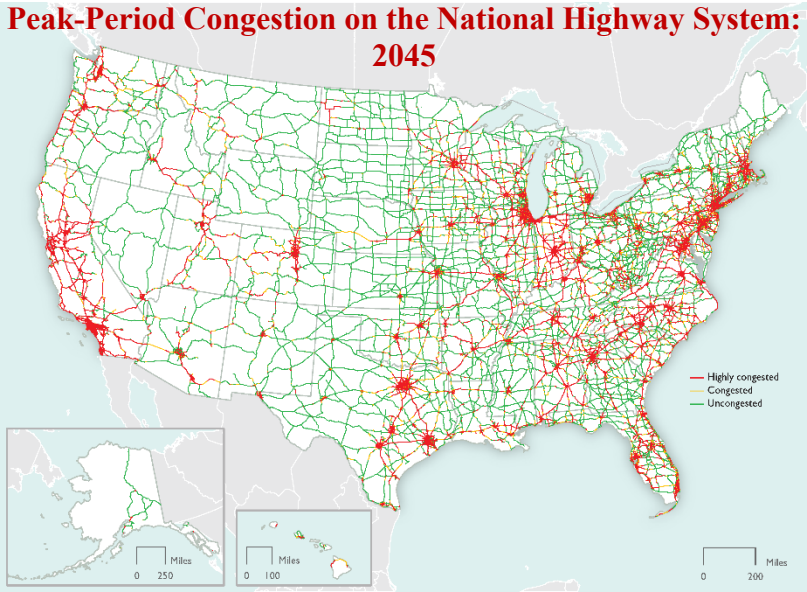


Mounting Congestion – As the U.S. population grows, so too does the use of its transportation systems. Prior to COVID's drastic effect on transportation, the Texas A&M Transportation Institute found that the cost of traffic congestion increased from $15 billion per year in 1982 to $190 billion in 2019, when factoring in lost time, productivity, and fuel consumption.[15] The U.S. Department of Transportation's Freight Analysis Framework projects significant increases in

[14] FRA, Regional Rail Planning, October 2021.
[15] Texas A&M Transportation Institute, 2021 Urban Mobility Report, June 2021.

highway congestion over the next 25 years, as shown in the maps below[16]. Investing in intercity passenger rail will offer a release valve for highway and aviation congestion, especially in 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 2035 plan could create more than 1 million new jobs in the Northeast region

[16] U.S. Department of Transportation, Bureau of Transportation Statistics, Freight Facts and Figures.

alone over the plan's 15-year horizon if fully-funded.[17] 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.

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

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

RESTORATION AND ENHANCEMENT GRANTS
APPROPRIATIONS LANGUAGE

RESTORATION AND ENHANCEMENT GRANTS

For necessary expenses related to Restoration and Enhancement Grants, as authorized by section 22908 of title 49, United States Code, $50,000,000, to remain available until expended: Provided, That the unexpended balances of amounts made available under this heading in prior fiscal years shall be subject to the requirements of section 22908 of title 49, United States Code, as in effect on the effective date of the Infrastructure Investment and Jobs Act (Public Law 117-58): Provided further, That the limitation in subsection 22908(e)(2) of title 49, United States Code shall not apply to amounts made available for grants under section 22908 of title 49, United States Code, in this Act or any prior Act: Provided further, That the Secretary may withhold up to 1 percent of the funds provided under this heading to fund the costs of award and project management and oversight of grants carried out under title 49, United States Code.

Explanation of Changes: The FY 2024 President's Budget proposes changes to the Restoration and Enhancement Grants program to ensure FRA can effectively administer the program, including applying the changes made to the program under the Infrastructure Investment and Jobs Act to funding appropriated between FY 2017 – FY 2021 and striking the limitation that no more than six grants may be active simultaneously.

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

	FY 2022 ENACTED	FY 2023 ENACTED	FY 2024 PRES. BUD.
Restoration and Enhancement Grants	$ -	$ -	$ 50,000
Transfer to Financial Assistance Oversight and Technical Assistance	$ -	$ -	$ (500)
TOTAL, Base appropriations	$ -	$ -	$ 49,500
FTEs			
Direct Funded	0	0	0

Program and Performance Statement

The Restoration and Enhancement Grants program was authorized by Congress to provide operating assistance to initiate, restore, or enhance intercity passenger rail transportation. Eligible projects may include adding frequencies to existing services, establishing a new service, extending an existing service to new markets or station stops, restoring previously operated services, and offering new on-board services. Eligible recipients include states (including interstate compacts), local governments, Amtrak and other intercity passenger rail operators, and federally recognized Indian Tribes. Grantees may receive up to six years of operating assistance for a route and no more than six grants may be active under the program simultaneously. The required non-Federal match of the program increases from 10 percent in the first year of the grant to 70 percent in the sixth and final year of the grant.

EXHIBIT III-1a
RESTORATION AND ENHANCEMENT GRANTS
SUMMARY ANALYSIS OF CHANGE FROM FY 2023 TO FY 2024
Appropriations, Obligations, Limitations, and Exempt Obligations
($000)

	$000	**FTE**
FY 2023 ENACTED, net transfer	$0	0
PROGRAM INCREASES		
Restoration and Enhancement Grants	49,500	
SUBTOTAL, PROGRAM INCREASES	**49,500**	**0**
FY 2024 REQUEST, net transfer	**49,500**	**0**

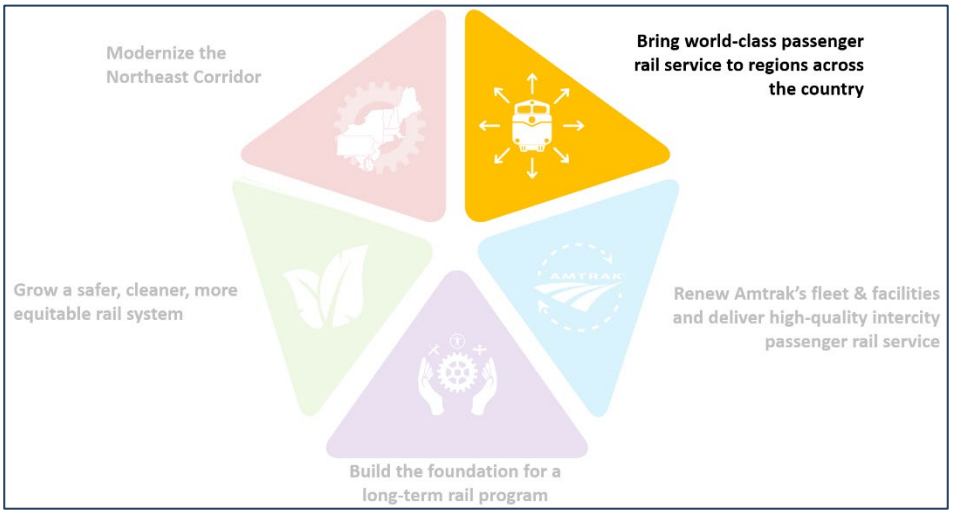
Detailed Justification for the Restoration and Enhancement Grants

