BUDGET ESTIMATES

FISCAL YEAR 2016

FEDERAL RAILROAD ADMINISTRATION

SUBMITTED FOR THE USE OF
THE COMMITTEES ON APPROPRIATIONS

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DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FY 2016 PRESIDENT'S BUDGET JUSTIFICATION

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DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

ADMINISTRATOR'S OVERVIEW

Congress established the Federal Railroad Administration (FRA) in the *Department of Transportation Act of 1966.* FRA's mission is to enable the safe, reliable, and efficient movement of people and goods for a strong America, now and in the future. FRA executes this mission through development and enforcement of safety regulations, selective investment in passenger and freight rail services and infrastructure, and research and technology development.

To advance this mission, the fiscal year (FY) 2016 President's Budget requests $5 billion to invest in a National High-Performance Rail System (NHPRS) and to improve rail safety. In total, FRA's request is $3.4 billion more than its FY 2015 enacted level. This amount would support a staffing level of 978.5 full-time equivalents (FTE), an increase of 95 FTE compared to the FY 2015 enacted level.

For FY 2016, the Budget includes $4.8 billion for NHPRS. FY 2016 is the first year of the proposed $29 billion rail reauthorization in the Administration's six-year legislative proposal, the GROW AMERICA Act. This program would maintain current intercity passenger services and infrastructure, expand and improve the rail network, and provide new national and regional system planning for the rail network America needs to accommodate growing passenger and freight demand. Importantly, the Budget requests predictable, dedicated funding to enable rail stakeholders to make and execute plans to invest in the nation's rail system. Within NHPRS, the Budget includes $2.45 billion for the new Current Passenger Rail Service Program and $2.325 billion for the new Rail Service Improvement Program.

FRA's top priority is safety and FY 2014 was one of the safest years on record. Since FY 2005, total train accidents have declined by 46 percent, total derailments have declined by 47 percent, total highway-rail grade crossing incidents have declined by 24 percent. However, progress has slowed in recent years. The regulations and tools FRA has put in place since the *Railroad Safety Improvement Act of 2008* are reaching the limits of their effectiveness. To make further gains, FRA is driving continuous safety improvement through a comprehensive strategy that consists of three pillars.

- Continuing a rigorous, data-driven regulatory and inspection program;
- Advancing proactive approaches to identify and mitigate risk; and
- Strategic capital investments and robust a research and development program.

To continue the decades-long progress in rail safety performance, FRA requests new resources to address today's most pressing rail safety issues.

- Increasing movement of crude oil and other energy products, including ethanol and liquefied natural gas.
- Passenger railroad safety issues that surfaced in the wake of Metro-North accidents.
- Highway-rail grade crossing and pedestrian safety performance.

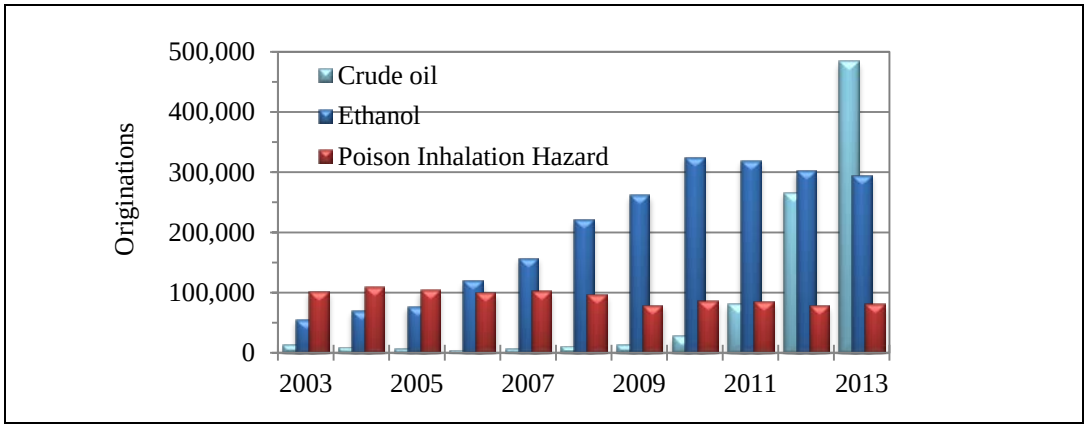
2016 SAFETY INITIATIVE: SAFE TRANSPORTATION OF ENERGY PRODUCTS

$3.4 million in new budget authority

Transportation of crude oil by rail has increased significantly in a short time, driven by new production from the Bakken oil fields in North Dakota and imports from Canada. Bakken crude oil accounted for nearly 300,000 trainloads last year. Estimated trainloads of Bakken crude oil in 2014 are around 408,000. Ethanol and liquefied natural gas production (which also poses transportation risk) also significantly increased during the last decade.

The safety and environmental risks posed by these increased shipments are correspondingly growing. This is a nationwide transportation phenomenon as energy products are shipped from production areas to refineries on the East, West, and Gulf Coasts. Bakken crude oil represents over 70 percent of crude oil that moves by rail. On average a carload of crude oil from North Dakota travels over 1,600 miles, ethanol travels 990 miles, and poison inhalation hazard commodities (such as chlorine and anhydrous ammonia) travel 590 miles. Moreover, the consequences of an accident involving containers of crude oil can be catastrophic. The single accident in Lac Mégantic, Quebec, killed 47 people.

North American Originations of Crude Oil, Ethanol, and Poison Inhalation Hazardous Material, Calendar Years 2003 to 2013



Source: Association of American Railroads, Annual Report of Hazmat Transported by Rail, 2014.

No single approach will make transporting crude oil and other energy products safer. Improved tank car design is part of the solution. Other parts are maintaining and improving track conditions, improving the infrastructure on crude oil routes, and better enabling trains to brake effectively.

To address this growing challenge, FRA requests $2.9 million for 45 new staff positions dedicated to the Safe Transportation of Energy Products (STEP). This includes creation of new Crude Oil Route Manager positions to focus on the nation's five main energy corridors. For the field, FRA requests 40 dedicated crude oil safety inspectors and rail safety specialists to oversee railroads' safety performance and to ensure that next generation tank cars are built to applicable standards. In addition, FRA seeks new funds to expand the coverage of its Automated Track Inspection Program vehicle on routes with heavy traffic of energy products.

Oversight and enforcement are important strategies for making crude oil transportation by rail safer, and so is improving infrastructure. Small railroads and local governments in particular require assistance making such investments. FRA's $250 million Local Rail Facilities and Safety grant program, part of the Rail Service Improvement Program, would fund safety projects, including those involving crude oil and energy products. For example, FRA would encourage small railroads to install electronically controlled pneumatic brakes, which can greatly improve stopping performance and train dynamics.

2016 SAFETY INITIATIVE: PASSENGER RAILROAD SAFETY

$1.9 million in new budget authority

In 2013, four high-profile accidents on the Metro-North railroad killed four people and injured more than 100 others.[1] Following the four accidents, FRA undertook an unprecedented examination of the railroad, called Operation Deep Dive, which revealed Metro-North's emphasis on on-time performance at the expense of safety. This lack of an internal safety culture was the underlying cause of the accidents.

Prior to 2013, the railroad's safety record offered no indication that it was headed towards a calamitous year. This is an example of why FRA is working to advance proactive programs based on system safety that identify hazards, analyze risks, and put in place customized plans to eliminate those risks. This approach is especially critical for improving the safety of passenger railroads, which carry millions of passengers daily.

For FY 2016, FRA requests $1.0 million for 15 new staff positions to develop and implement risk reduction and system safety programs and provide direct oversight and technical assistance to commuter, shared use, and passenger operations. Some of these staff will conduct

[1] Metro-North is the second largest commuter railroad in the United States, serving New York, Connecticut, and New Jersey, with an annual ridership of almost 83 million people.

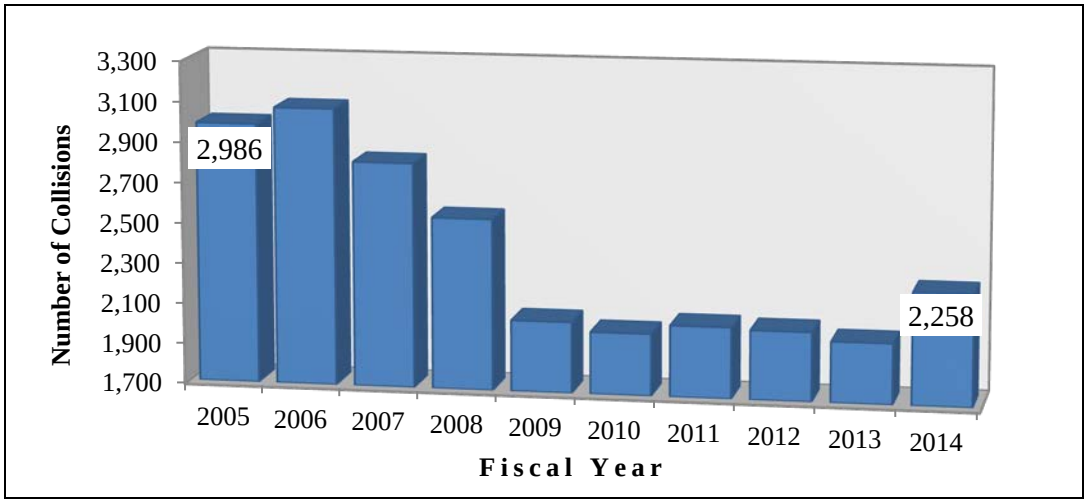
examinations across the Nation similar to Operation Deep Dive. FRA also plans to develop tools to change the culture within railroads that can lead to accidents, including creating the Clear Signal for Action program. This program will support peer coaching as a non-punitive way to identify and stop unsafe practices. Additionally, FRA requests funds to study passenger rail electrification standards to enable train sets from multiple manufacturers to operate successfully in different places.

Positive train control implementation will improve the safety of passenger operations. For example, positive train control would have prevented the Metro-North derailment that occurred when an employee apparently operated a train too quickly around a curve. FRA's NHPRS request includes $825 million for commuter railroads' positive train control compliance plus funding for Amtrak's implementation of positive train control.

2016 SAFETY INITIATIVE: GRADE CROSSING AND PEDESTRIAN SAFETY
$2.2 million in new budget authority

The number of highway-rail grade crossing collisions and related fatalities has decreased over the last 10 years by 24 percent and 27 percent, respectively. However, between the fiscal years 2009 and 2013 the number of collisions plateaued at around 2,033 collisions per year which mirror the trend in highway traffic fatalities. In fiscal year 2014 the number of collisions increased by 12 percent as the economy improved while the number of fatalities has remained unchanged. Moreover, highway-rail grade crossing collisions are the second leading cause of rail-related deaths and the top cause of all railroad accidents.

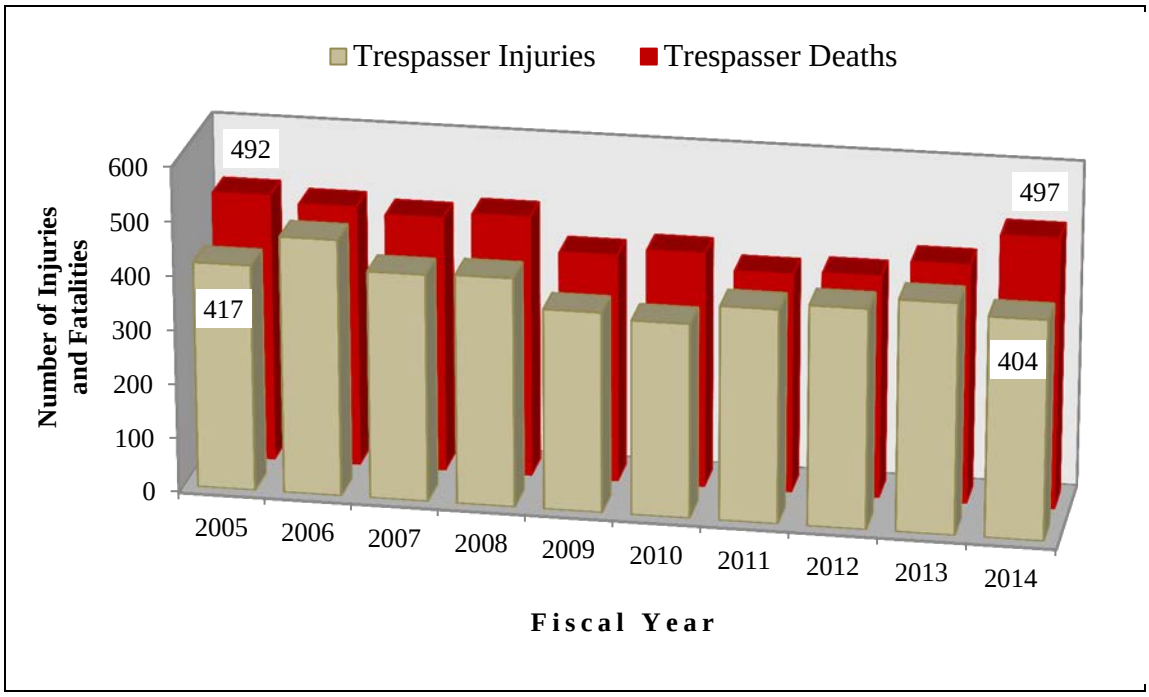
Highway-Rail Grade Crossing Collisions, Fiscal Years 2005 to 2014



Source: FRA data

Similarly, trespass deaths followed the same pattern as highway-rail grade crossings collisions between FY 2009 and 2014. There was an average of 420 fatalities per year between 2009 and 2013 and then an increase of 18 percent in 2014. They are the leading cause of rail-related deaths and accounted for 63 percent of all rail-related fatalities in 2014.

Trespasser Injuries and Fatalities, Fiscal Years 2005 to 2014



Source: FRA data

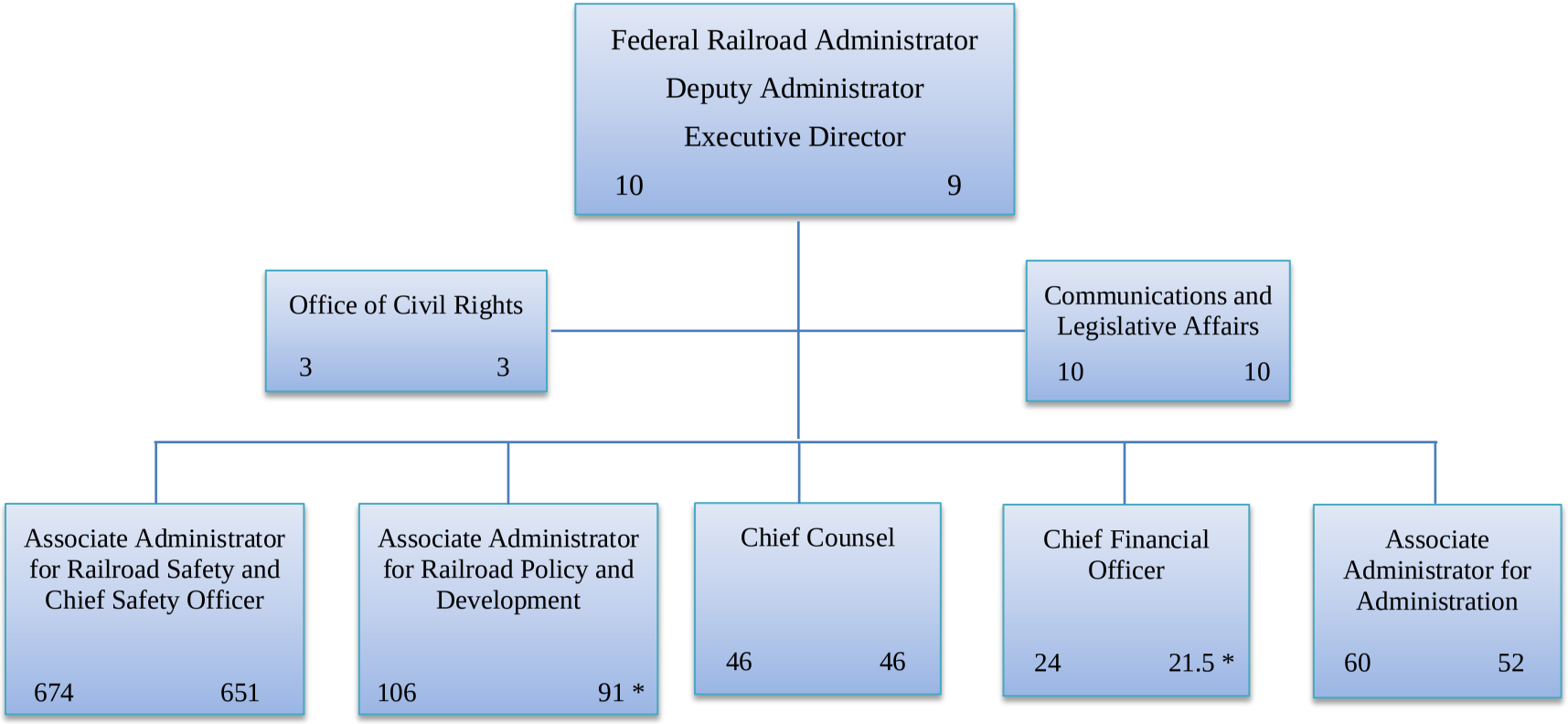
The FRA uses the "3 Es" approach to improve grade crossing safety and to prevent trespassing: education, engineering and enforcement. Starting with education, FRA requests $1.7 million for 16 grade crossing safety manager and eight trespass prevention manager positions. These employees would conduct nationwide safety outreach with the trucking industry, communities, local planners, schools, and others to improve the safety of the nearly 130,000 public highway-rail grade crossings. FRA also seeks funds to bring together trespass prevention experts from freight, commuter, and transit railroads to share and develop new prevention initiatives. Moreover, FRA requests new funds to implement a pilot program to provide targeted and sustained community outreach.