FY 2024 Restoration and Enhancement Grants
Budget Request
($000)

Program Activity	FY 2022 Enacted Level	FY 2023 Enacted Level	FY 2024 President's Budget
Restoration and Enhancement Grants	$0	$0	$50,000
Total	**$0**	**$0**	**$50,000**
FTE	**0**	**0**	**0**

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

The Restoration and Enhancement Grants (R&E) program provides operating assistance to initiate, restore, or enhance intercity passenger rail transportation. The R&E program has funded three projects totaling $26.8 million through FY 2020:



- $9.8 million for the Southern Rail Commission to support the restoration of service along the Gulf Coast;
- $4.4 million for Connecticut to add two weekday trains between New Haven, CT and Springfield, MA on the CT*rail* service, which began operations in June 2018; and
- $12.6 million for Wisconsin and Minnesota to add a second daily roundtrip passenger train between Union Depot in Saint Paul, MN and Union Station in Chicago, IL.

The Infrastructure Investment and Jobs Act (IIJA) reauthorized the R&E program for five years and provided a separate supplemental advance appropriation totaling $250 million as a set-aside from the $16 billion Amtrak National Network supplemental appropriation. **The FY 2024 President's Budget requests $50 million for the R&E program, in addition to the $50**

million provided in advance appropriations for FY 2024, which will advance FRA's Key IIJA Investment Goals.[1]

The $12 billion provided for projects located off the Northeast Corridor under the IIJA supplemental advance appropriation for the Federal-State Partnership for Intercity Passenger Rail (Partnership) program—together with the funding provided through annual appropriations, including the $560 million requested in the FY 2024 President's Budget—will lead to the introduction of new and expanded intercity passenger rail corridor services across the country. The R&E program will play a vital role in the success of these services by offsetting initial operating losses while the new or expanded services build their ridership and revenue base. As experienced in Europe and on the Amtrak network, new services and frequencies do not realize their longer-term ridership/revenue potential immediately upon initiating operations. As ridership and revenue grows over the first six years of operations, R&E funding will be gradually phased out and project sponsors will be required to comply with relevant cost-sharing methodologies (including Section 209 of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) for any State-Supported Amtrak route).

Legislative Changes

The IIJA reauthorization made several significant changes to the R&E program, most notably:

- Extending the limitation on the number of years for which a route can receive R&E funding from three years to six years; including for previously selected routes
- Changing the non-Federal match requirements from 20 percent in the first year, 40 percent in the second year, and 60 percent in the third year to increasing increments of 10 percent starting at 10 percent in the first year to a 70 percent non-Federal match in the sixth and final year of a grant; and
- Expanding the eligible costs covered under the program from just operating expenses to include all costs that are allocated to states under the Amtrak-states cost sharing methodology required by Section 209 of PRIIA. This expansion will allow the equipment capital surcharge that states are required to pay to overhaul the Amtrak-owned equipment used in State-Supported services to be eligible for R&E grants.

The FY 2024 President's Budget proposes two additional legislative changes to ensure FRA can effectively administer the program:

- First, FRA proposes to modify a provision included in the FY 2022 Consolidated Appropriations Act and FY 2023 Consolidated Appropriations Act that applies all of the changes made to the R&E program under IIJA to the FY 2017 – FY 2021 funds appropriated before the law's enactment. IIJA allows previously selected R&E grants to have 6 years of funding as opposed to the 3 years originally provided under the FAST Act, but IIJA did not change the matching percentage for those previously selected routes. FRA may have difficulty implementing this provision for existing grants once their first three years of funding has been exhausted or if previously selected grantees seek additional funding for the newly eligible PRIIA 209 cost-share equipment capital

[1] While each FRA program often aligns with all five of FRA's Key IIJA Investment Goals, only the primary area(s) of alignment are highlighted in the callout box.

expenses. This proposal will provide parity among current and future R&E funding recipients.

- Second, FRA proposes to strike the statutory limitation that not more than six grants can be simultaneously active. Given the level of funding provided for the R&E program under the IIJA supplemental alone, FRA may not be able to award all available funds for years if this six grant limitation remains in place.

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

The R&E program plays an integral role supporting the Partnership program in improving and expanding intercity passenger rail service in the United States. Project sponsors often have greater difficulty sourcing funds to support rail operations vs. discrete capital investments. The initial operating costs required to start a new service prior to generating the longer-term projected revenues can discourage project sponsors, legislators, and other stakeholder from making the necessary commitments to deliver the service. The R&E program can help to ease this barrier to entry and ensure the substantial public benefits of expanded intercity passenger rail described under the Partnership program can be realized.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

RAILROAD CROSSING ELIMINATION PROGRAM
APPROPRIATIONS LANGUAGE

RAILROAD CROSSING ELIMINATION PROGRAM

For necessary expenses related to Railroad Crossing Elimination Grants, as authorized by section 22909 of title 49, United States Code, $250,000,000, 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 22909(g) of title 49, United States Code: Provided further, That up to an additional $1,500,000 shall be available for highway-rail grade crossing safety information and education programs above the one-quarter of 1 percent authorized in section 22104(c) of division B of the Infrastructure Investment and Jobs Act (Public Law 117-58), and that eligible recipients for such funds shall include nonprofit organizations: Provided further, That the Secretary may withhold up to 2 percent of the amount provided under this heading for the costs of award and project management oversight of grants carried out under title 49, United States Code.

Explanation of Changes: The FY 2024 President's Budget is requesting funding for this program first authorized under the Infrastructure Investment and Jobs Act. Proposed changes to the IIJA authorization include increasing the maximum Federal cost share from 80 percent to 90 percent for projects that benefit underserved communities and providing an additional $1.5 million for the set-aside for highway-rail grade crossing safety information and education programs and allowing Operation Lifesaver, Inc. to receive funding through this set-aside. Additionally, section 152 of FRA's Administrative Provisions proposes to eliminate the limitation to award not more than 20 percent of grant funds to a single state under the program and to provide discretion to FRA in transferring funds for projects benefitting commuter railroads to the Federal Transit Administration.

EXHIBIT III-1
RAILROAD CROSSING ELIMINATION PROGRAM
Summary by Program Activity
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

	FY 2022 ENACTED	FY 2022 ENACTED	FY 2024 PRES. BUD.
Railroad Crossing Elimination Program	$ -	$ -	$ 250,000
Transfer to Financial Assistance Oversight and Technical Assistance	$ -	$ -	$ (5,000)
TOTAL, Base appropriations	$ -	$ -	$ 245,000
FTEs			
Direct Funded	0	0	0
IIJA Supplemental (Division J)			
Railroad Crossing Elimination Program	$ 600,000	$ 600,000	$ 600,000
Transfer to Financial Assistance Oversight and Technical Assistance	$ (12,000)	$ (12,000)	$ (12,000)
TOTAL, Supplemental appropriations	$ 588,000	$ 588,000	$ 588,000
FTEs			
Direct Funded	0	0	0
TOTAL, Account	$ 588,000	$ 588,000	$ 833,000

Program and Performance Statement

The Railroad Crossing Elimination Program was authorized by Congress to award grants for highway-rail and pathway-rail grade crossing projects to improve safety and the mobility of people and goods. Eligible projects include grade separations and closures, track relocation, and improvements to or installation of protection devices, as well as planning, environmental review, and design of such projects. Eligible recipients include states, local governments, federally recognized Indian Tribes, public port authorities, and metropolitan planning organizations. The program requires a minimum non-Federal share of 20 percent and a minimum grant award of at

least $1 million, except for planning grants. Not less than 20 percent of funds are reserved for projects located in rural areas or Tribal lands, and at least 5 percent of this set-aside is reserved for projects in counties with 20 or fewer residents per square mile. Not less than 3 percent of funds are for planning projects, and of this amount 25 percent is reserved for projects located in rural areas or Tribal lands. Not more than 20 percent of grant funds may be awarded to projects in a single state. Additionally, 0.25 percent of funds are for highway-rail grade crossing safety information and education programs. Unless otherwise stated in appropriations language, FRA intends to use the fully authorized amounts for these set-asides.

EXHIBIT III-1a
RAILROAD CROSSING ELIMINATION PROGRAM
SUMMARY ANALYSIS OF CHANGE FROM FY 2023 TO FY 2024
Appropriations, Obligations, Limitations, and Exempt Obligations
($000)

	$000	**FTE**
FY 2023 ENACTED, net transfer	$0	0
PROGRAM INCREASES		
Railroad Crossing Elimination Program	245,000	
SUBTOTAL, PROGRAM INCREASES	**245,000**	**0**
FY 2024 REQUEST, net transfer	**245,000**	**0**
Supplemental Appropriations	**600,000**	
Transfer to Financial Assistance Oversight and Technical Assistance	-12,000	
Supplemental Appropriations	**588,000**	**0**
TOTAL	**833,000**	**0**

Detailed Justification for the Railroad Crossing Elimination Program

FY 2024 Railroad Crossing Elimination Program
Budget Request
($000)

Program Activity	FY 2022 Enacted Level	FY 2023 Enacted Level	FY 2024 President's Budget
Railroad Crossing Elimination Program	$0	$0	$250,000
Total	**$0**	**$0**	**$250,000**
FTE	**0**	**0**	**0**

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

The Infrastructure Investment and Jobs Act (IIJA) authorized the Railroad Crossing Elimination program to award grants for highway-rail and pathway-rail grade crossing projects to improve the safety and mobility of people and goods. The statutory goals of the program are to:

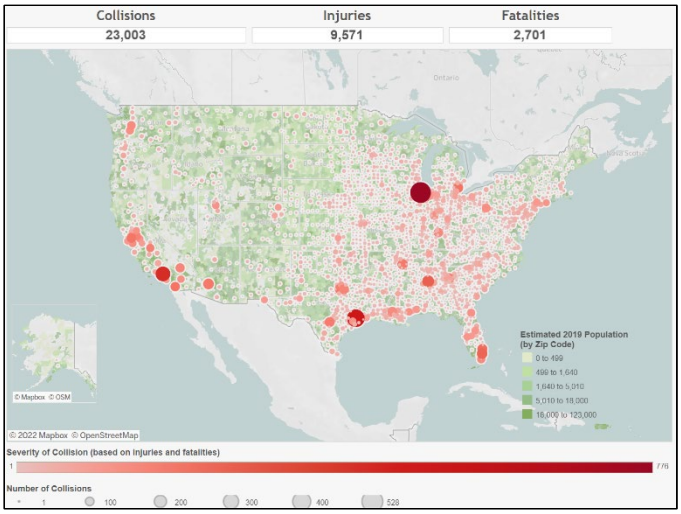
1. Eliminate highway-rail grade crossings that are frequently blocked by trains;
2. Improve the health and safety of communities;
3. Reduce the impacts that freight movement and railroad operations may have on underserved communities; and
4. Improve the mobility of people and goods.

In addition to the five-year authorization for this new program, IIJA provided an additional supplemental advance appropriation totaling $3 billion over five years. **The FY 2024 President's Budget requests $250 million for the Railroad Crossing Elimination program,**

in addition to the $600 million provided in advance appropriations for FY 2024, which will advance FRA's Key IIJA Investment Goals.[1]

In many locations, grade separating a highway-rail crossing can result in the greatest safety improvement and benefits to both railroad and motor vehicle operations. However, grade separations can be costly to implement and there has historically been insufficient and inconsistent Federal grant funding available for such projects. For example, the Federal Highway Administration's Section 130 Railway-Highway Crossing Program has provided funding to states since 1987 to eliminate hazards at grade crossings. However, this funding—$245 million annually in the final years of the FAST Act and continued at that level through FY 2026 under IIJA—is shared among all 50 states, limiting the program's ability to address largescale projects. While FRA's CRISI and previous High-Speed Intercity Passenger Rail (HSIPR) programs have been successful in funding grade separations and other grade crossing projects, such projects were competing against other important eligible priorities within those programs.