The safest crossing is a closed crossing; therefore, increased funding for capital investment is critical. The proposed $250 million Local Rail Facilities and Safety grant program will enable local communities to build safer highway-rail grade crossings, among other critical improvements.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FY 2015 Organization Chart

933 Full-Time Positions (FTP); 883.5 Full-Time Equivalents (FTE) *

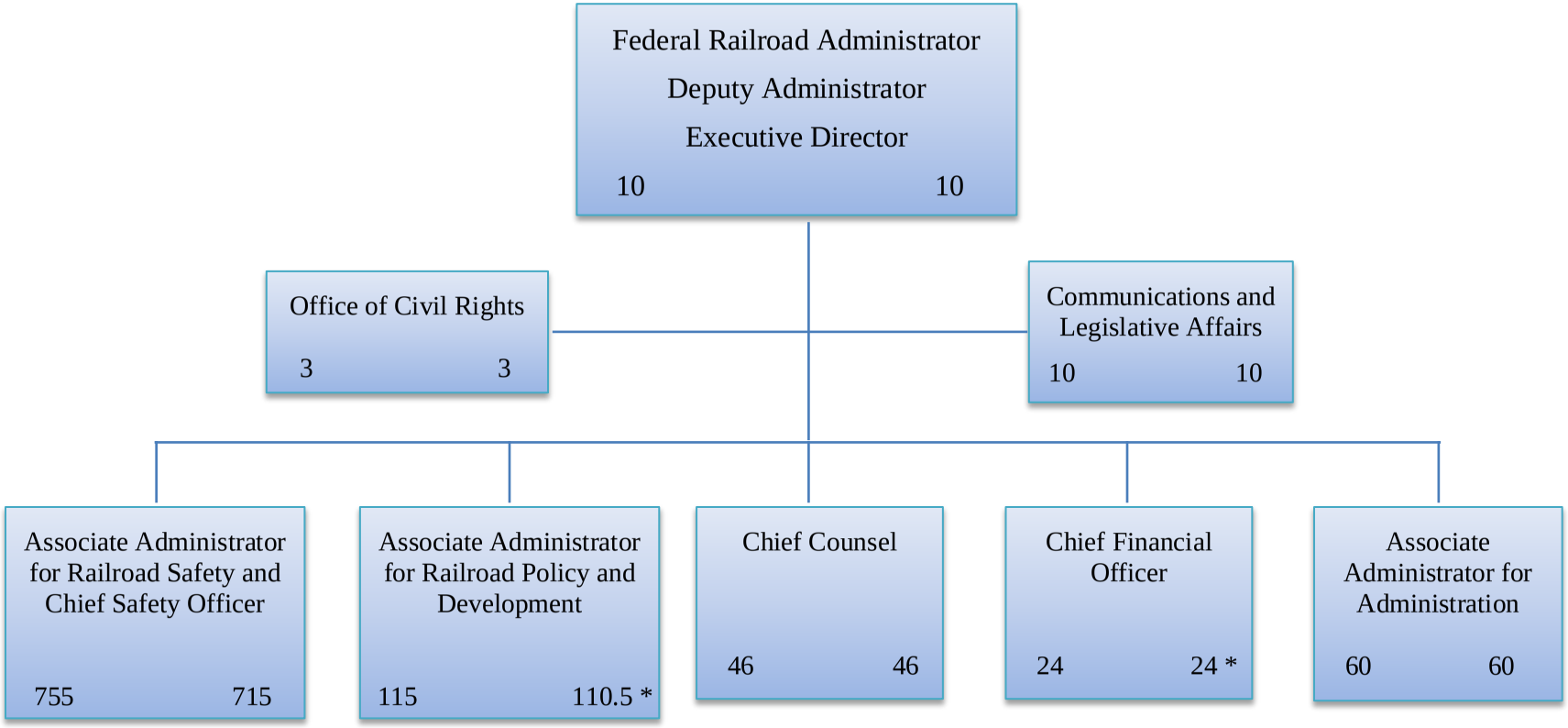


* The number of positions is the estimated number of employees that will be on board at the end of the fiscal year. The FTE total includes 82 FTE funded from the Safety and Operations account and 9 FTE funded by the Capital and Debt Grants to Amtrak and Current Passenger Rail Service accounts and prior year balances in the High-Speed Corridors and Intercity Passenger Rail Service account. The Office of the Chief Financial Officer has 0.5 FTE funded by the Current Passenger Rail account.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FY 2016 Organization Chart

1,023 Full-time Positions (FTP); 978.5 Full-time Equivalents (FTE) *



* The number of positions is the estimated number of employees that will be on board at the end of the fiscal year. The FTE total includes 97 FTE funded from the Safety and Operations account and 13.5 FTE funded by prior year balances in the High-Speed Corridors and Intercity Passenger Rail Service account and the Current Passenger Rail Service and the Rail Service Improvement Program accounts. The Office of the Chief Financial Officer has 1.0 FTE funded by the Current Passenger Rail account.

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EXHIBIT II-1
FY 2016 COMPARATIVE STATEMENT OF NEW BUDGET AUTHORITY
FEDERAL RAILROAD ADMINISTRATION
($000)

Account Name	FY 2014 Actual	FY 2015 Enacted	FY 2016 Request
Safety and Operations	184,500	186,870	203,800
Railroad Research and Development	35,250	39,100	39,250
Railroad Safety Grants	-	10,000	-
Current Passenger Rail Service (TF, Oblim)	-	-	2,450,000
Rail Service Improvement Program (TF, Oblim)	-	-	2,325,000
Operating Subsidy Grants to the National Railroad Passenger Corporation	340,000	250,000	-
Capital and Debt Service Grants to the National Railroad Passenger Corporation	1,050,000	1,140,000	-
Next Generation High-Speed Rail (Unobligated Bal Cancellation)	-	-	-
Rescission	(1,973)	-	-
Subtotal	(1,973)	-	-
Northeast Corridor Improvement Program (Unobligated Bal Cancellation)	-	-	-
Rescission	(4,419)	-	-
Subtotal	(4,419)	-	-
TOTAL	**1,603,358**	**1,625,970**	**5,018,050**
Appropriations	1,609,750	1,625,970	5,018,050
Rescission	(6,392)	-	-

EXHIBIT II-2
FY 2016 TOTAL BUDGETARY RESOURCES BY APPROPRIATION ACCOUNT
FEDERAL RAILROAD ADMINISTRATION
Appropriation, Obligation Limitation, and Exempt Obligations
($000)

Account Name	FY 2014 Actual	FY 2015 Enacted	FY 2016 Baseline Estimates	FY 2016 Program Changes	FY 2016 Request
Safety and Operations	184,500	186,870	195,176	8,624	203,800
Railroad Research and Development	35,250	39,100	39,100	150	39,250
Railroad Safety Grants	-	10,000	10,000	(10,000)	-
Current Passenger Rail Service (TF, Oblim)	-	-	-	2,450,000	2,450,000
Rail Service Improvement Program (TF, Oblim)	-	-	-	2,325,000	2,325,000
Operating Subsidy Grants to the National Railroad Passenger Corporation	340,000	250,000	250,000	(250,000)	-
Capital and Debt Service Grants to the National Railroad Passenger Corporation	1,050,000	1,140,000	1,140,000	(1,140,000)	-
Next Generation High-Speed Rail (Unobligated Bal Cancellation)	(1,973)	-	-	-	-
Northeast Corridor Improvement Program (Unobligated Bal Cancellation)	(4,419)	-	-	-	-
TOTAL	**1,603,358**	**1,625,970**	**1,634,276**	**3,383,774**	**5,018,050**

EXHIBIT II-3

FY 2016 BUDGETARY RESOURCES BY DOT STRATEGIC GOALS AND OUTCOMES

FEDERAL RAILROAD ADMINISTRATION

Appropriations, Obligation Limitations, and Exempt Obligations

($000)

STRATEGIC GOALS AND OBJECTIVE	FY 2014 Actual /1	FY 2015 Enacted	FY 2016 Request
SAFETY	175,124	176,888	1,346,019
STATE OF GOOD REPAIR	729,992	737,348	1,625,000
ECONOMIC COMPETITIVENESS	105,421	106,484	735,190
QUALITY OF LIFE IN COMMUNITIES	420,380	424,616	1,010,190
ENVIRONMENTAL SUSTAINABILITY	145,121	146,583	269,043
ORGANIZATIONAL EXCELLENCE	33,711	34,052	30,570
SECURITY, PREPAREDNESS, AND OTHER SUPPORTING OBJECTIVES	-	-	2,038
TOTAL BUDGETARY RESOURCES	**1,609,750**	**1,625,970**	**5,018,050**

Note: 1/ FY 2014 Actual does not include rescissions of unobligated balances.

EXHIBIT II-3a

FY 2016 BUDGET BY DOT STRATEGIC GOALS AND OUTCOMES
FEDERAL RAILROAD ADMINISTRATION
($000)

DOT STRATEGIC GOAL AND OBJECTIVE	Account	FY 2016 Request
SAFETY		**1,346,019**
	Safety and Operations	132,470
	Current Passenger Rail Service	237,500
	Rail Service Improvement Program	950,000
	Research and Development	26,049
STATE OF GOOD REPAIR		**1,625,000**
	Current Passenger Rail Service	1,625,000
ECONOMIC COMPETITIVENESS		**735,190**
	Safety and Operations	10,190
	Rail Service Improvement Program	725,000
QUALITY OF LIFE IN COMMUNITIES		**1,010,190**
	Safety and Operations	10,190
	Current Passenger Rail Service	350,000
	Rail Service Improvement Program	650,000
ENVIRONMENTAL SUSTAINABILITY		**269,043**
	Safety and Operations	18,342
	Current Passenger Rail Service	237,500
	Research and Development	13,201
ORGANIZATIONAL EXCELLENCE		**30,570**
	Safety and Operations	30,570
SECURITY, PREPAREDNESS, AND OTHER SUPPORTING OBJECTIVES		**2,038**
	Safety and Operations	2,038
TOTAL, FY 2016 REQUEST		**5,018,050**

EXHIBIT II-4
FY 2016 BUDGET AUTHORITY
FEDERAL RAILROAD ADMINISTRATION
Appropriation, Obligation Limitation, and Exempt Obligations
($000)

Account Name	M / D	FY 2014 Actual	FY 2015 Enacted	FY 2016 Program Changes	FY 2016 Request
Safety and Operations	D	**184,500**	**186,870**	**16,930**	**203,800**
Railroad Research and Development	D	**35,250**	**39,100**	**150**	**39,250**
Track Research Program		11,429	11,279	150	11,429
Rolling Stock Program		8,322	10,322	-	10,322
Signals, Train Control & Communications		8,086	8,086	-	8,086
Human Factor Program		3,542	5,542	-	5,542
Railroad System Issues		3,871	3,871	-	3,871
Railroad Safety Grants	D		10,000	(10,000)	-
Current Passenger Rail Service (TF, Oblim)	M	-	-	**2,450,000**	**2,450,000**
Northeast Corridor		-	-	550,000	550,000
State Corridors		-	-	225,000	225,000
Long-Distance Routes		-	-	850,000	850,000
National Assets, Legacy Debt, and Amtrak PTC		-	-	475,000	475,000
Stations - ADA Compliance		-	-	350,000	350,000
Rail Service Improvement Program (TF, Oblim)	M	-	-	**2,325,000**	**2,325,000**
Passenger Corridor		-	-	1,175,000	1,175,000
Commuter Railroads - PTC Compliance		-	-	825,000	825,000
Local Rail Facilities and Safety		-	-	250,000	250,000
Planning and Workforce		-	-	75,000	75,000
Operating Subsidy Grants to the National Railroad Passenger Corporation (Rebased) [1/]	M	**340,000**	**250,000**	**(250,000)**	-
Capital and Debt Service Grants to the National Railroad Passenger Corporation (Rebased) [1/]	M	**1,050,000**	**1,140,000**	**(1,140,000)**	-
Next Generation High-Speed Rail (Unobligated Bal Cancellation)	D	**(1,973)**	-	-	-
Northeast Corridor Improvement Program (Unobligated Bal Cancellation)	D	**(4,419)**	-	-	-
Railroad Rehabilitation and Improvement Financing Program Account	M	**43,845**	**31,455**	-	-
Railroad Rehabilitation and Improvement Liquidating Account -- Offsetting Collections	M	**(77)**	-	-	-
TOTAL		**1,647,126**	**1,657,425**	**3,392,080**	**5,018,050**
Mandatory		1,433,768	1,421,455	4,775,000	4,775,000
Discretionary		213,358	235,970	(1,382,920)	243,050

Note:

1/ These accounts were funded with discretionary authority. The FY 2016 Budget reclassifies this baseline spending as mandatory contract authority to properly account for existing spending when comparing our FY 2016 reauthorization proposal to FY 2015 enacted spending levels.

EXHIBIT II-5
FY 2016 OUTLAYS
FEDERAL RAILROAD ADMINISTRATION
($000)

Account Name	M/D	FY 2014 Actual	FY 2015 Enacted	FY 2016 Request
Safety and Operations	D	193,219	193,000	183,000
Railroad Research and Development	D	44,051	45,803	40,317
Railroad Safety Grants	D	-	1,000	4,000
Grants to the National Railroad Passenger Corporation	D	134,076	78,146	49,130
Operating Grants to the National Railroad Passenger Corporation [1/]	M	340,000	250,000	-
Capital and Debt Service Grants to the National Railroad Passenger Corporation [1/]	M	893,338	1,131,349	199,649
Intercity Passenger Rail Grant Program	D	28,886	17,120	13,934
Northeast Corridor Improvement Program	D	-	1,000	-
Pennsylvania Station Redevelopment Project	D	11,477	14,267	9,730
Capital Grants to the National Railroad Passenger Corporation (ARRA)	D	(472)	-	-
Capital Assistance for High Speed Rail Corridors and Intercity Passenger Rail Service (ARRA) [1/]	M	1,006,967	-	-
Capital Assistance for High Speed Rail Corridors and Intercity Passenger Rail Service [1/]	M	86,772	1,812,118	2,688,795
Railroad Rehabilitation and Improvement Program - Liquidating Account (Offsetting collections)	M	(77)	-	-
Railroad Rehabilitation and Improvement Program - Program Account (Upward Reestimates)	M	43,845	31,455	-
Next Generation High-Speed Rail	D	515	3,337	3,337
Emergency Railroad Rehabilitation and Repair	D	1,147	1,913	-
Rail Line Relocation and Improvement Program	D	20,159	11,658	11,658
Railroad Safety Technology Program	D	7,533	10,000	-
Current Passenger Rail Service	M	-	-	1,376,000
Rail Service Improvement Program	M	-	-	438,400
Total		**2,811,436**	**3,602,166**	**5,017,950**
Mandatory	M	*2,370,845*	*3,224,922*	*4,702,844*
Discretionary	D	*440,591*	*377,244*	*315,106*

Note:
1/ These accounts were funded with discretionary authority. The FY 2016 Budget reclassifies this baseline spending as mandatory contract authority to properly account for existing spending when comparing our FY 2016 reauthorization proposal to FY 2015 enacted spending levels

EXHIBIT II-6
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
FEDERAL RAILROAD ADMINISTRATION
Appropriations, Obligation Limitations, and Exempt Obligations

SAFETY AND OPERATIONS
($000)

		Baseline Changes									
	FY 2015 Enacted	**Annualization of 2015 Pay Raises**	**Annualization of 2015 FTE**	**2016 Pay Raises**	**One Additional Compensable Day**	**GSA Rent**	**WCF Increase/ Decrease**	**Inflation/ Deflation**	**FY 2016 Baseline Estimate**	**Program Increases/ Decreases**	**FY 2016 Request**
DIRECT:											
PERSONNEL RESOURCES											
Direct FTE	874	-	44.5	-	-	-	-	-	918.5	45.5	964
FINANCIAL RESOURCES											
ADMINISTRATIVE EXPENSES											
Salaries and Benefits	118,505	316	5,728	1,251	452	-	-	-	126,252	5,861	132,113
Travel	9,889	-	-	-	-	-	-		9,889		9,889
Transportation	57	-	-	-	-	-	-	-	57	-	57
GSA Rent	6,500	-	-	-	-		-	-	6,500		6,500
Communications, Rent & Utilities	215	-	-	-	-	-	-		215	348	563
Printing	300	-	-	-	-	-	-	-	300	-	300
Other Services	13,260	-	-	-	-	-	-	-	13,260		13,260
WCF	7,734	-	-	-	-	-	559	-	8,293	-	8,293
Supplies and Materials	592	-	-	-	-	-		-	592	-	592
Equipment	1,901	-	-	-	-	-	-	-	1,901		1,901
Grants, subsidies, contributions	1,302	-	-	-	-	-	-	-	1,302	-	1,302
Insurance Claims	29	-	-	-	-	-	-	-	29	-	29
Admin Subtotal	**160,284**	**316**	**5,728**	**1,251**	**452**	**-**	**559**	**-**	**168,590**	**6,209**	**174,799**
PROGRAMS											
Automated Track Inspection Program	9,300	-	-	-	-	-	-	-	9,300	500	9,800
Close Call Confidential Reporting System	4,500	-	-	-	-	-	-	-	4,500	-	4,500
RSIS/Data Management	3,425	-	-	-	-	-	-	-	3,425	-	3,425
Other Safety Programs	3,289	-	-	-	-	-	-	-	3,289	-	3,289
Worker's Comp/Alaska Railroad Liabilities	1,757	-	-	-	-	-	-	-	1,757	-	1,757
Operation Life Saver	1,053	-	-	-	-	-	-	-	1,053	415	1,468
PTC Support	933	-	-	-	-	-	-	-	933	-	933
High Speed Rail Certification	872	-	-	-	-	-	-	-	872	-	872
Security, Other Security Grants	565	-	-	-	-	-	-	-	565	-	565
RSAC	462	-	-	-	-	-	-	-	462	-	462
RRIF Support	430	-	-	-	-	-	-	-	430	350	780
Clear Signal For Action	-	-	-	-	-	-	-	-	-	750	750
Electrification Study	-	-	-	-	-	-	-	-	-	200	200
Trespass Prevention Workshop	-	-	-	-	-	-	-	-	-	200	200
Programs Subtotal	**26,586**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**26,586**	**2,415**	**29,001**
TOTAL	**186,870**	**316**	**5,728**	**1,251**	**452**	**-**	**559**	**-**	**195,176**	**8,624**	**203,800**