Providing robust and dedicated funding through the Railroad Crossing Elimination program to address complex grade separations and other grade crossing improvements will have a pronounced effect on improving transportation safety. To maximize the benefits of the program, FRA intends to target resources at grade separations and improvements to groups of adjacent crossings in a corridor. To help inform its investment decisions, FRA intends to utilize the suite of analysis tools it has developed to help raise awareness regarding highway-rail grade crossing safety and analyze grade crossing safety risks and trends. Prospective applicants are encouraged to visit the FRA website to learn more about these tools,[2] which include:



- **GXDash!** – A visualization tool that captures the previous 10 years of grade crossing collision data to provide a cohesive and easily digestible snapshot of GX collisions in the United States.

- **Web Based Accident Prediction Systems (WBAPS)** – A computer model that uses (1) basic data about a crossing's physical and operating characteristics and (2) accident history data at a crossing to predict collisions per year at grade crossings. This computer model is intended to serve as an analytical tool, which when combined with other site-specific information, can assist in determining where scarce highway-rail grade crossing resources can best be directed. As required by section 22402 of BIL, FRA has developed a new model for highway-rail grade crossing Accident Prediction and Severity that uses advanced statistical methods, current

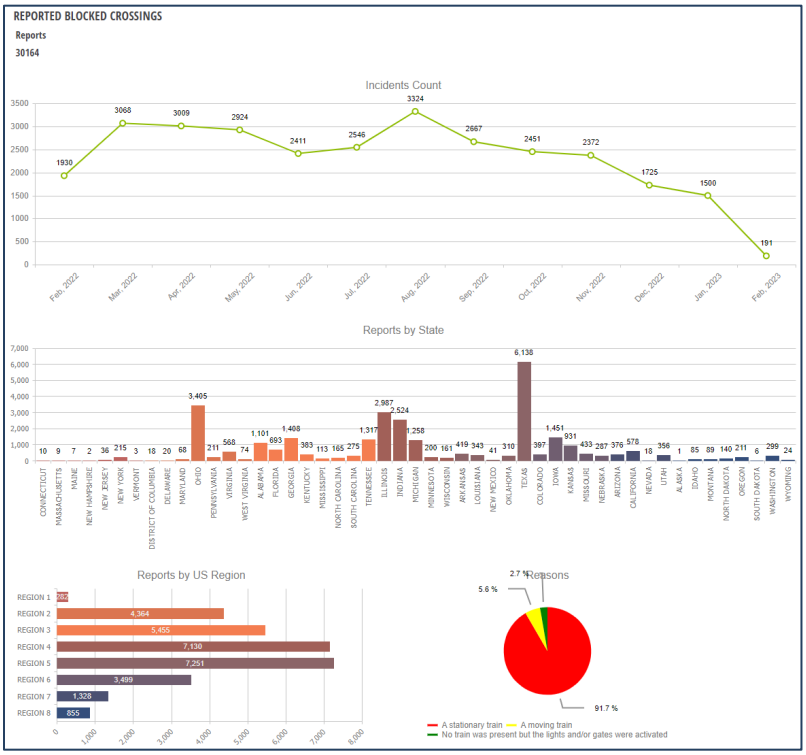
[1] While each FRA program often aligns with all five of FRA's Key IIJA Investment Goals, only the primary area(s) of alignment are highlighted in the callout box.
[2] FRA Highway-Rail Grade Crossing Safety and Trespass Prevention.

consensus analytics, and recent accident and grade crossing inventory data. FRA is currently working to incorporate the new model into WBAPS.

- **GradeDec** – A highway-rail grade crossing investment analysis tool that incorporates benefit-cost metrics for a rail corridor, a region, or an individual grade crossing. Model output allows a comparative analysis of grade crossing alternatives that are designed to mitigate highway-rail grade crossing accident risk and other components of user costs including highway delay and queuing, air quality, and vehicle operating costs.

- **State Highway-Rail Grade Crossing Action Plans –** The Rail Safety Improvement Act of 2008 and the FAST Act mandated that the 50 States and District of Columbia develop and implement a State Action Plan. These plans identify highway-rail and pathway-rail crossings that have experienced recent accidents or incidents, have experienced multiple accidents or incidents, or are at high-risk for accidents or incidents as defined in each plan. Each plan must also identify specific strategies for improving safety at these crossings.

- **Blocked Crossing Incident Reporter (Blocked Crossing Portal) –** In 2019, FRA established the Blocked Crossing Portal to enable the public to voluntarily submit information about blocked crossings they encounter or are made aware of, including the location, date, time, duration, and immediate effects of each blocked crossing incident. In 2022, FRA issued a Request for Information to solicit public comment on changes that could be made to the portal to improve its effectiveness.[3] FRA is currently evaluating enhancements to the portal. Among many use-cases, the portal can help to identify whether applications for Railroad Crossing Elimination funds are proposing improvements to crossing that are frequently reported as blocked to FRA.



[3] Federal Railroad Administration, Request for Information Regarding FRA's Public Blocked Crossing Portal, June 14, 2022.

The Railroad Crossing Elimination program supports the Department's safety, economic, and equity goals. Like CRISI, the Railroad Crossing Elimination program can mitigate the safety risks and detrimental quality of life effects that rail lines can have on communities, particularly low-income areas and communities of color. Grade separating highway-rail crossings can alleviate hazards to both pedestrians and motor vehicles at crossings that experience high volumes of traffic, are poorly configured and present safety issues due to their design, or block community access due to the frequency or length of trains that pass through. Consistent with proposed changes to the CRISI and Partnership programs, the FY 2024 President's Budget proposes to reserve at least 40 percent of funding for to projects that benefit underserved or disadvantaged communities, and to reduce the required match for such communities from 20 percent to 10 percent.

In addition to the Railroad Crossing Elimination program's focus on capital projects, IIJA also requires one-quarter of 1 percent of funding be available for highway-rail grade crossing safety information and education programs. These programs are vital to improving grade crossing safety, as many grade crossing incidents are caused by motorists or pedestrians that are unaware of their surroundings and the risks posed at crossings and/or disregard grade crossing warning devices such as flashing lights and gates.

However, additional resources above the one-quarter of 1 percent currently allowed for these initiatives under the under the program—$625,000 of the $250 million requested—is warranted. Information, education, and outreach programs that deliver safety benefits to the public can be achieved with relatively small investments. The most well-known of these programs are carried out by Operation Lifesaver, Inc., a non-profit that celebrated its 50th anniversary in 2022 of administering grade crossing public education and awareness campaigns. Operation Lifesaver's network of volunteers helped to reach more than 2.5 million people in 2019 through presentations, trainings, and other grassroots efforts to raise awareness of railroad safety issues.[4]

The safety information/education set-aside and eligibility under the Railroad Crossing Elimination program is ideal for Operation Lifesaver and more appropriate than FRA's Safety and Operations account, where Operation Lifesaver has historically been provided $1 million annually. However, Operation Lifesaver is not eligible to receive funds under the program. The FY 2024 President's Budget proposes to increase Operation Lifesaver's annual FRA funding to $1.5 million to expand the organization's outreach campaigns and allow Operation Lifesaver to receive these funds through the Railroad Crossing Elimination program. This funding would be on top of the one-quarter of 1 percent authorized, which FRA proposes to retain for other eligible applicants to apply for to develop and execute their own information and education programs.

The FY 2024 President's Budget proposes two legislative changes to ensure FRA can effectively administer the program:

- First, FRA proposes to eliminate the limitation to award not more than 20 percent of grant funds to a single state. Given the size and scope of grade separations and large

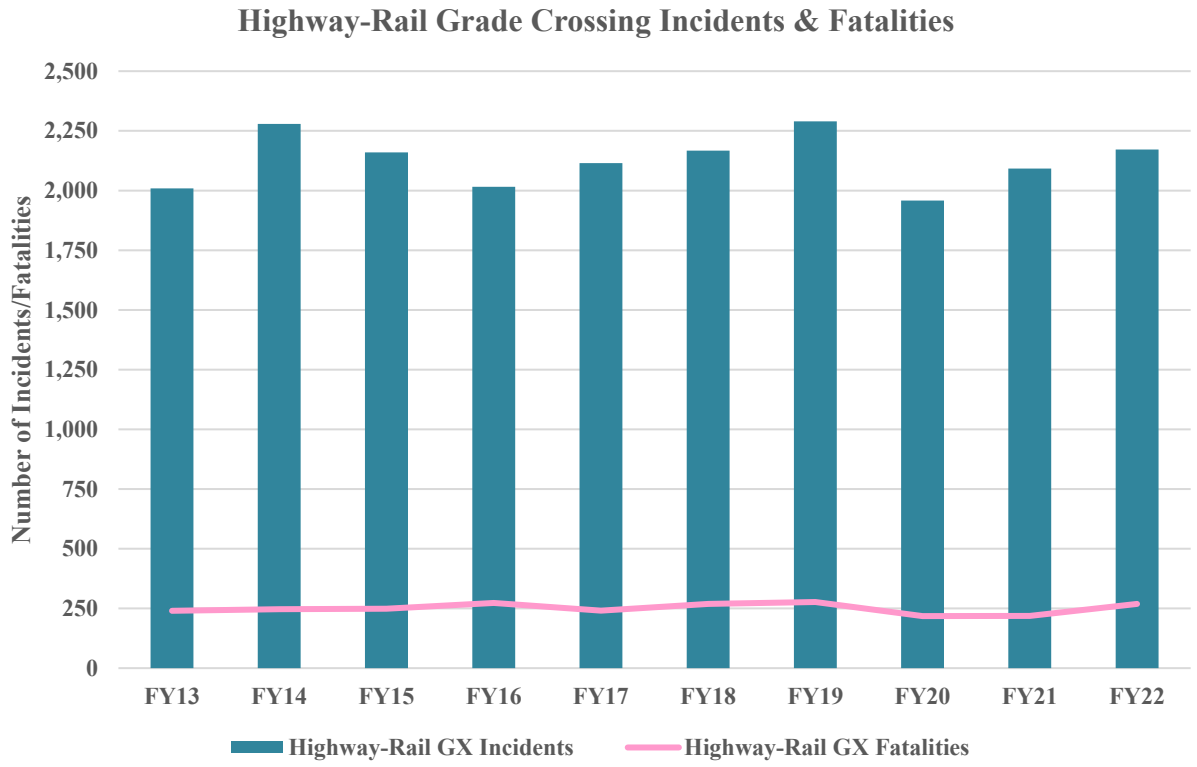
[4] Operation Lifesaver, Inc., 2020 Annual Report, December 2021.

grade crossing projects, this program element could prohibit several states from qualifying for more than a single project for the program. This restriction could also limit the ability of the most complex grade separations from being funded under the program.

- Second, FRA proposes to eliminate the requirement for the Secretary to transfer the management of funds for commuter rail passenger transportation projects to the Federal Transit Administration, and instead provide FRA with the discretion to transfer if in the best interests of the grantee. Commuter Railroads are not eligible program applicants, therefore the mandatory transfer of funds provision should not be required.

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

There are approximately 212,000 public and private grade crossings in the United States and each crossing represents a risk for a potential collision between a train and motor vehicle or pedestrian. Like many other areas of railroad safety, the number of highway-rail grade crossing incidents has markedly improved over the last 40 years—by nearly 80 percent. However, this rate of improvement has stalled over the last decade, with the number of incidents and fatalities remaining roughly flat.



During this timeframe, FRA has examined innovative and non-traditional ways to enhance grade crossing safety, including establishing a new railroad inspector discipline dedicated to grade crossings, investing in data analytics and research to identify trends and root causes, and

conducting stakeholder outreach to states, local communities, and law enforcement to raise awareness of grade crossing safety issues. The missing piece to FRA's comprehensive approach to grade crossing safety has been a lack of sufficient funding to target major grade crossing risk areas on the rail network. The Railroad Crossing Elimination program will help to remedy this deficiency and build a safer rail network.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

ADMINISTRATIVE PROVISIONS
APPROPRIATIONS LANGUAGE

ADMINISTRATIVE PROVISIONS – FEDERAL RAILROAD ADMINISTRATION

[Sec. 150 None of the funds made available by this Act may be used by the National Railroad Passenger Corporation in contravention of the Worker Adjustment and Retraining Notification Act (29 U.S.C. 2101 et seq.).]

Sec. [151]*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. 152 Amounts made available under the heading "Department of Transportation--Federal Railroad Administration--Restoration and Enhancement" in any prior fiscal years are subject to the requirements of section 22908 of title 49, United States Code, as in effect on the effective date of the Infrastructure Investment and Jobs Act (Public Law 117-58).]