EXHIBIT II-6
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
FEDERAL RAILROAD ADMINISTRATION
Appropriations, Obligation Limitations, and Exempt Obligations

RAILROAD RESEARCH AND DEVELOPMENT
($000)

	FY 2015 Enacted	Annualization of 2015 Pay Raises	Annualization of 2015 FTE	2016 Pay Raises	One Additional Compensable Day	GSA Rent	WCF Increase/ Decrease	Inflation/ Deflation	FY 2016 Baseline Estimate	Program Increases/ Decreases	FY 2016 Request
PERSONNEL RESOURCES											
Direct FTE	-	-	-	-		-	-	-	-	-	-
FINANCIAL RESOURCES											
ADMINISTRATIVE EXPENSES											
Travel	120	-	-	-	-	-	-	-	120	-	120
Advisory and assistance services	900	-	-	-	-	-	-	-	900	-	900
Admin Subtotal	**1,020**	-	-	-	-	-	-	-	**1,020**	-	**1,020**
PROGRAMS											
Track Research Program	10,850	-	-	-	-	-	-	-	10,850	150	11,000
Rolling Stock Program	10,072	-	-	-	-	-	-	-	10,072	-	10,072
Signals, Train Control & Communications	8,000	-	-	-	-	-	-	-	8,000	-	8,000
Human Factors Program	5,522	-	-	-	-	-	-	-	5,522	-	5,522
Railroad System Issues	3,636	-	-	-	-	-	-	-	3,636	-	3,636
Programs Subtotal	**38,080**	-	-	-	-	-	-	-	**38,080**	150	**38,230**
TOTAL	**39,100**	-	-	-	-	-	-	-	**39,100**	150	**39,250**

EXHIBIT II-6
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
FEDERAL RAILROAD ADMINISTRATION
Appropriations, Obligation Limitations, and Exempt Obligations

RAILROAD SAFETY GRANTS
($000)

	FY 2015 Enacted	Annualization of 2015 Pay Raises	Annualization of 2015 FTE	2016 Pay Raises	One Additional Compensable Day	GSA Rent	WCF Increase/ Decrease	Inflation/ Deflation	FY 2016 Baseline Estimate	Program Increases/ Decreases	FY 2016 Request
PERSONNEL RESOURCES											
Direct FTE	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES											
ADMINISTRATIVE EXPENSES											
Admin Subtotal	-	-	-	-	-	-	-	-	-	-	-
PROGRAMS											
Railroad Safety Grants											
Railroad Safety Grants	10,000	-	-	-	-	-	-	-	10,000	(10,000)	-
Programs Subtotal	**10,000**	-	-	-	-	-	-	-	**10,000**	**(10,000)**	-
TOTAL	**10,000**	-	-	-	-	-	-	-	**10,000**	**(10,000)**	-

EXHIBIT II-6
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
FEDERAL RAILROAD ADMINISTRATION
Appropriations, Obligation Limitations, and Exempt Obligations

AMTRAK / CURRENT PASSENGER RAIL SYSTEM
($000)

	FY 2015 Enacted	Annualization of 2015 Pay Raises	Annualization of 2015 FTE	2016 Pay Raises	One Additional Compensable Day	GSA Rent	WCF Increase/ Decrease	Inflation/ Deflation	FY 2016 Baseline Estimate	Program Increases/ Decreases	FY 2016 Request
PERSONNEL RESOURCES											
Direct FTE [1/]	5.5	-	1.5	-	-	-	-	-	7.0	-	7.0
FINANCIAL RESOURCES											
ADMINISTRATIVE EXPENSES											
Salaries and Benefits	732	2	199	9	3	-	-	-	945	-	945
Travel	150	-	-	-	-	-	-	-	150	80	230
Advisory and assistance services											
Contracts	4,818	-	-	-	-	-	-	-	4,605	6,470	11,075
Grants, Subsidies and											
Contributions	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	**5,700**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**5,700**	**6,550**	**12,250**
PROGRAMS											
Current Passenger Rail Service	-	-	-	-	-	-	-	-	-	**2,437,750**	**2,437,750**
Northeast Corridor	-	-	-	-	-	-	-	-	-	547,250	547,250
State Corridors	-	-	-	-	-	-	-	-	-	223,875	223,875
Long-Distance Routes	-	-	-	-	-	-	-	-	-	845,750	845,750
National Assets, Legacy Debt and Amtrak PTC	-	-	-	-	-	-	-	-	-	472,625	472,625
Stations - ADA Compliance	-	-	-	-	-	-	-	-	-	348,250	348,250
Operating Subsidy Grants to Amtrak	250,000	-	-	-	-	-	-	-	250,000	(250,000)	-
Capital and Debt Service Grants to Amtrak	1,134,300	-	-	-	-	-	-	-	1,134,300	(1,134,300)	-
Programs Subtotal	**1,384,300**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1,384,300**	**1,053,450**	**2,437,750**
TOTAL	**1,390,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1,390,000**	**1,060,000**	**2,450,000**

Notes:

1/ In FY 2016, FRA proposes transferring 5.5 FTE funded with Amtrak oversight funding to the Current Passenger Rail Service program.

EXHIBIT II-6
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
FEDERAL RAILROAD ADMINISTRATION
Appropriations, Obligation Limitations, and Exempt Obligations

RAIL SERVICE IMPROVEMENT PROGRAM
($000)

	FY 2015 Enacted	Annualization of 2015 Pay Raises	Annualization of 2015 FTE	2016 Pay Raises	One Additional Compensable Day	GSA Rent	WCF Increase/ Decrease	Inflation/ Deflation	FY 2016 Baseline Estimate	Program Increases/ Decreases	FY 2016 Request
PERSONNEL RESOURCES											
Direct FTE	-	-	-	-	-	-	-	-	-	2.5	2.5
FINANCIAL RESOURCES											
ADMINISTRATIVE EXPENSES											
Salaries and Benefits	-	-	-	-	-	-	-	-	-	338	338
Travel	-	-	-	-	-	-	-	-	-	306	306
Advisory and assistance services Contracts	-	-	-	-	-	-	-	-	-	22,606	22,606
Research and Development Contracts	-	-	-	-	-	-	-	-	-	-	-
Grants, Subsidies and Contributions	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	-	-	-	-	-	-	-	-	-	**23,250**	**23,250**
PROGRAMS											
Rail Service Improvement Program											
Passenger Corridor	-	-	-	-	-	-	-	-	-	1,163,250	1,163,250
Commuter Railroads - PTC Compliance	-	-	-	-	-	-	-	-	-	816,750	816,750
Local Rail Facilities and Safety	-	-	-	-	-	-	-	-	-	247,500	247,500
Planning and Workforce	-	-	-	-	-	-	-	-	-	74,250	74,250
Programs Subtotal	-	-	-	-	-	-	-	-	-	**2,301,750**	**2,301,750**
TOTAL	-	-	-	-	-	-	-	-	-	**2,325,000**	**2,325,000**

EXHIBIT II-7
WORKING CAPITAL FUND
FEDERAL RAILROAD ADMINISTRATION
($000)

	FY 2014 Actual	FY 2015 Enacted	FY 2016 Request	Change FY2015 -2016
DIRECT:				
Safety and Operations	7,339	7,734	8,293	559
SUBTOTAL, DIRECT	**7,339**	**7,734**	**8,293**	**559**
TOTAL	**7,339**	**7,734**	**8,293**	**559**

EXHIBIT II-8
FEDERAL RAILROAD ADMINISTRATION
PERSONNEL RESOURCE -- SUMMARY
TOTAL FULL-TIME EQUIVALENTS

	FY 2014 Actual	FY 2015 Enacted	FY 2016 Request
DIRECT FUNDED BY APPROPRIATION			
Safety and Operations	847.0	874.0	964.0
Capital Assistance for High-Speed and Intercity Rail	3.0	4.0	5.0
Capital and Debt Service Grants to Amtrak	1.0	5.5	-
Current Passenger Rail Service	-	-	7.0
Rail Service Improvement Program	-	-	2.5
TOTAL FTEs	**851.0**	**883.5**	**978.5**

EXHIBIT II-9
FEDERAL RAILROAD ADMINISTRATION
RESOURCE SUMMARY – STAFFING
FULL-TIME PERMANENT POSITIONS [1]

	FY 2014 Actual	FY 2015 Enacted	FY 2016 Request
DIRECT FUNDED BY APPROPRIATION			
Safety and Operations	828	920	1,006
Capital Assistance for High-Speed and Intercity Rail	4	6	5
Capital and Debt Service Grants to Amtrak	4	7	-
Current Passenger Rail Service	-	-	7
Rail Service Improvement Program	-	-	5
TOTAL POSITIONS	**836**	**933**	**1,023**

Notes:

1/ Includes term and other than full time permanent positions.

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, **[**$186,870,000**]** *$203,800,000* of which **[**$15,400,000**]** *$15,900,000* shall remain available until expended.

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EXHIBIT III-1

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

	FY 2014 Actual	FY 2015 Enacted	FY 2016 Request	Change FY 2015-2016
Safety and Operations	$184,500	$186,870	$203,800	$16,930
TOTAL	**$184,500**	**$186,870**	**$203,800**	**$16,930**
Full-Time Equivalents				
Direct Funded	**828.0**	**874.0**	**964.0**	**90.0**

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 rail safety inspectors, and other program activities including contracts. Resources are also provided to fund information management, research and technology, safety education, and outreach.

EXHIBIT III-1a
SAFETY AND OPERATIONS
SUMMARY ANALYSIS OF CHANGE FROM FY 2015 TO FY 2016
Appropriations, Obligations, Limitations, and Exempt Obligations
($000)

Item	Change from FY 2015 to FY 2016 $000	FTE
FY 2015 ENACTED	**186,870**	**874.0**
ADJUSTMENTS TO BASE:		
Administrative Adjustments to Base	7,747	44.5
Annualization of FY 2015 FTE	*5,728*	*44.5*
Annualization of FY 2015 Pay Raise	*316*	-
FY 2016 Pay Raise	*1,251*	-
One More Compensable Day	*452*	-
Working Capital Fund	559	-
Subtotal, Adjustments to Base	**8,306**	**44.5**
NEW OR EXPANDED PROGRAMS:		
Personnel Increases	6,209	45.5
Clear Signal for Action	750	-
Automated Track Inspection Program	500	
Operation Lifesaver	415	-
Electrification Study	200	-
Grade Crossing and Trespass Prevention Workshop	200	-
Subtotal, New or Expanded Programs	**8,624**	**45.5**
TOTAL, FY 2016 REQUEST	**203,800**	**964.0**

EXHIBIT III-2

ANNUAL PERFORMANCE RESULTS AND TARGETS
FEDERAL RAILROAD ADMINISTRATION

FRA integrates performance results into its budget request in alignment with Department of Transportation's strategic plan. FRA's Safety and Operations account primarily supports FRA's safety activities and the safety goal:

DOT Strategic Goal: Safety—Improve public health and safety by reducing transportation-related fatalities and injuries

Strategic Objective: Improve the safety of the transportation system by addressing behavior, vehicle, and infrastructure safety issues through the innovative and effective use of partnerships, programs, and resources.

Performance Goal: Reduce the rate of rail-related accidents and incidents per million train-miles to no more than 15.890 by the end of FY 2016.*

	2012	2013	2014	2015	2016
Target	16.300	16.300	16.150	15.900	15.890
Actual	15.251	15.152	15.748	---	---

* Targets and actual data are subject to change and might differ from prior year budget materials based on the latest information available as of January 2015.

These funds also support DOT's **organizational excellence goal** – develop an innovative, world-class organization to advance the U.S. transportation system and serve the Nation's long-term safety, social, economic, security, and environmental needs strategic objectives – and the related strategic objectives:

- Build a capable, diverse, and collaborative workforce of highly skilled, innovative, and motivated employees by making FRA a workplace of choice through employee empowerment and engagement, learning and development, succession planning, workplace flexibilities, and a healthy and safe workforce.

- Advance secure and innovative information systems and technology platforms that protect against cyber threats and support the efficient use of information and data for financial management.

DOT has not established mode-specific performance goals for these objectives.

DETAILED JUSTIFICATION FOR RAILROAD SAFETY AND OPERATIONS

What Is The Request And What Funds Are Currently Spent on the Program?

FY 2016 - Safety and Operations - Budget Request
($000)

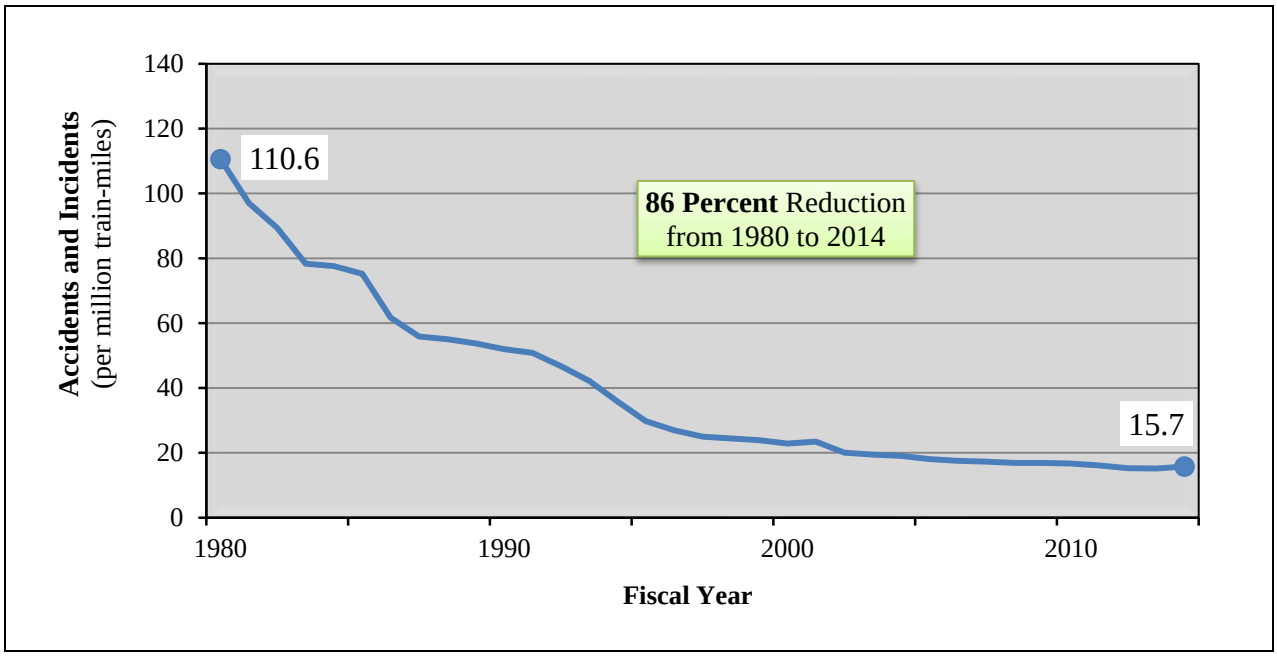
Account	FY 2014 Actual	FY 2015 Enacted	FY 2016 Request	Difference from FY 2015 Enacted
Safety and Operations	$184,500	$186,870	$203,800	$16,930

What is This Program and Why is it Necessary?

The Safety and Operations (S&O) account funds nearly all of FRA's safety-related program activities as well as FRA's personnel and administrative costs. It is necessary so FRA can carry out its mission of enabling the safe, reliable, and efficient transportation of people and goods for a strong America, now and in the future.

FRA's top priority is safety and FY 2014 was one of the safest years on record. Since FY 2005, total train accidents have declined by 46 percent, total derailments have declined by 47 percent, and total highway-rail grade crossing incidents have declined by 24 percent. However, progress has slowed in recent years as the regulations and tools put in place since the *Railroad Safety Improvement Act of 2008* are reaching the limits of their effectiveness.

Number of Train Accidents and Incidents
Per Million Train-Miles
Fiscal Years 1980 to 2014



Source: FRA data.

To make further gains, FRA is driving continuous safety improvement through a comprehensive strategy that consists of three pillars:

- Continuing a rigorous, data-driven regulatory and inspection program
- Advancing proactive approaches to identify and mitigate risk
- Strategic capital investments and a robust research and development program

FRA's FY 2016 budget request targets resources at today's most pressing rail safety issues:

- Increasing movement of crude oil and other energy products, including ethanol and liquefied natural gas
- Passenger railroad safety issues that surfaced in the wake of Metro-North accidents
- Highway-rail grade crossing and pedestrian safety performance

Advancing Railroad Safety

FRA's Office of Railroad Safety, headed by the Associate Administrator for Railroad Safety and Chief Safety Officer, oversees, regulates, and enforces the safety of railroad operations nationwide. The office actively supports the development of high-speed and intercity passenger rail, shared-use operations and proposed passenger rail operations, including line extensions, and the Nation's passenger rail operations.