[Sec. 153 Section 802 of title VIII of division J of Public Law 117-58 is amended—

(1) in the first proviso, by inserting "that could be" after "amounts"; and
(2) in the second proviso, by inserting "that could be" after "amounts":]

[Provided, That amounts repurposed by the amendments made by this section that were previously designated by the Congress as an emergency requirement pursuant to the Balanced Budget and Emergency Deficit Control Act of 1985 or a concurrent resolution on the budget are designated as an emergency requirement pursuant to section 4001(a)(1) of S. Con. Res. 14 (117th Congress), the concurrent resolution on the budget for fiscal year 2022, and section 1(e) of H. Res. 1151 (117th Congress) as engrossed in the House of Representatives on June 8, 2022.]

[Sec. 154 Of the unobligated balances of funds remaining from—

(1) "Rail Line Relocation and Improvement Program" account totaling $1,811,124.16 appropriated by Public Law 112-10 is hereby permanently rescinded; and
(2) "Railroad Safety Grants" account totaling $1,610,000.00 appropriated by Public Law 114-113 is hereby permanently rescinded.]

[Sec. 155 None of the funds made available to the National Railroad Passenger Corporation may be used to fund any overtime costs in excess of $35,000 for any individual employee: Provided, That the President of Amtrak may waive the cap set in the preceding proviso for specific employees when the President of Amtrak determines such a cap poses a risk to the safety and operational efficiency of the system: Provided further, That the President of Amtrak shall report to the House and Senate Committees on Appropriations no later than 60 days after the date of enactment of this Act, a summary of all overtime payments incurred by Amtrak for 2022 and the 3 prior calendar years: Provided further, That such summary shall include the total number of employees that received waivers and the total overtime payments Amtrak paid to employees receiving waivers for each month for 2022 and for the 3 prior calendar years.]

[Sec. 156 None of the funds made available to the National Railroad Passenger Corporation under the headings "Northeast Corridor Grants to the National Railroad Passenger Corporation" and "National Network Grants to the National Railroad Passenger Corporation" may be used to reduce the total number of Amtrak Police Department uniformed officers patrolling on board passenger trains or at stations, facilities or rights-of-way below the staffing level on May 1, 2019.]

[Sec. 157 It is the sense of Congress that—

(1) long-distance passenger rail routes provide much-needed transportation access for 4,700,000 riders in 325 communities in 40 States and are particularly important in rural areas; and
(2) long-distance passenger rail routes and services should be sustained to ensure connectivity throughout the National Network (as defined in section 24102 of title 49, United States Code).]

[Sec. 158 State-supported routes operated by Amtrak. Section 24712(a) of title 49, United States Code, is hereby amended by inserting after section 24712(a)(7) the following—

"(8) Staffing.--The Committee may—

"(A) appoint, terminate, and fix the compensation of an executive director and other Committee employees necessary for the Committee to carry out its duties; and

"(B) enter into contracts necessary to carry out its duties, including providing Committee employees with retirement and other employee benefits under the condition that Non-Federal members or officers, the executive director, and employees of the Committee are not Federal employees for any purpose.

"(9) Authorization of appropriations.--Amounts made available by the Secretary of Transportation for the Committee may be used to carry out this section.".]

[Sec. 159 For an additional amount for "Consolidated Rail Infrastructure and Safety Improvements", $25,000,000, to remain available until expended, for projects selected in response to the Notice of Funding Opportunity published by the Federal Railroad Administration

on August 19, 2019 (84 FR 42979), and where a grant for the project was obligated after June 1, 2021 and remains open: Provided, That sponsors of projects eligible for funds made available under this heading in this section shall provide sufficient written justification describing, at a minimum, the current project cost estimate, why the project cannot be completed with the obligated grant amount, and any other relevant information, as determined by the Secretary: Provided further, That funds made available under this section shall be allocated to projects eligible to receive funding under this section in order of the date the grants were obligated: Provided further, That the allocation under the preceding proviso will be for the amounts necessary to cover increases to eligible project costs since the grant was obligated, based on the information provided: Provided further, That the amounts made available under this section shall not be part of the Federal share of total project costs under section 22907(h)(2) of title 49, United States Code: Provided further, That the Federal Railroad Administration shall provide the amounts allocated to projects under this section no later than 90 days after the date the sufficient written justifications required under this section have been submitted.]

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 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);

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

Explanation of Changes: Section 151 of FRA's Administrative Provisions provides funding set-aside from FRA's competitive grant programs to states to build their internal rail planning capacity. This set-aside 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. Section 152 of FRA's Administrative Provisions proposes to eliminate the limitation to award not more than 20 percent of grant funds to a single state under the Railroad Crossing Elimination program

and to provide discretion to FRA in transferring Railroad Crossing Elimination funds for projects benefitting commuter railroads to the Federal Transit Administration.

Department of Transportation
FY 2024 Budget
Federal Railroad Administration
Research, Development, & Technology Budget Narrative
(Budget Authority in Thousands)

Budget Account	FY 2022 Enacted	FY 2023 Enacted	FY 2024 Request	Applied	Technology Transfer	Facilities	Experimental Development	Major Equipment, R&D Equipment
Railroad Research and Development	**$43,000**	**$44,000**	**$59,000**	**$45,158**	**$1,495**	**$4,086**	**$6,547**	**$1,714**
Track	8,679	9,859	11,783	10,197	0	0	1,586	0
Rolling Stock	8,822	8,922	10,553	8,843	0	0	1,710	0
Train Control and Communication	7,086	6,586	9,008	8,107	0	0	901	0
Human Factors	5,542	5,762	7,045	6,118	0	0	927	0
Railroad Systems Issues	12,871	12,871	20,611	11,893	1,495	4,086	1,423	1,714
Safety and Operations	**$5,053**	**$4,904**	**$6,441**	**$0**	**$0**	**$0**	**$0**	**$0**
Administrative	5,053	4,904	6,441	0	0	0	0	0
Total R&D Funding, all appropriations	**$48,053**	**$48,904**	**$65,441**	**$45,158**	**$1,495**	**$4,086**	**$6,547**	**$1,714**

Exhibit IV-2 FY 2024 Budget Request – RD&T Program Funding by DOT Strategic Goal

Department of Transportation - FY 2024 Budget
Federal Railroad Administration
Research, Development, & Technology Budget