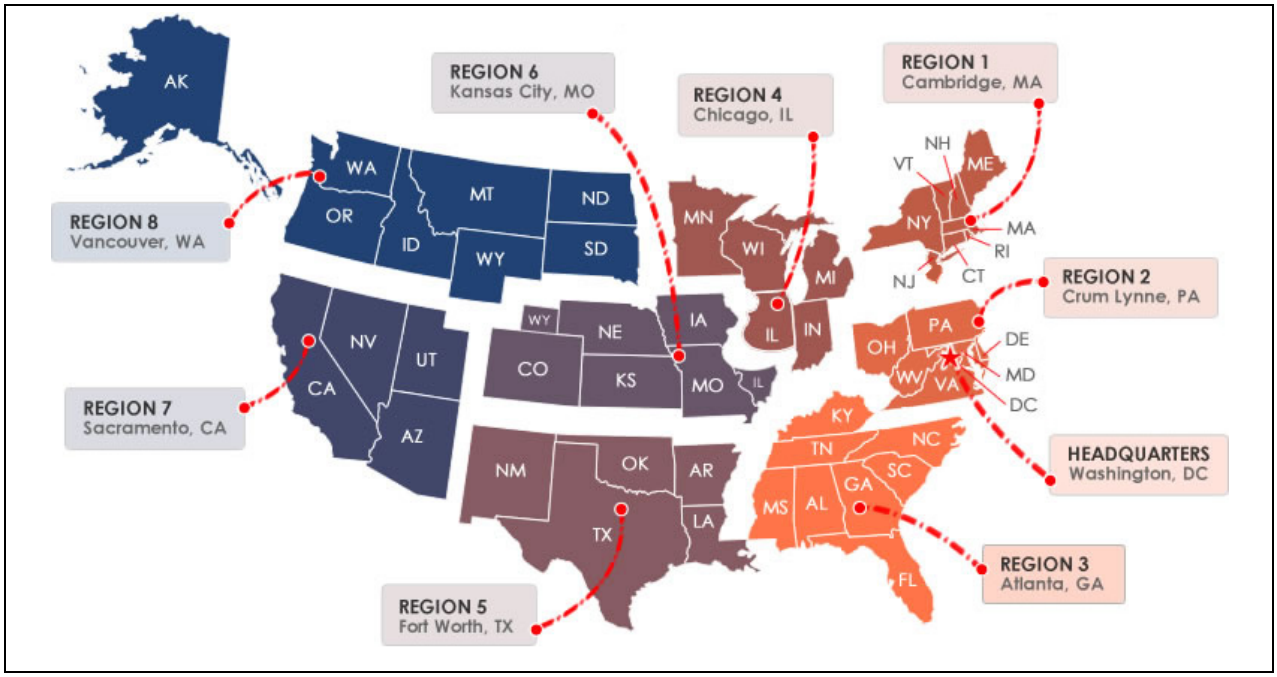
FRA executes its regulatory and inspection responsibilities through a diverse staff of railroad safety experts, inspectors, and other professionals. FRA inspectors specialize in five safety disciplines. Below is the planned distribution of rail safety inspectors in FY 2015 based on FRA's staffing allocation process and a map showing the territory of each region:

Distribution of FRA FY 2015 Rail Safety Inspectors

By Safety Discipline and Geographic Region

Safety Discipline	FRA Region								Total
	1	2	3	4	5	6	7	8	
Motive Power and Equipment	7	13	13	14	12	10	7	8	84
Operating Practices	8	12	11	11	12	10	8	9	81
Track	9	11	12	9	13	9	8	10	81
Signal and Train Control	7	9	8	7	6	7	7	6	57
Hazardous Materials	4	7	9	8	11	7	5	8	59
Total Rail Safety Inspectors	**35**	**52**	**53**	**49**	**54**	**43**	**35**	**41**	**362**

FRA Safety Regions



In addition, FRA's field components include program managers for highway-rail grade crossing safety, trespass prevention, rail and infrastructure integrity experts, positive train control specialists, and industrial hygienists.

FY 2014 FRA Safety Program Accomplishments:

- The Confidential Close Call Reporting System (C^3RS) added five shortline and passenger railroads (including Metro-North Railroad), and expanded Amtrak's participation to its mechanical and engineering crafts.
- To address grade crossing safety, FRA issued a final rule requiring emergency notification systems so users can report safety issues promptly.
- To address track-caused accidents, FRA issued a final rule on rail integrity that will help identify rail flaws and further reduce the risk of track-caused derailments.
- FRA issued final rules on passenger train emergency systems and preparedness, critical incident stress plans, and roadway worker protection (focused on adjacent track).
- FRA also began developing a rulemaking on train securement to help prevent accidents similar to the one in Lac-Mégantic.
- In response to several high-profile accidents and incidents, FRA conducted two in-depth safety assessments—Metro-North and Metra—of the railroads' compliance with Federal regulations and their safety cultures. Following the safety assessments, FRA made recommendations to the railroads that will improve their safety performance.

FY 2015 Funding for Major Safety Programs:

In addition to providing outreach and conducting oversight and enforcement, FRA plans to spend about $25 million this fiscal year on rail safety activities including the following major programs (budget amounts are estimates and exclude personnel costs).

Automated Track Inspection Program (ATIP) *FY 2015 Budget: $9.3 million*

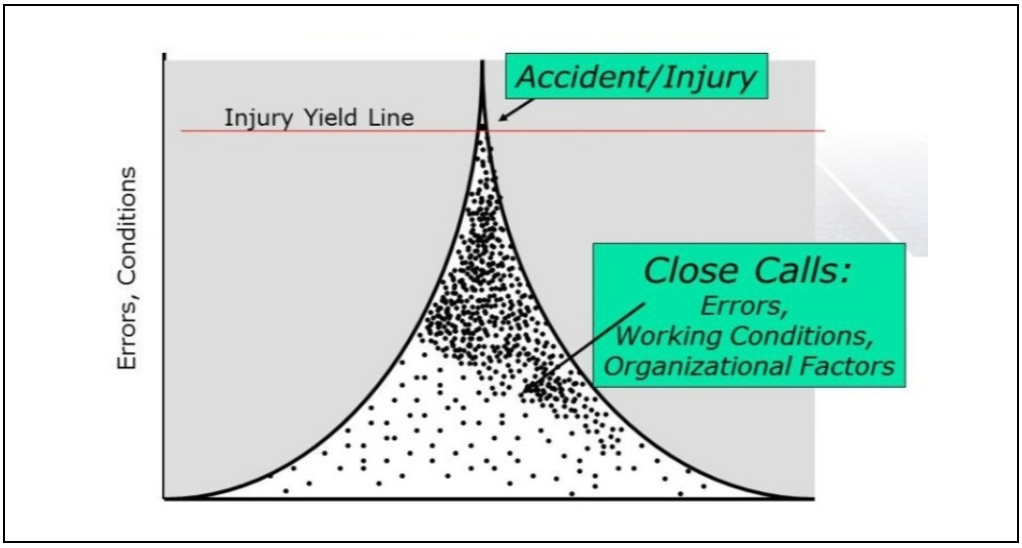
ATIP is a critical tool for FRA's safety compliance program. The vision for the program is to provide objective information to target FRA safety oversight and enforcement activities, to audit railroad track safety compliance, and to determine the state-of-good repair of the Nation's railroads.

Through accurate, comprehensive, and objective automated inspections, ATIP supplements the work of FRA's inspectors to assure railroads are compliant with the FRA Track Safety Standards. ATIP provides information for risk-based planning to ensure inspection resources are used effectively. It also generates comprehensive infrastructure diagnostics to notify railroads of major safety risks, and it supports research that is used by the Railroad Safety Advisory Committee to improve FRA's track safety regulations.

Confidential Close Call Reporting System (C^3RS) *FY 2015 Budget: $4.5 million*

This program enables railroad employees to report near misses anonymously. The anonymity is critical because it alleviates employees' fear of retribution. The data is collected by a third party through this system, and provides insights into potential problem areas before accidents occur, which is central to FRA's push for continuous safety improvement. As part of a proactive approach to reducing accidents, injuries, and fatalities through continuous evaluation and management of safety risks, FRA is working to analyze risks, identify hazards, and put in place customized plans for railroads to eliminate those risks. C^3RS allows FRA and the railroads to develop safety strategies before accidents occur. Results from one C^3RS pilot site indicate a nearly 70 percent reduction in certain accidents. In FY 2014, FRA began expanding C^3RS nationwide based on railroad industry support and positive evaluations of pilot projects to date.

Illustrative Comparison of Information Available from Post-Accident and Close Call Data Collection



Source: FRA

Railroad Safety Information System (RSIS) and Data Management *FY 2015 Budget: $3.425 million*

The Railroad Safety Information System (RSIS) is FRA's principal repository of safety data. This system provides the support required to implement and enforce the safety regulations that have data collection and management requirements. FRA has either released, or is preparing to release the following rules that require railroads to report through RSIS:

- Training standards for safety related railroad employees
- Risk reduction programs for freight railroads
- Railroad system safety programs for passenger railroads
- Hours of service recordkeeping
- National highway-rail crossing inventory
- Conductor certification; and
- Positive Train Control

FRA is working to enhance the RSIS data management system by increasing the capabilities of the current platform for collecting, tracking, analyzing, and reporting electronic data submissions, evaluation of effectiveness, and ensuring compliance with new regulations.

High-Speed Rail Safety System Certification *FY 2015 Budget: $0.872 million*

This effort will enable FRA to meet ARRA mandates for high-speed rail development, analysis, and testing. On-going contractor support will assist with activities related to high-speed rail system certification for operation. Using contractor staff leverages FRA staff and provides access to project management, technical services, and subject matter experts. This

effort provides FRA with technical support for high-performance rail systems, such as California and Nevada, leading to a safer regional network, resulting in fewer accidents and injuries across the Nation's railroads.

Operation Lifesaver, Inc. Grant *FY 2015 Budget: $1.100 million*

Operation Lifesaver is a national, non-profit organization that is dedicated to reducing the number of highway-rail grade crossing collisions and trespassing incidents. FRA provides an annual grant to Operation Lifesaver, Inc. to conduct public outreach and educational programs, and increase law enforcement partnerships.

There are 129,581 public highway-rail grade crossings located throughout the United States. Each presents potential for a collision between a train and highway vehicle. A motorist is 20 times more likely to die from a collision with a train than any other form of transportation. Collisions at highway-rail grade crossing intersections are the second leading cause of rail-related fatalities, accounting for 32 percent of all such fatalities.

Positive Train Control (PTC) Implementation *FY 2015 Budget: $.933 million*

With limited exceptions and exclusions, RSIA requires that PTC be installed and implemented on Class I railroad main lines (i.e., lines with over 5 million gross tons annually) over which any poisonous- or toxic-inhalation hazard commodities are transported, and on any railroad's main lines over which regularly scheduled intercity passenger or commuter operations are operated.

FRA is working to complete system certification of the Interoperable Electronic Train Management (IETMS) PTC system as well as providing engineering support and regulatory oversight of the design and implementation of 40 other PTC technology projects nationwide to facilitate compliance with RSIA deployment mandates. These include the Advanced Civil Speed Enforcement System (ACSES), Enhanced Automatic Train Control (E-ATC), Incremental Train Control System (ITCS), Communications Based Train Control (CBTC), and Interoperable Incremental Train Control System (I-ITCS).

Why Do We Want/Need To Fund The Program At The Requested Level?

FRA requests a $16.9 million from FY 2015 enacted and 90 additional FTE. FRA's FY 2016 budget targets resources at **today's three most pressing rail safety issues**:

- Increasing the safe transport of energy products (STEP), including ethanol and liquefied natural gas.
- Addressing passenger railroad safety issues that surfaced in the wake of Metro-North accidents.
- Deteriorating grade crossing and pedestrian safety performance.

To address each issue, FRA plans to use a combination of people, program support, and research, development, and technology strategies.

SAFETY AND OPERATIONS STAFFING SUMMARY			
Full-Time Equivalents by FRA Office			
Office	**FY 2014 Actual**	**FY 2015 Enacted**	**FY 2016 Request**
Railroad Safety	641.5	651.0	715.0
Railroad Policy and Development	72.5	82.0	97.0
Chief Counsel	46.5	46.0	46.0
Administration	48.0	52.0	60.0
Office of the Administrator	20.5	22.0	23.0
Financial Management	18.0	21.0	23.0
Total, Full-Time Equivalents	**847.0**	**874.0**	**964.0**
Crosswalk From FY 2015 Enacted To FY 2016 Budget Request			
			Full-Time Equivalents
FY 2015 Enacted			**874.0**
Annualization of FY 2015 Hires			**44.5**
Safety Initiatives and Additional Staffing Needs			**45.5**
Movement of Crude Oil and Other Energy Products			**22.5**
Crude Oil Route Managers			*2.5*
Dedicated Crude Oil Safety Inspectors and Safety Specialists			*20.0*
Passenger Rail Safety			**7.5**
Systems Safety Specialists			*4.0*
Passenger Rail Inspectors			*3.5*
Grade Crossing and Pedestrian Safety			**12.0**
Grade Crossing Managers			*8.0*
Trespass Managers			*4.0*
Additional Staffing Needs			**3.5**
Freight Hours of Service Rule Staff			*0.5*
Harmonization of Operating Rules Staff			*0.5*
Grant Execution and Industry Oversight Staff			*2.0*
RRIF Financial Specialist			*0.5*
FY 2016 Total FTE Request			**964.0**

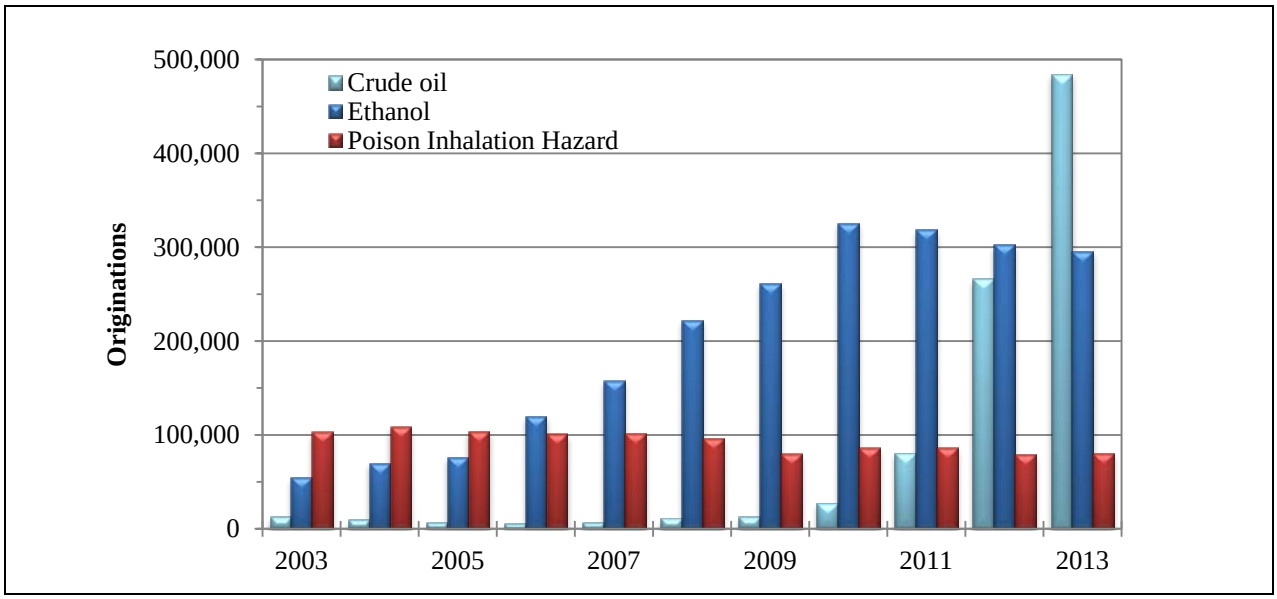
2016 SAFETY INITIATIVE: SAFE TRANSPORT OF ENERGY PRODUCTS (STEP)
$3.4 million in new budgetary resources

The transportation of crude oil by rail has increased significantly and rapidly, driven by new production from the Bakken oil fields in North Dakota and imports from Canada. The volume of crude oil moving by rail has increased 37-fold in less than a decade. Bakken crude oil has grown 100-fold since 2008, up to nearly 300,000 carloads in FY 2013. Estimates of 2014 carloads of Bakken crude oil are around 408,000. Production of ethanol and liquefied natural gas, which also pose transportation risks, has also significantly increased during the last decade.

This is a nationwide transportation phenomenon as energy products are shipped from areas of production to refineries on the East, West, and Gulf coasts. Bakken crude oil represents over 70 percent of crude oil that moves on the railroads, and on average a carload of crude oil from North Dakota travels over 1,600 miles.

North American Originations of Crude Oil, Ethanol, and Poison Inhalation Hazardous Material

Calendar Years 2003 to 2013



Source: Association of American Railroads, Annual Report of Hazmat Transported by Rail, 2014.

The safety and environmental risks posed by these increased shipments are correspondingly growing. In the past 5 years, there have been five accidents in which crude oil was unintentionally released in the United States, and two in Canada. Moreover, the consequences of an accident involving crude oil can be catastrophic. The single accident in Lac Mégantic, Quebec, killed 47 people.

In addition to the growing volume of energy products moving by rail, FRA is concerned about the crashworthiness of tank cars, the characterization of the crude oil, the stress on

manufacturing facilities caused by the demand for tank cars, and the access to manufacturing facilities located overseas. No one solution will make transporting crude oil and other energy products safer. Improved tank car designs are part of the solution. Another part is maintaining and improving track conditions, improving the infrastructure on crude oil routes, and better enabling trains to more effectively brake.

People

FRA requests 45 new employees Including five Crude Oil Route Safety Managers, 35 Crude Oil Safety Inspectors, and five Tank Car Quality Assurance Specialists.

The requested **Crude Oil Route Safety Managers** and **Safety Inspectors** would focus on the nation's five main energy shipping corridors identified as follows:

- Crude oil that originates in North Dakota and travels:
    - West to Seattle or Portland
    - South from Fargo through Omaha, Kansas City, Oklahoma City, Dallas to Houston
    - South from Fargo through Minneapolis, St. Louis to Louisiana
    - East through Chicago to various locations in the Northeast
- Crude oil that originates in Colorado and travels to the Long Beach, California area. Though there are relatively lower-net-ton routes currently, FRA expects traffic will increase through these regions with the development of the Niobrara play.

Major U.S. Crude Oil Transportation Routes

Source: FRA analysis based on the 2012 waybill sample.

The crude oil managers and inspectors would be focused on the safe transportation of crude oil and other energy products and would provide comprehensive oversight of crude oil and ethanol shipments from rail head to refinery. These dedicated staff would be responsible for knowing, monitoring, and enforcing federal requirements on assigned routes covering the Bakken Region and routes to refineries.

The crude oil route safety managers would ensure that railroads use the safest routes, and:

- Establish a risk baseline using either the existing risk analysis program or a purpose-built algorithm for the crude oil routes in their region
- Monitor trends in (inspection, compliance and safety) data from all FRA disciplines related to the risk factors, and identify data indicating increased risk
- Work with the regions and railroads to address factors leading to increased risk

The crude oil inspectors would provide oversight over railroad operations to ensure that:

- The safest routes are used for transportation
- Trains are properly secured in a safe location along the way
- Proper inspection and maintenance of tank cars and other energy-related rolling stock are properly completed
- Communities along the route are properly trained and ready for an emergency
- The voluntary safety initiatives such as speed restrictions agreed to through the Association of American Railroads and the American Short Line and Regional Railroad Association are adhered to
- Track inspections and repairs are completed in a timely manner

The 35 safety inspectors will be distributed across the nation based on the level of crude oil production in the region, the volume of crude oil being handled by train loading facilities, the locations of new and existing tank car facilities (manufacturing, retrofit, repair, and inspection), and the volume of hazardous materials being transported on passenger rail routes and near communities. These inspectors will be hired in the track, motive power and equipment, and hazmat disciplines – the three most important areas affecting rail safety and, therefore, the safety of transportation of oil and other energy products. All new inspectors will receive in-depth, discipline-specific training in support of their safety certification.

Requested Crude Oil Safety Inspectors

by Safety Discipline and Geographic Region

Safety Discipline	FRA Region					Total
	2	**4**	**5**	**6**	**8**	
Hazardous Materials	3	2	3	0	3	11
Motive Power and Equipment	2	3	2	3	2	12
Track	2	4	2	2	2	12
Total, Crude Oil Safety Inspectors	**7**	**9**	**7**	**5**	**7**	**35**

PHMSA and FRA will continue to leverage their respective expertise to ensure the safe transport of energy products, guided by an Interagency Memorandum of Agreement on Cross-Modal Hazardous Materials Inspection and Enforcement. The table below shows how each will inspect and monitor shipments from production points to market when rail is the mode of delivery.

Inspection Roles for the Transportation of Energy Products by Rail by Operating Administration		
Responsibilities	**Pipeline and Hazardous Materials Safety Administration**	**Federal Railroad Administration**
Classification 	Inspect for classification and characterization (including sampling for verification)	Audit classification and characterization
Package Manufacturing 	Inspect non-bulk packages and portable tank manufacturers, portable tank requalifiers, and designated approval agencies	Audit tank car facilities (manufacturing, retrofit, repair, and inspection)
Loading Fuel onto Rail Car 	Inspect suppliers, offerors, and carriers, including all non-bulk and bulk packagings in all applicable modes of transportation for proper shipment preparation	Inspect offerors and carriers of tank cars for proper shipment preparation
Rail Transport 	*not applicable*	Inspect track, signal and train control, rolling stock mechanical elements, grade crossing, and operating practices
Accident 	Investigate from a hazardous materials system approach to include, but not limited to, offerors' and carriers' responsibilities, commodity compatibility with the packaging, and emergency response	Investigate from a rail safety systems approach to include, but not limited to, track integrity, and tank cars
Unloading Fuel from Rail Car 	Inspect concurrent with other hazardous material transportation activities at the same facility	Inspect offerors and carriers of tank cars for proper shipment preparation

The proposed five new **Tank Car Quality Assurance Specialists** would audit tank car facilities and tank car owners. These staff are needed to carry out the upcoming PHMSA tank car rule, which will require the manufacture and retrofit of significant number tank cars in FY 2016 and beyond.

Tank Car facilities are entities certified by the Association of American Railroads (AAR) (by delegated authority from DOT) to manufacture, retrofit, repair, and inspect DOT specification

tank cars and those used to transport hazardous materials. Tank car owners are responsible for developing a qualification (inspection) and maintenance program that must be followed by tank car facilities when retrofitting, inspecting and repairing a particular owner's tank cars. The Specialist will audit tank car facilities to evaluate compliance with their quality assurance program, including procedures and supporting documents (analyses, drawings, etc.), and the execution of those procedures as well as in-process and final inspection of the new or retrofitted tank cars. They will also review the qualification and maintenance program to ensure compliance with all applicable regulations and standards.

The upcoming final rule regarding tank car specification and operations of high hazard flammable trains will put a large demand on tank car manufacturers to build new cars and repair facilities to modify existing tank cars. It is anticipated that new facilities will be approved. AAR is receiving 1-2 application for new facilities every week. The number of facilities will increase and the demands on the existing facilities will increase. These stresses will only exacerbate the current poor performance of the existing tank car facilities.

Aside the from the tank car rule, experience has shown FRA needs to grow its staff (currently four rail safety specialists) to have a more frequent presence at manufacturing facilities. FRA's current tank Car Quality Assurance Team was fully constituted in 2010. Since then, the team has audited over 400 tank car facilities at least one time. Of those, nearly 25% have withdrawn their certification/registration (enabling them to perform work on tank cars) after the Team performed an audit and informed the facilities of their shortcomings. Also, in the same time frame, over 1,200 tank cars have been recalled for required inspections or repairs after deficiencies were identified by the Team.

Additionally, manufacturing and repair capacity is moving outside of the US. There are currently four manufacturing facilities (all US-based) in Mexico and one in Canada. The AAR has recently approved a design of a tank car for a Mexican owned and based manufacturer. There is also an effort to obtain approval for a Chinese owned and based tank car manufacturer. One of the proposed new Specialists will be charged with auditing foreign tank car facilities.

Program Support

FRA seeks $0.5 million to increase the mileage of a **dedicated Automated Track Inspection Program vehicle on routes with heavy crude oil and energy products traffic**. To reduce the risk of track related accidents, FRA is currently operating a track geometry vehicle on these routes at of cost about $2.3 million annually. The vehicle is expected to cover around 12,400 miles this fiscal year. With a $.5 million increase, the vehicle could cover an estimated 19,000 miles on crude oil and other hazardous material routes.

FRA also seeks new grant funding for strategic capital investments. While large railroads can generally invest sufficiently in capital, small railroads and local governments often cannot. In its request for the **Rail Service Improvement Program,** FRA proposes a **new Local Rail Facilities and Safety grant program** for $250 million. The program would target safety projects, including those involving crude oil and energy products. For example, FRA would encourage

small railroads to install electronically controlled pneumatic brakes, which can greatly improve stopping performance and train dynamics.

2016 SAFETY INITIATIVE: PASSENGER RAILROAD SAFETY
$1.9 million in new budgetary resources

Metro-North is the second largest commuter railroad in the United States, serving the metropolitan New York City area including Connecticut and New Jersey, with an annual ridership of almost 83 million people. In 2013, four high-profile accidents occurred on the Metro-North railroad that resulted in scores of injuries and four deaths. This was a wakeup call to the nation because prior to 2013 the railroad's safety record offered no indication that it was headed towards a calamitous year.

On December 16, 2013, FRA undertook an unprecedented examination of the railroad, called Operation Deep Dive, which revealed as much about FRA's approach to regulating safety as it did about Metro-North. Operation Deep Dive identified three overarching safety concerns that affect all facets of Metro-North, which FRA believes may not be unique to just Metro-North:

1. Overemphasis of on-time performance;
2. Ineffective safety department and poor safety culture; and
3. Ineffective training program.

This lack of an internal safety culture was the underlying cause of the series of accidents. The Metro-North experience has spurred FRA to address safety differently by advancing proactive programs based on **system safety** that identify hazards, analyze risks, and put in place customized plans to eliminate those risks. This is especially critical for improving the safety of passenger railroads, which carry millions of passengers daily and close to 500,000,000 passenger trips per year. [1]

<u>People</u>

FRA requests **eight new staff dedicated to implement the new rule FRA will issue** in 2015 requiring passenger railroads to establish system safety programs. These staff would help develop and implement passenger rail risk reduction system safety programs. All passenger railroads will be required to conduct comprehensive system reviews and identify and manage safety hazards, including implementation of mitigations.

FRA also requests **seven Passenger Rail Inspectors** who would conduct comprehensive safety culture and compliance reviews of the existing 28 passenger railroads plus railroads that are expected to begin operations by 2016. Operation Deep Dive was an important undertaking but it required reassigning 60 technical and human factor experts from across the nation to Metro-

[1] According to the American Public Transportation Association ridership report, published February 26, 2014 at http://www.apta.com/resources/statistics/Documents/Ridership/2013-q4-ridership-APTA.pdf

North for 60 days, taking away from their normal responsibilities. For the future, FRA proposes establishing a dedicated staff to proactively examine system safety issues.

When not assigned to special projects, the passenger rail inspector will be distributed geographically based on the passenger miles and complexity of passenger rail operations in that region. These staff will also provide direct safety oversight and technical assistance to operations within their area and regional staff, and support the System Safety specialists.

Program Support

FRA aims to develop tools to change the culture within railroads that leads to accidents. FRA seeks $0.75 million for the **Clear Signal for Action** program, which is a voluntary, non-punitive program for identification and mitigation of unsafe practices. The Clear Signal For Action program improves railroad employee practices and working conditions through peer-to-peer coaching and feedback about at-risk behaviors, continuous safety improvement, and safety leadership training. Specifically, FRA will use this funding to provide training materials and software licenses for passenger railroads that volunteer to participate in the Clear Signal for Action safety culture program.

Based on research funded by FRA to date, Clear Signal for Action pilot projects in the past decade have shown a 76 percent reduction in injuries, 79 percent reduction in locomotive engineer decertification, and 62 percent reduction in derailments, and other safety improvements at pilot intervention sites. Under FRA's broad agency announcement for high-speed rail, training materials and implementation guidelines have been developed for a nationwide rollout in the passenger rail industry. This program will enhance the safety of high-speed operating practices by detecting and changing at-risk behaviors and work conditions before accidents occur.

FRA requests $0.2 million to **study passenger rail electrification standards.** Upcoming high-speed rail projects are driving the need for electrified passenger corridors, much of which will likely be federally funded. To develop a true high-speed rail network, interoperability of the railroad electrification system must be ensured to allow train sets from multiple manufacturers to operate successfully in different places. The study would examine industry needs and identify steps towards standardizing and regulating railroad electrification projects in the United States.

In addition, positive train control implementation will increase the safety of passenger operations. Positive train control could have prevented the Metro-North accident that occurred when an employee apparently operated a train too fast around a curve, causing a derailment that killed four people. FRA is requesting **$3.05 billion over six years for Commuter Railroads PTC Compliance plus funding for Amtrak PTC compliance,** as part of its National High-Performance Rail System reauthorization proposal.

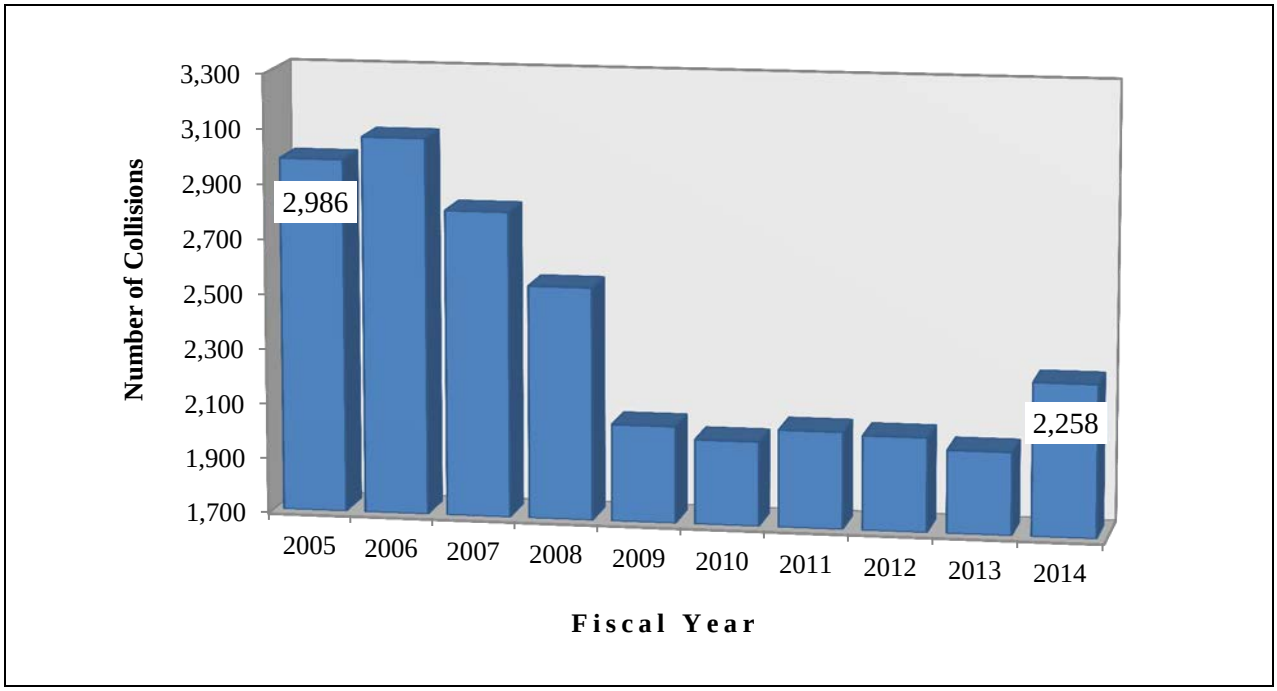
2016 SAFETY INITIATIVE: GRADE CROSSING AND PEDESTRIAN SAFETY
$2.2 million in new budgetary resources

The number of highway-rail grade crossing collisions and related fatalities has decreased over the last 10 years by 24 percent and 27 percent, respectively. However, between the fiscal years 2009 and 2013 the number of collisions plateaued at around 2,033 collisions per year which mirror the trend in highway traffic fatalities. In fiscal year 2014 the number of collisions increased by 12 percent as the economy improved while the number of fatalities has remained unchanged. Moreover, highway-rail grade crossing collisions are the second leading cause of rail-related deaths and the top cause of all railroad accidents. FRA expects the risk of highway-rail grade crossing collisions to grow as both train and highway traffic increase during the next decade.

790 people died in rail related accidents and incidents in FY 2014
249 were from highway-rail **grade crossing collisions**
497 were from **trespasser incidents**

Highway-Rail Grade Crossing Collisions

Fiscal Years 2005 to 2014



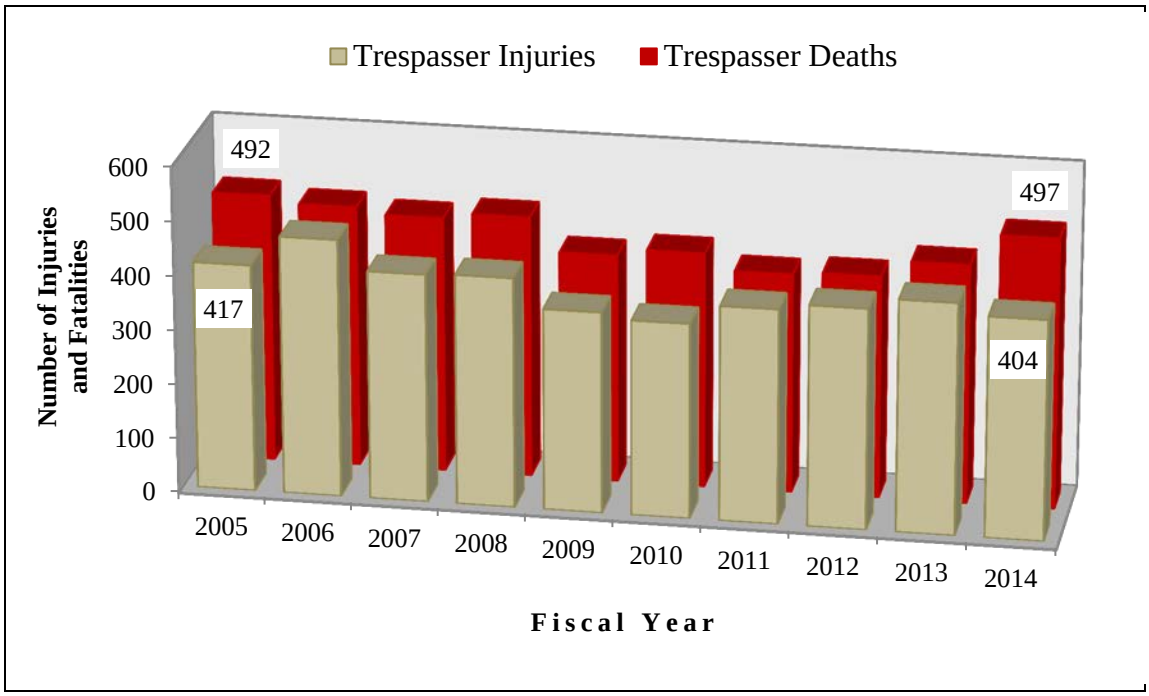
Source: FRA data

Similarly, trespass deaths followed the same pattern as highway-rail grade crossings collisions between FY 2009 and 2014. There was an average of 420 fatalities per year between 2009 and

2013 and then an increase of 18 percent in 2014. They are the leading cause of rail-related deaths and accounted for 63 percent of all rail-related fatalities in 2014. While FRA works closely with local communities and railroads on trespass prevention efforts, additional resources are needed develop trespass prevention initiatives to reduce these unnecessary deaths.