(Budget Authority in Thousands)

		DOT STRATEGIC GOALS					
ACCOUNT/PROGRAM	**FY 2024 President's Budget**	**SAFETY**	**ECONOMIC STRENGTH**	**EQUITY**	**CLIMATE & SUSTAINABILITY**	**TRANSFORMATION**	**ORGANIZATIONAL EXCELLENCE**
Railroad Research and Development	**$59,000**	**$17,380**	**$2,792**	**$1,417**	**$5,417**	**$28,579**	**$3,417**
Track	11,783	2,357	589	0	0	8,837	0
Rolling Stock	10,553	2,744	528	0	0	7,282	0
Train Control and Communication	9,008	1,351	450	0	0	7,206	0
Human Factors	7,045	5,956	352	**0**	**0**	**737**	**0**
Railroad Systems Issues	20,611	4,972	872	1,417	5,417	4,517	3,417
Safety and Operations	**$6,385**	**$1,881**	**$302**	**$153**	**$586**	**$3,093**	**$370**
Administrative	6,385	1,881	302	153	586	3,093	370
TOTAL	**$65,385**	**$19,260**	**$3,094**	**$1,570**	**$6,003**	**$31,671**	**$3,786**

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 2022: $8.68 million
In FY 2022, this program continued to focus on track-caused derailments by improving inspection technology and processes and improving substructure and rail integrity assessments. Program Managers hosted the *Virtual Track Support and Substructure Symposium* (January 12, 2022) to facilitate information-sharing and increase stakeholder engagement.

Fiscal Year 2023: $9.86 million
Safety research on track structures, track components, systems performance, and systems analysis continues to reduce track-caused derailments to improve safety and minimize environmental impact. Rail performance, track inspection, and track stability research areas will use 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 will improve predictive modeling, and vehicle and track performance research will establish the root causes of rolling contact fatigue methodologies. Rail infrastructure research will improve the safety and state-of-good-repair of bridges, structures, track design, and special track work. New, drone-based inspection technologies will complement existing walking and hi-rail inspection methods. Research will include coordinating with the Federal Aviation Administration's Unmanned Aircraft Systems Integration Office and the rail industry.

Fiscal Year 2024: $11.78 million
The Track 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. Moreover, sorely needed test bed construction at TTC.

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 efficacy of

clean energy and advanced motive power technologies to improve energy efficiency and reduce rail transport emissions.

Fiscal Year 2022: $8.82 million
RS will continue its mission to reduce accidents and improve efficiency through applied research in HazMat transportation, in partnership with the Pipeline and Hazardous Materials Safety Administration and Maritime Administration. Research of VLTs through the continuation of a multi-phase VLT brake research project in collaboration with BNSF Railway.

Fiscal Year 2023: $8.92 million
In FY 2023, RS research will continue to improve safety and environmental mitigation. RS will collaborate with stakeholders to study HazMat tank car failure modes and crash survivability by modeling, destructive testing, disseminating findings, and updating regulations. RS will continue to model in-train forces with the Train Energy and Dynamics Simulator to reduce accident rates. Research on temperature detection and modeling techniques will yield better-performing components that are less likely to fail. Research in railcar passenger safety will continue to test fire-resistant railcar material, egress scenarios, structural integrity, and passenger locomotive crashworthiness.

Fiscal Year 2024: $10.55 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 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, impact on application and release, air brake system leakage on long trains, and 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.

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 Technology Transfer.

Fiscal Year 2022: $7.09 million
In FY 2022, PTC next generation research will identify and develop the methods, facilities, equipment, and capabilities required for providing future industry PTC development. RD&T will evaluate the development of automation technologies to improve grade crossing safety and the development of rail industry-driven standards for communicating grade crossing status to

connected or automated vehicles. This Intelligent Transportation Systems research area builds on 49 CFR Part 234, Grade Crossing Safety and Part 924, Highway Safety Improvement Program.

Fiscal Year 2023: $6.59 million
Interoperability research will develop efficient and reliable controls and automated verification among railroads. TC&C will support the testing and evaluation of cellular vehicle-to-everything communication protocols. TC&C will also publicly demonstrate the feasibility and performance of a rail crossing violation warning system. Collaboration will continue with the Intelligent Transportations Systems Joint Program Office.

TC&C will work 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 will be developed, along with new accident prediction and severity models for grade crossings and models for studying human behavior at grade crossings. Educational tools will be disseminated to the public, including local and State governments, law enforcement agencies, and schools. TC&C will continue to coordinate with the Human Factors (HF) division and Operation Lifesaver, and will also establish an international working group for trespass prevention.

Fiscal Year 2024: $9.01 million
In FY 2024, TC&C will continue to support evolutionary and innovative technologies to ensure 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 new, innovative technologies in automation, AI, and 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, Federal, State, and local agencies. The digitization of crossings will be carried out using LiDAR and or photogrammetry techniques.

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 2022: $5.54 million
In 2022, the HF program will continue to address railroad employee performance, grade crossing safety, trespassing mitigation, and suicide prevention. HF will collaborate with industry partners and railroads to analyze commercially available, anonymized cell phone location data to further understand trespassing behaviors and develop better deterrent measures. In addition, Congress has appropriated funds to improve safety practices and training and develop safety management systems for Class II and Class III freight railroads.

Fiscal Year 2023: $5.76 million
In 2023, the HF program will continue 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 will research head-up display interface designs that support human-automation teaming to improve automated systems. Short Line Safety Institute (SLSI) funding will continue, including an assessment of safety culture change at participating railroads. Collaboration with the FRA Office of Railroad Safety 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 continues, with studies into motorist and trespasser behavior. Coordination with the Global Railway Alliance for Suicide Prevention Program and Operation Lifesaver will mitigate and prevent trespassing and suicide attempts. HF will work 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: $7.05 million
HF will continue research to catalog and survey the various Cautions, Alerts, Warnings, and Status associated with rail automated systems and displayed to engineers and operators. It will also continue operation and maintenance of CTIL simulator, including human subjects research, furnishing expert advice on experimental methodology, and promoting its applicability. Further, HF will continue to explore partnerships with labor, railroads, and academia in leading edge research 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.