Trespasser Injuries and Fatalities

Fiscal Years 2005 to 2014



Source: FRA data

People

FRA requests **16 Grade Crossing Safety Managers** and **eight Trespass Prevention Managers**, compared to 17 on-board currently.

The requested **Grade Crossing Safety Managers** would work with state and local officials to identify safety improvements to highway-rail grade crossings. FRA would assign two managers to each region. FRA managers would examine safety data to focus attention on the most dangerous crossings. Collaborating with local officials, they would identify safety measures including the installation of conventional crossing warning devices such as flashing lights and gates, and the use of safety enhancements such as traffic channelization devices at gated crossings to further restrict drivers from circumventing the gates. The managers will also use data-driven methods to develop local safety educational programs for communities and work with local and state police agencies to develop effect enforcement campaigns for motorists.

The requested **Trespass Prevention Managers** would work with local governments, schools, businesses, and railroads to develop site-specific mitigation plans. FRA would assign one

Trespass Prevention Manager per region. Prevention efforts must be customized for each community and oftentimes for different sites within a community. This may include safety outreach efforts, physical improvements such as fencing, and enhanced law enforcement. The managers will also analyze data to determine locations where trespassing is occurring, help develop technologies to deter trespassers, and work with Operation Lifesaver to develop new trespass prevention materials.

Program Support

FRA requests $0.41 million to implement a **pilot program** with Operation Lifesaver, Inc. to provide targeted and sustained community outreach. RSIA, Section 206, authorized Operation Lifesaver to conduct pilot programs to address the effectiveness of targeted and sustained community outreach. No funding has been provided for section 206 to date.

The program would use data to identify audiences and specific locations to focus on-going educational outreach efforts. This will help to determine the specific methods and media to be used to maximize the effectiveness of the program. Operation Lifesaver's community outreach efforts are typically short-term, lasting no more than a week. The pilot programs would be long-term, lasting several months.

FRA also seeks $0.2 million to bring together freight, passenger, and transit experts to share and develop new trespass prevention and pedestrian safety methods. The workshop will also identify future trespass prevention research projects.

As part of the National High Performance Rail Systems reauthorization proposal, FRA requests $250 million for a new **Local Rail Facilities and Safety program** to make strategic capital investments. FRA would ensure that a portion of these funds is dedicated to local communities to build safer highway-rail grade crossings, among other critical improvements.

Other Staffing Needs

In addition to the three safety initiatives, FRA requests funds for other pressing program and managerial needs.

Implementing Safety Rules Under the GROW AMERICA ACT

The Administration's GROW AMERICA ACT would authorize FRA to develop regulations for **freight hours of service** and **harmonizing operating rules**, both of which would reduce the number of human factors caused accidents.

FRA requests one new staff member to support the development and implementation of the **freight hours of service rule**. RSIA granted FRA authority over passenger train operations, which FRA has used to issue science-based rules for passenger rail operations. In its reauthorization proposal, FRA requested additional authority to regulate hours of service for freight rail operations and signal and dispatching service employees.

FRA requests one new staff member to develop and implement regulations to **harmonize operating rules**. Each railroad has its own operating rules that can differ significantly from one division to another and from one railroad to another. Many train employees are required to learn multiple operating rules to operate in a single tour of duty. Harmonizing operating rules will reduce potential confusion in such situations, and therefore reduce accident risk.

Implementing Rail Development Under the GROW AMERICA ACT

FRA requests additional staff to perform new responsibilities and a larger program portfolio proposed in this budget submission and in the Administration's GROW AMERICA ACT. Specifically, FRA is requesting four **Grant Execution and Industry Oversight Technicians** to expedite grant management transactions, as well as to manage the documentation FRA maintains to hold funding recipients accountable for stated project and research outcomes. In addition, FRA requests one **Financial Analyst** to manage the RRIF loan portfolio facilitated by subsidies to the credit risk premium for qualified applicants.

Updating Rail Rehabilitation and Improvement Financing (RRIF) Loan Records

FRA requests $0.35 million for **RRIF Support** to develop a system for FRA to review and estimate the current value of existing RRIF collateral. FRA needs to make current all records and documentation for its existing RRIF loans, many of which are more than a decade old. This effort includes assessing the accuracy of assets pledged as collateral. In nearly all cases, pledged collateral was only examined prior to loan origination, and some data are not complete.

Adjustments to Base: Annualizing the Cost of New Hires

FRA requests **$8.3 million for adjustments to base**. The largest component is "annualizing" new hiring this fiscal year ($5.7 million), followed by the cost of the projected FY 2016 pay raise ($1.25 million). Regarding annualization, FRA estimates it will add around 92 people to its ranks during FY 2015 for an end-of-year on board total of 920 positions and an FTE level of 874. Because of the hiring occurs over the course of the year, FRA should only need to fund approximately half of the new employees' salaries and benefits in total this fiscal year. In FY 2016, FRA must fund the full-year cost of these employees' salaries and benefits.

What Benefits Will This Request Provide the American Public?

FRA is striving for continuous safety improvement, which means fewer people (including the members of the general public and railroad employees) killed and hurt in rail accidents. As discussed above, to drive this improvement, FRA is proposing to undertake new types of work, looking at today's three most pressing rail safety issues. To measure success, FRA tracks performance metrics according to FRA's five safety disciplines.

FRA set the following performance measure targets for FY 2016:

- Reducing the grade crossing incident rate to 2.795 per million train-miles.

- Reducing the human factors-caused train accident rate to 0.980 per million train-miles.
- Reducing the track-caused train accident rate to 0.950 per million train-miles.
- Reducing the equipment-caused train accident rate to 0.350 per million train-miles.
- Reducing the other (signal and miscellaneous) train accident rate to 0.470 per million train-miles.
- Reducing the non-accident release of hazardous materials to 1.050 per 200-million hazardous materials ton-miles.

Achievement of these targets depends on a variety of factors including agency resources, regulatory actions, introduction of new technologies, and changes in the industry. FRA is currently evaluating the impacts of requested FY 2016 resources on performance, and looks forward to working with stakeholders to craft an effective strategy.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
SAFETY AND OPERATIONS
Program and Financing Schedule
($000)

Account Number: 69-0700-0-1-401

Line	Line Title	FY2014 ACT	FY2015 EST	FY2016 EST
	Obligations by program activity:			
0001	Salaries and expenses	183,959	186,045	202,975
0006	Alaska Railroad Liabilities	865	825	825
0091	Direct program activities, subtotal	184,824	186,870	203,800
0100	**Total direct program**	**184,824**	**186,870**	**203,800**
0799	Total direct obligations	184,824	186,870	203,800
0809	Reimbursable program activities, subtotal	425	10,100	6,000
0900	**Total new obligations**	**184,824**	**196,970**	**209,800**
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	11,408	13,523	10,000
1021	Recoveries of prior year unpaid obligations	1,156	1,000	1,000
1050	**Unobligated balance (total)**	**12,564**	**14,523**	**11,000**
	Budget authority:			
	Appropriations, discretionary:			
1100	Appropriation	184,500	186,870	203,800
1160	**Appropriation, disc (total)**	**184,500**	**186,870**	**203,800**
	Spending authority from offsetting collections, discretionary:			
1700	Collected	2,535	6,100	6,100
1701	Change in uncollected payments, Federal sources	280	-	-
1750	**Spending auth from offsetting collections, disc (total)**	**2,815**	**6,100**	**6,100**
1900	**Budget authority (total)**	**187,315**	**192,970**	**209,900**
1930	**Total budgetary resources available**	**199,879**	**207,493**	**220,900**
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	89,450	87,200	83,000
3010	Obligations incurred, unexpired accounts	179,490	196,970	209,800
3011	Obligations incurred, expired accounts	7,954	-	-
3020	Outlays (gross)	-195,843	-199,000	-189,000

DEPARTMENT OF TRANSPORTATION (Cont'd)
FEDERAL RAILROAD ADMINISTRATION
SAFETY AND OPERATIONS
Program and Financing Schedule
($000)

Account Number: 69-0700-0-1-401

Line	Line Title	FY2014 ACT	FY2015 EST	FY2016 EST
3031	Unpaid obligations transferred from other accts [70-0560]	10,000	-	-
3040	Recoveries of prior year unpaid obligations, unexpired	-1,156	-1,000	-1,000
3041	Recoveries of prior year unpaid obligations, expired	-8,317	-1,000	-1,000
3050	Unpaid obligations, end of year (gross)	87,276	83,170	101,800
3100	**Obligated balance, start of year (net)**	**89,263**	**87,200**	**83,000**
3200	**Obligated balance, end of year**	**86,949**	**83,170**	**101,800**
	Budget authority and outlays, net:			
	Discretionary:			
4000	Budget authority, gross	187,315	192,970	209,900
	Outlays, gross:			
4010	Outlays from new discretionary authority	153,637	145,000	157,000
4011	Outlays from discretionary balances	42,206	54,000	33,000
4020	**Outlays, gross (total)**	**195,843**	**199,000**	**190,000**
	Offsets against gross budget authority and outlays:			
	Offsetting collections (collected) from:			
4030	Federal sources	302	-2,100	-2,100
4033	Non-Federal sources	2,322	-4,000	-4,000
4040	**Offsets against gross budget authority and outlays, disc (total)**	**2,624**	**-6,100**	**-6,100**
4070	**Budget authority, net (discretionary)**	**184,500**	**186,870**	**203,800**
4080	**Outlays, net (discretionary)**	**193,219**	**192,900**	**183,900**
4180	**Budget authority, net (total)**	**184,500**	**186,870**	**203,800**
4190	**Outlays, net (total)**	**193,219**	**192,900**	**183,900**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
SAFETY AND OPERATIONS
Object Classification Schedule
($000)

Identification Code 69-0700-0-1-401		FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Direct Obligations:			
11.1	Full-time permanent	83,874	87,125	97,168
11.3	Other than full-time permanent	771	815	853
11.5	Other Personnel Compensation	1,281	1,720	1,918
11.8	Special personnel services payments	-	225	250
12.1	Civilian personnel benefits	27,779	28,620	31,925
13.0	Benefits for Formal Personnel	276	-	-
21.0	Travel	9,576	9,889	9,889
22.0	Transportation of things	3	57	60
23.1	Rental payments to GSA	6,403	6,500	6,500
23.2	Rental payments to Others	291	609	615
23.3	Communications, utilities, and misc.	1,145	1,685	1,700
24.0	Printing and reproduction	304	304	305
25.1	Advisory & assistance service	22,241	21,168	21,170
25.2	Other services from non-Federal	96	1,011	1,015
25.3	Other goods and services from Gov.	16,961	12,898	15,963
25.4	O&M of facilities	46	272	272
25.7	O&M of equipment	9,700	9,977	10,150
26.0	Supplies	431	592	595
31.0	Equipment	1,173	1,901	1,950
41.0	Grants, subsidies, and contributions	1,229	1,302	1,302
42.0	Insurance claims and indemnities	206	200	200
99.0	Subtotal, Direct Obligations	183,819	186,870	203,800

DEPARTMENT OF TRANSPORTATION (Cont'd)
FEDERAL RAILROAD ADMINISTRATION
SAFETY AND OPERATIONS
Object Classification Schedule
($000)

Identification Code 69-0700-0-1-401		FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Reimbursable Obligations:			
25.3	Other goods and services from Federal sources	364	6,100	6,100
99.9	Total new obligations	184,183	192,970	209,900

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

RAILROAD RESEARCH AND DEVELOPMENT APPROPRIATIONS LANGUAGE

RAILROAD RESEARCH AND DEVELOPMENT

For necessary expenses for railroad research and development, **[**39,100,000**]** *$39,250,000,* to remain available until expended.

EXHIBIT III-1

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

Program Activity	FY 2014 Actual	FY 2015 Enacted	FY 2016 Request	Change FY 2015-2016
Track Program	11,429	11,279	11,429	150
Rolling Stock Program	8,322	10,322	10,322	-
Train Control and Communication	8,086	8,086	8,086	-
Human Factors Program	3,542	5,542	5,542	-
Railroad Systems Issues Program	3,871	3,871	3,871	-
TOTAL	**35,250**	**39,100**	**39,250**	**150**
Full-time Equivalents				
Direct Funded	-	-	-	-
Reimbursable, Allocated, Other	-	-	-	-
TOTAL FULL-TIME EQUIVALENTS	-	-	-	-

Program and Performance Statement

FRA's Research and Development Program is focused on improving railroad safety. It provides scientific and engineering support for the agency's safety rulemaking and enforcement efforts. It also identifies and develops emerging technologies for the rail industry to adopt voluntarily. The outcomes of the research and development 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.

In addition to improving safety, the program contributes significantly towards achieving the Department of Transportation's other strategic goals, such as state of good repair, economic competitiveness and environmental sustainability.

The program has the following areas of research:

- **Track Program** - Reducing derailments due to track related causes.

- **Rolling Stock Program** - Reducing derailments due to equipment failures, minimizing the consequences of derailments, and minimizing hazardous material releases.

- **Train Control and Communication** - Reducing train-to-train collisions and train collisions with objects on the line and at grade crossings.

- **Human Factors Program** - Reducing accidents caused by human error.

- **Railroad System Issues Program** - Prioritizing R&D projects on the basis of relevance to safety risk reduction and other DOT goals.

EXHIBIT III-1a

RAILROAD RESEARCH AND DEVELOPMENT
Summary Analysis of Change from FY 2015 to FY 2016
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

ITEM	Change from FY 2015 to FY 2016 $000	FTE
FY 2015 BASE	**39,100**	**-**
NEW OR EXPANDED PROGRAMS		
Track Program	150	-
Rolling Stock Program	-	-
Train Control and Communication	-	-
Human Factors Program	-	-
Railroad Systems Issues Program	-	-
SUBTOTAL, PROGRAM CHANGES	**150**	**-**
TOTAL FY 2016 REQUEST	**39,250**	**-**

EXHIBIT III-2

ANNUAL PERFORMANCE RESULTS AND TARGETS
FEDERAL RAILROAD ADMINISTRATION

FRA integrates performance results into its budget request to demonstrate alignment with the Department of Transportation's strategic plan. FRA Research and Development account tracks and supports FRA's safety activities and the safety goal:

DOT Strategic Goal: Safety—Improve public health and safety by reducing transportation-related fatalities and injuries

Strategic Objective: Improve the safety of the transportation system by addressing behavior, vehicle, and infrastructure safety issues through the innovative and effective use of partnerships, programs, and resources.

Performance Goal: Reduce the rate of rail-related accidents and incidents per million train-miles to no more than 15.890 by the end of FY 2016.*

	2012	2013	2014	2015	2016
Target	16.300	16.300	16.150	15.900	15.890
Actual	15.251	15.152	15.748	---	---

* Targets and actual data are subject to change and might differ from prior year budget materials based on the latest information available as of January 2015.

These funds also support DOT's **organizational excellence goal** – develop an innovative, world-class organization to advance the U.S. transportation system and serve the Nation's long-term safety, social, economic, security, and environmental needs– and the related strategic objectives:

- Build a capable, diverse, and collaborative workforce of highly skilled, innovative, and motivated employees by making FRA a workplace of choice through employee empowerment and engagement, learning and development, succession planning, workplace flexibilities, and a healthy and safe workforce.

- Advance secure and innovative information systems and technology platforms that protect against cyber threats and support the efficient use of information and data for financial management.

DOT has not established mode-specific performance goals for these objectives.

DETAILED JUSTIFICATION FOR RAILROAD RESEARCH AND DEVELOPMENT

What Is The Request And What Funds Are Currently Spent on the Program?

FY 2016 - Railroad Research and Development - Budget Request
($000)

Program Activity	FY 2014 Actual	FY 2015 Enacted	FY 2016 Request	Difference from FY 2015 Enacted
Track Program	11,429	11,279	11,429	150
Rolling Stock Program	8,322	10,322	10,322	-
Train Control and Communication	8,086	8,086	8,086	-
Human Factors Program	3,542	5,542	5,542	-
Railroad Systems Issues Program	3,871	3,871	3,871	-
TOTAL	**35,250**	**39,100**	**39,250**	**150**

What is This Program and Why is it Necessary?

FRA's Research and Development (R&D) program focusses on improving railroad safety. The mission of the program is to ensure the safe, efficient and reliable movement of people and goods by rail through basic and applied research, and development of innovations and solutions. It does so by providing the scientific and engineering basis for safety rulemaking and enforcement. FRA also collaborates with the railroad industry to develop and implement new technologies and practices that improve overall system safety.