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 2022: $12.87 million
Collaborating with the Department of Energy and the Environmental Protection Agency, RSI continues research on electric batteries, hydrogen, and fuel cell technologies; cryogenic fuels; biofuels; and renewable biodiesel. RSI also continues research on workforce challenges in the railroad industry. STEM programs and outreach to minority-serving institutions (MSIs) and historically black colleges and universities (HBCUs), initiated in FY 2021, continue. To address equity in rail, Broad Agency Announcement (BAA) research programs addresses underrepresented groups in the railroad industry.

Moreover, the Department may spend up to $2.1 million in FY22 to erect, alter, and repair buildings and make other improvements at TTC. Funding will also advance new energy and emissions research, which could improve energy efficiency, hasten the transition from traditional diesel fuel locomotives, and spur the development and deployment of low- or no-emission technologies. RSI is also undertaking initiatives to support Workforce Development (WFD) activities, including working with MSIs, and new efforts to address diversity, equity, and inclusion in the railroad workforce.

Fiscal Year 2023: $12.87 million

WFD research activities will address challenges with inclusion and diversity in rail. Research includes industry-wide WFD surveys, projects to attract and retain under-represented people in rail, and funding STEM programs to encourage underrepresented populations to pursue rail-related careers. A WFD consortium will engage industry stakeholders to address workforce trends, share data, and provide insights. University partnerships will focus on MSIs and HBCUs. BAAs will seek innovative ideas from vendors and universities and support the development of a Center of Excellence and a National Railroad Institute. Research will improve rail accessibility standards and explore applications for impaired or challenged rail passengers. In collaboration with RRS, RSI is planning a second climate and sustainability conference, including international participants, that will advance clean energy solutions for railroad applications. This workshop will bring together experts, industry, international partners, and Federal agencies to discuss technologies for the decarbonization of rail. RD&T plans to complete the development and prototype demonstration of hybrid systems and clean energy. Moreover, infrastructure investments will enhance TTC's capabilities and capacity, and address maintenance requirements needed to meet current and future research and test activities.

Fiscal Year 2024: $20.61 million

RSI will make considerable progress with MSIs and HBCUs in its WDF endeavors. It will also continue to fund Research with Universities. Both initiatives fulfill all 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. Each research effort selected has a unique timeframe, generally lasting 1 to 2 years.

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 demonstrate and develop 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 consultation, 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 plans to fund a new Center of Excellence, as authorized by the IIJA. 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.

INFORMATION TECHNOLOGY
DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
BUDGET AUTHORITY

($000)

Budget Account	FY 2022 Enacted	FY 2023 Enacted	FY 2024 President's Budget
Safety and Operations			
Commodity IT SS WCF	$15,962	$17,786	$17,866
Modal IT	$17,162	$16,097	$ 22,075
Financial Assistance Oversight and Technical Assistance			
Modal IT	$0	$0	$813
Total	**$33,124**	**$33,883**	**$ 40,754**

The Federal Railroad Administration (FRA) is requesting **$40.75 million** in FY 2024 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 2024 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 **$17.87 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 2024. 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 **$4.50 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 **$16.18 million** from Safety and Operations and **$0.81 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 2014 - 2023
FEDERAL RAILROAD ADMINISTRATION
($000)

Account	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020 [5/]	FY 2021 [7/]	FY 2022 [9/]	FY 2023 [11/]
Safety and Operations	184,500	186,870	199,000	218,298	221,698	221,698	224,448	234,905	240,757	250,449
Safety and Operations	--	--	(6,710) [2/]	--	--	--	--	--	--	--
Railroad Research and Development	35,250	39,100	39,100	40,100	40,600	40,600	40,600	41,000	43,000	44,000
Railroad Research and Development	--	--	(1,960) [2/]	--	--	--	--	--	--	--
Consolidated Rail Infrastructure and Safety Improvements	--	--	--	68,000	592,547	255,000	325,000	375,000	1,625,000	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
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
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
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
Operating Grants to the National Railroad Passenger Corporation	340,000	250,000	288,500	--	--	--	--	--	--	--
Capital and Debt Service Grants to the National Railroad Passenger Corporation	1,050,000	1,140,000	1,101,500	--	--	--	--	--	--	--
Capital and Debt Service Grants to the National Railroad Passenger Corporation	--	--	(5,000) [2/]	--	--	--	--	(10,458) [8/]	--	--
Grants to the National Railroad Passenger Corporation	--	--	(267) [2/]	13,480 [4/]	--	--	--	--	--	--
Pennsylvania Station Redevelopment Project	--	--	40,200 [3/]	--	--	--	--	--	--	--
Railroad Safety Grants	--	10,000	50,000	--	--	--	--	--	(1,715) [10/]	(1,610) [12/]
Railroad Safety Technology Program	--	--	--	--	--	--	--	(613) [8/]	--	--
Rail Line Relocation and Improvement Program	--	--	(2,241) [2/]	--	--	--	--	(12,650) [8/]	--	(1,811) [12/]
Next Generation High-Speed Rail	(1,973) [1/]	--	(4,945) [2/]	--	--	--	--	(3,035) [8/]	--	--
Northeast Corridor Improvement Program	(4,419) [1/]	--	19,163 [2/]	--	--	--	--	--	--	--
Intercity Passenger Rail Grant Program	--	--	--	--	--	--	--	(10,165) [8/]	--	--
Capital Assistance for High Speed Rail Corridors and Intercity Passenger Rail Service	--	--	--	--	--	--	--	--	(13,327) [10/]	--
Railroad Rehabilitation and Improvement Financing Program (discretionary)	--	--	1,960 [2/]	--	25,000	17,000	-- [6/]	--	--	--
Railroad Rehabilitation and Improvement Financing Program (mandatory)	43,845	31,455	563	1,809	100,371	60,811	-- [6/]	--	--	--
Total FRA Budget Authority	**1,647,203**	**1,657,425**	**1,718,863**	**1,866,687**	**3,191,816**	**2,951,709**	**3,812,048**	**5,520,704**	**16,525,086**	**16,604,028**

Notes:
1/ FY 2014 Omnibus (P.L. 113-76) reflects rescissions on prior year unobligated balances of $4.419M from the Northeast Corridor Improvement Program and $1.973M from the Next Generation High-Speed Rail.
2/ 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.
3/ 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.
4/ 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.
5/ 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.

6/ In FY 2020, the Railroad Rehabilitation and Improvement Financing Program accounts moved to the Office of the Secretary.
7/ 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.
8/ 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.
9/ 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.
10/ 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.
11/ 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.
12/ 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.