FRA's activities, and those of the rail industry, have resulted in one of the safest decades ever—the rate of rail-related accidents and incidents declined by 13 percent since FY 2005. To make further gains, FRA is focused on continuous safety improvement, which requires a comprehensive risk elimination strategy founded on three pillars.

- Continuing a rigorous regulatory and inspection program based on strategic use of data
- Advancing proactive approaches for early identification and reduction of risk
- Capital investments, and robust research and development

FRA's R&D program is central to carrying out this strategy, and continuing support for its budget will enable FRA to pursue work in several critical areas, including today's three most pressing rail safety issues:

- Safe Transport of Energy Products (STEP)
- Passenger rail safety
- Grade crossing and pedestrian safety performance

R&D projects typically take five to ten years to complete, and follow one of three paths to implementation:

1. Through regulation. R&D by FRA is necessary so the government can develop valid, defendable regulations.
2. Through enforcement. R&D by FRA creates new technology for efficient and effective checking of railroads' compliance with regulations.
3. By voluntary adoption of technologies and practices by industry. R&D by FRA is necessary for conducting higher-risk and longer-term projects, which private industry would not otherwise undertake.

FRA's R&D budget request for FY 2016 is $39.25 million, which is a $0.15 million increase from the FY 2015 enacted budget. This increase will enable FRA to continue core safety research and while restoring funding for building sustainability improvements at FRA's Transportation Technology Center (TTC).

The R&D program is organized around five rail disciplines and includes the following areas of research:

- **Track Program:**
  - Track and structure inspection techniques, material and component reliability, design and performance
  - Track and train interaction, derailment mechanisms and vehicle-track performance
  - Rail integrity related derailments and rail inspection systems
  - Track Safety standards research in addition to Shared Corridor hardening research
  - R&D facilities at the Transportation Technology Center, in Pueblo, Colorado including sustainability improvements; and R&D test equipment

- **Rolling Stock Program:**
  - Rolling stock and components, onboard and wayside monitoring systems, material and design improvements
  - Hazardous materials transportation risk reduction, tank car damage assessment, inspection and integrity of tank cars research
  - Train occupant protection, locomotive and passenger car safety and performance

- **Train Control and Communication:**
  - Development and testing of train control and communication systems including Positive Train Control
  - New grade crossing technologies and pilot studies including intelligent rail systems research, blocked crossing research and trespass prevention through trespass warning technology research

- **Human Factors Program:**
  - Safety culture pilot programs
  - Research into fatigue distraction, attention and situational awareness, and ergonomics
  - Job and cognitive task analyses
  - Usability and function allocation studies of automation and new technology to avoid human error
  - Suicide prevention
  - Stop signal violation research
  - Guidance for implementing safety management systems
  - Studies of motorist decision-making at grade crossings to prevent crashes
  - Short Line Safety Institute support

- **Railroad System Issues Program:**
  - Safety risk analysis, performance-based regulations, railroad environmental issues and locomotive efficiency research
  - Program evaluation including Transportation Research Board's independent review
  - Travel related to R&D projects and contractor support of the program

The R&D program contributes to achieving FRA's core safety performance measure targets for FY 2016:

1. Reducing the track-caused train accident rate to 0.950 per million train-miles.

The ***Track Program*** research activity benefits rail passengers, railroad workers and neighbors by reducing the number of derailments. This activity develops track inspection technologies that detect defects before they become failures in service. Currently, all Class I freight railroads use technologies developed under the Track research activity to locate high-risk track defects. In addition to reducing derailments, this improves the economic competitiveness of the railroads by reducing train delays. As train speeds and density increase, smaller defects will need to be detected at higher measurement speeds. FRA funding ensures that this improved capability is available to the industry when required.

FRA-owned facilities provide the infrastructure necessary to conduct experiments and test theories, concepts, and new technologies in support of the R&D program. Without these facilities, much of this experimentation and testing would need to be done in revenue service, with the consequent safety and operational risks.

Measurements of in-service train performance and computer modeling are used to understand vehicle-track interaction. This knowledge is used to improve rules and regulations for track safety and equipment qualification.

Anticipated FY 2015 accomplishments for the Track research activity include:

- An Autonomous Track Geometry Measurement System will be installed on a revenue service freight car and demonstrated on shortline railroads in coordination with the American Short Line and Regional Railroad Association
- FRA will complete a performance evaluation of the FRA developed autonomous inspection system, provide assistance to implement the technology for track safety enforcement, and develop methods to transition the technology to the industry
- This research effort is an essential step towards including autonomous technology in track safety enforcement
- FRA will publish a detailed summary report of the testing performance of a neutral temperature measurement technique using guided waves and make available prototypes to the industry
- Field testing of a rail tomography (imaging) prototype that will measure the size and shape of internal rail defects will be conducted
- A full-scale roller rig, to be used for detailed rail wear and rolling contact fatigue studies, will be designed and construction will be started
- Track Vertical Deflection Measurement from a Moving Railcar will be installed on FRA's T-18 test car

2. Reducing the equipment-caused train accident rate to 0.350 per million train-miles.

The ***Rolling Stock Program*** research activity focuses on safety improvements to locomotives, rail cars, and components. It benefits rail passengers, railroad workers and neighbors by reducing the number of derailments due to equipment component failures and reducing consequences when accidents occur. Automated inspection of rolling stock and equipment will play a broader and more significant role in safety assurance in the future. Research in this area supports objective assessments of automated inspection technologies.

Research into tank car integrity is necessary to improve crashworthiness and reduce the consequences of derailments, in particular those involving hazardous materials. It leads to improved regulations for hazardous material transportation in collaboration with PHMSA. This activity will help speed the adoption of desirable safety improvements, and lead to a better understanding of the risks posed by increased transportation of hazardous materials, such as crude oil, by rail.

Train occupant protection research improves the safety of the train crew and passengers. This is necessary to reduce the consequences of train collisions, derailments, and fires. The work involves full-scale testing and computer modeling of derailment and collision scenarios. The results are being used to improve FRA's safety regulations and policies.

The Rolling Stock research activity also supports the specification, procurement, and manufacture of the next generation of passenger rail cars. Through requirements specification and standardization efforts, this will result in the safe introduction of new equipment and will improve the economic competitiveness of the domestic manufacturing industry.

Anticipated FY 2015 accomplishments for the Rolling Stock research activity include:

- Design guidance and testing of Liquefied Natural Gas tenders for locomotives resulting in the safe introduction of the product as a fuel in revenue service
- The Wayside Pilot Demonstration project will explore the potential of advanced wayside technology systems to enhance the safety inspection process. The project will solicit guidance from the Rail Safety Board to ensure that sufficient testing is conducted to enable objective decisions on waiver applications
- Final rulemaking on improved passenger railcar crashworthiness, recommendations to the ACCESS Board for additional improvements in railcar accommodations

3. Reducing the non-accident release of hazardous materials to 1.050 per 200-million hazardous materials ton-miles.

The hazardous materials research activity, part of the ***Rolling Stock Program***, identifies the various causes of non-accident releases and develops research projects in cooperation with the industry and the Office of Railroad Safety to encourage corrective actions to prevent their recurrence. Two cooperative agreements with trade associations are in place to identify safety improvements to locomotives, rail cars, and components. The projects also identify training needs to ensure that workers understand their particular job function and recognize the importance of preventing hazardous materials releases on-site and in transportation.

Anticipated FY 2015 accomplishments for the HAZMAT research activity include:

- Full scale testing of tank cars to develop performance standards for new tank cars carrying hazardous materials, and the evaluation of new technologies and materials to improve the puncture resistance of tank cars

4. Reducing the other (signal and miscellaneous) train accident rate to 0.470 per million train-miles.

The ***Train Control and Communication Program*** research activity is assisting in the nationwide deployment of PTC systems. PTC is meant to prevent train-to-train collisions, over-speed derailments, worker injuries from train incursion in the work zones, and incidents from track switches in the wrong position. This activity is a cooperative effort between FRA, Class I railroads, the Association of American Railroads, and other interested parties. Through this cooperative effort, which includes technology exchanges and field-testing on the railroads, the framework for system integration and interoperability is being developed. This group will focus on braking distance prediction for trains, communication throughput and robustness, and interoperability of PTC systems. One of the key elements is the use of FRA's PTC test bed at the Transportation Technology Center (TTC) to ensure the proper functioning and reliability of the new technology. This effort promotes gains for safety and operating efficiency for freight and passenger railroads.

Anticipated FY 2015 accomplishments for the Train Control and Communication research activity include:

- Phase 4 development of the employee-in-charge portable terminal will be completed. This is a safety-critical device to protect roadway workers from train intrusion into work zones in a positive train control (PTC) operating environment
- A passenger train braking model will be completed; this model will help evaluate brake performance for passenger trains
- Positive Train Location (PTL) prototype testing will be completed, the commercial version will be ready to be deployed. This device is designed to precisely locate the front and rear of trains, which is an important parameter to the PTC system as well as providing train integrity status

5. Reducing the grade crossing incident rate to 2.795 per million train-miles.

The Grade Crossing and Trespass Prevention R&D activity, part of the ***Train Control and Communication Program***, focuses on advancing safety technologies, education and outreach to reduce accidents and fatalities at grade crossings. Grade crossings present a major hazard to motor vehicle drivers and pedestrians, and are the second leading cause of fatalities and injuries in the railroad industry.

Ongoing grade crossing projects include causal analysis of driver behavior, low ground clearance vehicle detection and warning system, smart grade crossing monitoring systems and development of grade crossing safety countermeasures.

Ongoing trespass prevention projects include the evaluation of locomotive-based acoustic warnings, track-based detection and warning system for trespassers, high-security fencing, community-based trespass prevention study, and education and training aids development.

Anticipated FY 2015 accomplishments for the Grade Crossing and Trespass Prevention research activity include:

- Finishing the Evaluation of the Community, Analyze, Respond and Evaluate (CARE) model applied to trespass prevention in West Palm Beach, Florida
- Demonstration of the low ground clearance vehicle detection and warning system, the locomotive-based acoustic warning system, and new more effective warning techniques at passive crossings

6. Reducing the human factors-caused train accident rate to 0.980 per million train-miles.

The ***Human Factors Program*** research activity focuses on areas where individuals can affect the safe performance of rail operations. Human errors now account for over a third of all accidents. This activity focuses on fatigue, distraction, and ergonomics. It benefits all those affected by railroad safety risks, including passengers, railroad employees, and members of the public. It aims to improve safety culture in railroad organizations. With

the introduction of new technologies, such as Positive Train Control and electronically controlled pneumatic brakes, and the expansion of high-speed rail, emphasis on human factors R&D is essential to prevent growth in human factors-caused accident rates.

Anticipated FY 2015 accomplishments for the Human Factors research activity include:

- The Short Line Safety Institute will conduct safety culture assessments at pilot sites that will be evaluated by FRA
- FRA will complete the Cab Technology Integration Lab conversion to CORYS simulation and modeling software (an industry compatible system enabling use of Class 1 subdivisions simulated track profiles)
- FRA will complete the feasibility study of a Heads-Up Display for locomotive engineers, and the locomotive engineer workstation re-design study
- FRA will publish a final report on the Confidential Close Call Reporting System pilot program, which covers four sites (Union Pacific, Canadian Pacific, New Jersey Transit and Amtrak)
- FRA will complete a plan for systematic, periodic monitoring of fatigue in the railroad industry
- FRA will develop training materials for the Clear Signal for Action safety culture program for passenger railroads program, and FRA will pilot intervention projects
- FRA will develop and publish an implementation guide and evaluation plan to monitor and track program effectiveness at a pilot site to reduce the effects of locomotive crew exposure to traumatic incidents

Railroad System Issues Program: While the activities described above focus on particular types of rail issues, this activity considers the railroad system as a whole, and analyzes railroad safety risk exposure to ensure FRA's research addresses the highest safety risks and taxpayer dollars continue to be used most effectively to improve public safety.

This activity also funds R&D into alternative fuels and locomotive efficiency. The benefits from this research contribute to DOT's environmental sustainability goal while assuring that such alternative fuels and fuel saving initiatives do not adversely affect safety. In addition, it is critical that FRA staff oversee contractor and grantee performance and witness testing, which often requires travel that is funded with R&D appropriations.

Anticipated FY 2015 accomplishments for the Railroad Systems Issues research activity include:

- Revenue service demonstration and evaluation of bio-diesel will be completed
- Industry standards that support broader implementations of bio-diesels will be developed and a cooperative effort with the Department of Energy to identify and evaluate opportunities for improving energy efficiency will be launched

Why Do We Need to Fund the Program at the Requested Level?

FRA requests $39.25 million for Research and Development (R&D) in FY 2016, which is $0.15 million more than the FY 2015 enacted budget. Sustained base level funding is necessary to continue current activities and ensure R&D outputs contribute to continuous safety improvements in future.

FRA's R&D program produces long-term benefits. As with many agency research programs, the work that was undertaken in the past five to ten years contributes to today's safety performance. The following narrative describes recent safety improvements that can be attributed, in part, to FRA's previous R&D activities, and anticipated FY2016 accomplishments.

Track Program

In FY 2016, FRA requests $11.4 million, $0.15 million more than FY 2015 enacted budget, for its Track Research Program.

The rate of accidents due to track-related causes has decreased by 52 percent from 2005 to 2014. This reduction is due, in part, to the industry's adoption of technologies developed by the Track research activity, such as:

- Gage Restraint Measurement System, which is a technology used to assess the integrity of ties and fasteners.
- Vehicle-track interaction monitoring system developed for Amtrak and all Class I freight railroads.
- Joint Bar Inspection System, which is an image-based inspection technology that detects defects in rail joint bars effectively and efficiently.
- Autonomous Inspection technology used in the AMTRAK assessment surveys.

Anticipated FY 2016 accomplishments for the Track Research Program include:

- A handheld tomography unit for imaging rail internal defects will be made available for testing and evaluation by the railroads
- A vision based software package for detecting defective concrete ties will be tested and evaluated
- Technical Report documenting the procedures for joining rail sections using gas metal arc welding (GMAW)
- A new variable geometry test track will be commissioned at TTC
- Guidance will be provided for vehicle computer model validation
- Final Report documenting the new non-contact air-coupled rail flaw detection system performance for the detection of internal rail defects
- Rail surface characterization for optimization of rail grinding final report
- Evaluation reports on Qualification Testing of MARC Multi-Level Commuter Car and New Jersey Transit ALP-45DP Locomotive; Report on Assessment of NCDOT

Equipment in Piedmont Service; Report on High-Speed Testing of Amtrak Acela Equipment
- Summary of Assessments of High Speed Rail Vehicle Dynamic Models and Simulation Tools
- A Portable Track Geometry Measurement System to measure vital track geometry parameters at walking speed will be tested and evaluated

In FY 2016, FRA requests $11.4 million, $0.15 million more than FY 2015 enacted budget, for its Track Research Program. The additional funding is requested for the following project:

High Performance Sustainable Buildings ..... $0.150 million

FRA plans to invest an additional $150,000 for building sustainability improvements at FRA's Transportation Technology Center (TTC). The additional funding will help completion of the project according to FRA's original schedule.

Executive Order 13423, *Strengthening Federal Environmental, Energy and Transportation Management*,[1] and Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*,[2] include goals requiring Federal agencies to establish High Performance Sustainable Buildings (HPSB). DOT must implement HPSB standards that comply with *Guide Principles for Federal Leadership in High Performance and Sustainable Buildings* (Guide Principles) set forth in the *Memorandum of Understanding for Federal Leadership in High Performance and Sustainable Building* (2006). The Guide Principles establish basic parameters for integrated design, energy performance, water conservation, indoor environmental quality, and building materials.

The Executive Orders mandate HPSB Guide Principles be incorporated by 2015 into 15 percent of the existing inventory of occupied buildings greater than 5,000 square feet and thereafter demonstrate annual progress toward 100 percent conformance with the Guide Principles for its building inventory. The requirements of the executive orders apply to 12 major buildings at TTC; many of which are over 30 years old. The FY 2016 funding request for sustainability improvements is part of an on-going, multi-year investment to bring the older buildings at TTC up to modern standards of energy efficiency.

Rolling Stock Program

In FY 2016, FRA requests $10.3 million, equal to the FY2015 enacted level. The Rolling Stock Program is a key component of FRA's FY 2016 budget initiative to address the **Safe Transport of Energy Products (STEP)** and **Passenger Rail Safety.**

The rate of accidents due to equipment related causes has decreased by 37 percent from 2005 to 2014. This has been due, in part, to previous research resulting in new Federal Safety Regulations and Policies for conventional rail, high-speed rail, and hazardous materials transportation.

[1] January 24, 2007.
[2] October 5, 2009.

Research into hazardous materials transportation provides an example of the effectiveness of this activity. Research conducted between 1970 and 1980 into tank car head shields and couplers resulted in 36 technical reports being published and three new FRA rules being finalized. In the decades since, there has been a greater than 50 percent reduction in tank cars being punctured during derailments.

Full-scale testing and computer modeling have led to improvements in crashworthiness of passenger equipment. The results were used by the Railroad Safety Advisory Committee to develop a process for evaluating the suitability of equipment designed to alternative standards to be safely operated in the United States. A recent notable success was the waiver granted to Denton County Transit Authority to operate new passenger equipment designed to alternative standards. The Congressionally mandated Next Generation Equipment Committee has adopted crash energy management features in its specifications for passenger rail vehicles. Furthermore, the lives of locomotive crews are now being saved as a result of the introduction of crashworthiness improvements developed by FRA's Train Occupant Protection R&D sub-program.

Anticipated FY 2016 accomplishments for the Rolling Stock Research Program include:

- In collaboration with PHMSA, FRA will complete the full scale testing of tank cars to develop performance standards for new tank cars carrying hazardous materials
- New technologies and materials to improve the puncture resistance and construction of tank cars will be evaluated
- A full-scale dynamic impact test of a prototype deformable anti-climber and push-back coupler retrofit for existing locomotives will be performed. If successful, these components will improve locomotive crashworthiness and increase the likelihood of survival of the train crew in the event of a collision
- The prototype vapor reclamation system for locomotive fuel tanks, which is aimed at improving fire safety and saving fuel, will be fully tested and proven
- New regulations for accommodations for the disabled will be released by the ACCESS Board
- The next generation passenger locomotives and railcars will enter demonstration testing and service

2016 SAFETY INITIATIVE: SAFE TRANSPORT OF ENERGY PRODUCTS (STEP)

Safe Transportation of LNG …… $2.0 million

In FY 2016, FRA plans to spend $2.0 million to accelerate its research and development on the safe transportation of energy products, including liquefied natural gas (LNG) which is rapidly evolving to become fuel source both transported by and used by the railroad industry. This work will be performed in full collaboration with PHMSA.

The railroad industry today is aggressively pursuing using LNG to power its locomotives given that cost advantage it offers compared to diesel. Any possible FRA response to this trend will in large part depend on conducting further research. Individual railroads have already submitted to FRA requests to run LNG in unit trains (trains composed entirely of tank cars) using ISO specification packages, similar to unit trains that transport crude oil. Specifically, that ISO specification needs to be reviewed to see if it is suitable for U.S. rail operations. Because of these imminent changes occurring in the industry, it is critical that FRA conduct the necessary research to prepare appropriate responses that ensure safety going forward.

One of the strengths of FRA's R&D program is its ability to conduct full scale testing, including collisions, at its Pueblo CO research center. Testing tank cars involves certain substantial costs including procuring equipment, materials, instrumentation, and allocating staff resources. For this reason, FRA estimates that $2 million would be the minimum needed to make necessary progress in this area. This is in addition to a $0.5 million of which FRA expects to spend on core HAZMAT research in FY 2016 on the full scale testing of tank cars and evaluating new technologies and materials used in the construction of tank cars.

FRA and PMSA will continue to coordinate their tank car research activities in FY 2016. FRA carries out physical testing of alternative tank car designs, materials and technologies at its Transportation Technology Center in Colorado and shares the results with PHMSA. FRA uses its computer simulation tools to analyze alternative operating scenarios and provides the results to PHMSA to be used in rulemaking cost-benefit analyses. FRA plans to spend $500,000 on tank car testing next year.

Research Related Roles for the Transportation of Energy Products by Rail by Operating Administration

Responsibilities	Pipeline Hazardous Materials Safety Administration	Federal Railroad Administration
Tank Car Structural Integrity	Develop regulations for design of tank cars.	Puncture test of tank car at the Transportation Technology Center in Pueblo, CO. Full-scale tests on valve protection systems. Scaled tests of tank
Tank Car Manufacture	Develop standards, prototype testing specification and regulations that could be used for enhanced design, manufacturing and testing of tank car tanks and framing	Evaluate non-destructive testing techniques used in manufacturing and repair of tank cars
Risk Analysis	Quantify effects of routing, speed, train make-up, etc. to be used in rulemaking cost-benefit analyses	Refine and expand existing FRA modeling and simulation tools. Perform parametric analysis to determine sensitivity of simulations to fluctuations in risk factors and variables
Operating Environment	Evaluation of national and UN regulations, existing national and international standards that will be used as bases for development of the new and enhanced standards and regulations	Quantify the in-train forces experienced by tank cars and their effects on commodities to guide and inform regulation and standard development
Damage Assessment	Perform damage assessment of bulk packaging (cargo tanks, portable tanks, cylinders, etc.) involved in accidents	Perform damage assessment of tank cars and appurtenances involved in accidents. Perform root cause analyses on components involved in non-accident releases.

Train Control and Communication Program

In FY 2016, FRA requests $8.0 million, equal to FY2015 enacted budget, for its Train Control and Communication Program. Rolling Stock Program is a key element of FRA's 2016 safety initiatives to support of the FY 2016 budget initiative to address **Grade Crossing and Pedestrian Safety**. This request include $1.6 million to support grade crossing technologies and pilot studies including intelligent rail systems research, blocked crossing research and trespass prevention through trespass warning technology research.

The rate of signal and and other miscellaneous related train accidents has decreased by 33 percent from FY 2005 to FY 2014 and has been small and constant each year. Reduction is expected from the installation of PTC on certain routes.

The Train Control and Communication activity has been developing PTC-related technologies for several years. Notable successes to date include:

- The creation of an adaptive braking enforcement algorithm to ensure freight trains stop at red signals without impacting operational performance. This algorithm has been successfully tested at the Transportation Technology Center.
- Development of Positive Train Location technology to precisely locate trains and track train movement, which is necessary for PTC systems operation as well future moving block train control operating environment .
- Allowing employees in charge of work sites to better ensure roadway worker protection.
- The development of interoperability standards in collaboration with the railroad industry.

With these developments, the railroads were able to implement PTC systems, such as Amtrak's Incremental Train Control System in Michigan and BNSF Railway's Electronic Train Management System in Illinois and Texas. Other railroads have adopted the technologies in their pilot PTC systems.

The rate of accidents at grade crossings decreased by 22 percent from FY 2005 to FY 2014. Research that contributed to this reduction included the following:

- The success factors in highway-rail grade crossing incident reduction were analyzed and investigated using various qualitative and quantitative methods. Ten factors were identified as having the most significant influences on safety. The R&D program contributed to several of these factors, including commercial driver safety, locomotive conspicuity, crossing closure and grade separation, sight line clearance, and warning device upgrades.
- A study was made of the effectiveness of a four-quadrant gate and an obstruction detection system at the School Street crossing in Groton, Connecticut. The results from the four-quadrant study showed the same effectiveness as closing the crossing, but without incurring the economic and societal costs.

Anticipated FY 2016 accomplishments for the Train Control and Communication program include:

- FY 2016 will see the results of the multi-year development efforts in Positive Train Control (PTC) technology development. Some of the technologies maturing for PTC deployment include positive train location, passenger braking model, fiber optics based track defect detection, and vibration-based broken rail detection.
- FRA will complete the first PTC-ITS integration effort prototyping the in cab train approaching alert at grade crossings.

Human Factors Program

In FY 2016, FRA requests $5.5 million, which is the same level as FY 2015 enacted budget, for its Human Factors Research Program. The Human Factors program is a key element of FRA's budget FY 2016 initiatives on **Safe Transport of Energy Products (STEP)** and **Passenger Rail Safety.**

There was a 46 percent reduction in human factors-caused accidents rate from FY 2005 to FY 2014. Human Factors R&D has made a significant contribution to this reduction. Behavioral and work environment R&D has produced pilot programs that are enabling the railroads and rail labor to work together to identify ways to solve this problem area.

Crew fatigue continues to be an area of concern. Split shifts for commuter service crews, irregular shifts for extra board crews and lack of effective guidance and enforcement for rest requirements are examples of areas that need further assessment and could require either rule changes or voluntary changes in industry recommended practices to reduce likelihood of fatigue-related accidents. Previous human factors fatigue research has provided a scientific basis for new rules for commuter and intercity passenger rail service hours of service and fatigue risk management, as required by the Rail Safety Improvement Act.

The Cab Integration Technology Laboratory provides a test bed for projects to prevent distraction-based accidents in locomotive crews, to improve vigilance in high-speed operations, and for designing the human factors specifications of the next generation locomotive cab.

Anticipated FY 2016 accomplishments for the Human Factors Research Program include:

- FRA will complete and distribute a training program for sustaining attention in locomotive crews
- FRA will complete the development of safety culture and safety compliance measurement tools necessary for the establishment of a Short Line Safety Institute for the American Short Line and Regional Railroad Association. In addition, management and employee training and education tools, an organizational structure for the safety institute, and an implementation process will be completed to help improve safety across the short line and regional railroad industry

- FRA will complete customized training and software application support materials for the Passenger Clear Signal for Action Program (a proactive safety risk reduction program), which will be made available to all passenger and commuter railroads
- FRA will complete the development of a new workstation for locomotive engineers that ergonomically allows the incorporation of new command and control technology into the locomotive while reducing operator workload and error
- FRA will complete a report on the safety of one vs. two person locomotive crews based on FRA accident data and other data sources
- FRA, through the Global Railway Alliance for Suicide Prevention (GRASP) Working Group, will complete and implement a strategic framework for international collaboration in addressing ways to prevent suicides on the railroad rights-of-way

FY 2016 SAFETY INITIATIVE: SAFE TRANSPORT OF ENERGY PRODUCTS (STEP)

Short Line Safety Institute Grant …….....$2.0 million

Improving overall railroad safety improves the safety of crude by rail. Two most effective ways to improve overall safety are to address human factors and the condition of track. For human factors, improving railroad safety culture will be major parts of the solution. While large railroads have resources to address this area, small railroads, many of which carry energy products, do not.

FRA's budget includes $2.0 million grant to the American Short Line and Regional Railroad Association (ASLRRA) to manage a Short Line Safety Institute. FRA provided an initial $250,000 grant for the institute in FY 2014 and plans to provide $2 million in FY 2015. The expanded Short Line Safety Institute grant will provide education, training and employee development following assessments of safety compliance and safety culture at ALSRRA member railroads that haul crude oil and ethanol. The American Short Line and Regional Railroad Association has approximately 130 members that ship crude oil and 80 members that ship ethanol and covers 48,000 track miles.

The Institute will send inspectors to member railroads to identify needed safety improvements and develop methods for achieving them. The ASLRRA will work with the FRA Office of Research and Development Human Factors Division (1) to create an assessment process to evaluate the current safety and compliance attainment levels on small railroads, (2) to contract and train expert qualified inspectors, and (3) to develop training, assessment and reporting document systems. It will also work with FRA to create benchmarks and objectives to measure the progress and effectiveness of the Short Line Safety Institute safety inspection programs.

Railroad Systems Issues

In FY 2016, FRA requests $3.9 million for its Railroad System Issues Program. A small portion of this funding is for staff to oversee contractors and grantees' performance and witness testing, including travel.

Evaluations of FRA's R&D projects are conducted under this program area. One evaluation, "An Evaluative R&D Framework for Influencing Safety Culture Change in the U.S. Rail Industry," won the American Evaluation Association's 2011 most outstanding evaluation award. The Transportation Research Board's latest report on its evaluation of FRA's R&D program, the tenth annual report, recognizes progress and continues to be positive about the program.[3]

Several successes have been achieved towards the DOT's environmental sustainability goal. A battery powered switch yard locomotive has been developed in collaboration with a Class 1 railroad. Trials of a high percentage bio-fuel blend have been conducted on Amtrak service.

Anticipated FY 2016 accomplishments for the Railroad Systems Issues program include:

- Updating the safety risk model for directing future R&D efforts
- Implementing evaluations in each of the four R&D Divisions, covering projects spanning the R&D lifecycle and types of evaluations (context, input, implementation, impact)

What Benefits will be provided to the American Public through This Request

Safe rail transportation is of direct benefit to the public traveling by train. FRA's R&D program will reduce train collisions by facilitating the implementation of new technology such as Positive Train Control. It will reduce the safety risk when passenger trains share the same corridor as freight trains. The program will lay the foundation for improved track safety regulation that will reduce the likelihood of derailments. FRA's R&D program will improve the safety of passenger rail cars that are involved in collisions and derailments.

Research into tank cars will benefit the American public by reducing the spillage of hazardous materials. FRA's R&D program will improve the safety of people who live in neighborhoods through which train operate. It will reduce the likelihood of hazardous materials being spilled into watercourses and causing damage to wider areas. The two areas of research that help achieve this are reducing failures such as broken wheels and rails that cause derailments and improving the strength of tank cars to better survive derailments that do occur.

By addressing the root causes of grade crossing accidents, FRA's R&D program improves the safety of the American public that need to cross the railroad. Human factors research into driver behavior at highway-rail grade crossing and the effectiveness of alternative warning systems helps identify optimum solutions. Developing new technologies for crossing

[3] Available at www.trb.org/Main/Blurbs/Review_of_the_Federal_Railroad_Administration_Rese_163030.aspx

protection and train to vehicle communications leads to reduced incidents of grade crossing being blocked.

FRA's R&D program helps to reduce fatalities and injuries to trespassers on railroad property. Members of the public are known to take short cuts across railroad property. Innovative solutions for warning them of the danger they face need to be researched and implemented.

By funding universities to conduct some of its R&D work, the FRA provides ladders of opportunity for students to take rewarding jobs in the railroad industry. The age profile for railroad industry employees shows a growing demand for new entrants. University programs that offer railroad classes help provide the next generation of railroad professionals.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD RESEARCH AND DEVELOPMENT
Program and Financing Schedule
($000)

Account Number: 69-0745-0-1-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Obligations by program activity:			
0001	Railroad System Issues	3,959	3,871	3,871
0002	Human Factors	4,089	5,542	5,542
0003	Rolling Stock and Components	3,525	-	-
0004	Track and Structures	4,980	-	-
0005	Tack and Train Interaction	3,847	-	-
0006	Train Control	6,828	-	-
0007	Grade Crossings	1,808	-	-
0008	Hazardous Materials	1,714	-	-
0009	Train Occupant Protection	3,679	-	-
0010	R&D Facilities and Test Equipment	3,148	-	-
0011	Planning	-	3,465	-
0012	Ohio HUB Cleveland-Columbus Rail Corridor	-	475	-
0013	New Jersey Diesel Multi Unit	-	495	-
0014	CTR for Commercial Deploy of Trans Tech	-	14	-
0015	Marshall Nebraska	-	25	-
0016	NDGPS	724	48	-
0017	Peers, IL	-	66	-
0018	Track Program	-	11,279	11,429
0019	Rolling Stock Program	-	10,322	10,322
0020	Train Control and Communication	-	8,086	8,086
0100	**Total direct program**	**38,302**	**43,688**	**39,250**
0799	Total direct obligations	38,302	43,688	39,250
0801	Reimbursable services	8	2,000	2,000
0900	**Total new obligations**	**38,310**	**45,688**	**41,250**

DEPARTMENT OF TRANSPORTATION (Cont'd)
FEDERAL RAILROAD ADMINISTRATION
RAILROAD RESEARCH AND DEVELOPMENT
Program and Financing Schedule
($000)

Account Number: 69-0745-0-1-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	9,507	7,742	3,634
1021	Recoveries of prior year unpaid obligations	1,295	-	-
1050	Unobligated balance (total)	10,802	7,742	3,634
	Budget authority:			
	Appropriations, discretionary:			
1100	Appropriation	35,250	39,100	39,250
1130	Appropriations permanently reduced	-	-	-
1160	**Appropriation, disc (total)**	**35,250**	**39,100**	**39,250**
	Spending authority from offsetting collections, discretionary:			
1700	Collected	-	2,479	2,000
1701	Change in uncollected payments, Federal sources	-	-	-
1750	Spending auth from offsetting collections, disc (total)	-	2,479	2,000
1900	**Budget authority (total)**	**35,250**	**41,579**	**41,250**
1930	**Total budgetary resources available**	**46,052**	**49,321**	**44,884**
	Memorandum (non-add) entries:			
1941	Unexpired unobligated balance, end of year	7,742	3,634	3,634
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	46,057	39,022	36,206
3010	Obligations incurred, unexpired accounts	38,310	45,688	41,250
3020	Outlays (gross)	-44,051	-48,503	-42,317
3040	Recoveries of prior year unpaid obligations, unexpired	-1,295	-	-
3050	Unpaid obligations, end of year (gross)	39,022	36,207	35,139
3060	Uncollected pymts, Brought Forward	-695	-695	-695

DEPARTMENT OF TRANSPORTATION (Cont'd)
FEDERAL RAILROAD ADMINISTRATION
RAILROAD RESEARCH AND DEVELOPMENT
Program and Financing Schedule
($000)

Account Number: 69-0745-0-1-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
3090	Uncollected pymts, Fed sources, end of year	-695	-695	-695
3100	**Obligated balance, start of year (net)**	**45,363**	**37,632**	**34,816**
3200	**Obligated balance, end of year (net)**	**37,632**	**34,816**	**33,749**
	Budget authority and outlays, net:			
	Discretionary:			
4000	Budget authority, gross	35,250	41,579	41,250
	Outlays, gross:			
4010	Outlays from new discretionary authority	12,446	13,730	13,775
4011	Outlays from discretionary balances	31,605	34,773	28,542
4020	Outlays, gross (total)	44,051	48,503	42,317
	Offsets against gross budget authority and outlays:			
	Offsetting collections (collected) from:			
4030	Federal sources	-	-2,479	-2,000
4070	Budget authority, net (discretionary)	35,250	39,100	39,250
4080	Outlays, net (discretionary)	44,051	46,024	40,317
4180	**Budget authority, net (total)**	**35,250**	**39,100**	**39,250**
4190	**Outlays, net (total)**	**44,051**	**46,024**	**40,317**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD RESEARCH AND DEVELOPMENT
Object Classification Schedule
($000)

Account Number: 69-0745-0-1-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Direct Obligations:			
21.0	Travel and Transportation of persons	109	120	120
25.1	Advisory and assistance services	3,370	3,450	2,450
25.3	Other purchases of goods and services from Government	748	1,410	1,400
25.4	Operation and maintenance of facilities	1,354	3,400	2,200
25.5	Research and development contracts	29,102	23,400	21,400
25.7	Operation and Maintenance of equipment	293	-	-
31.1	Equipment	121	-	-
31.2	Equipment – Operational//Technical-NCAP	22	-	-
31.3	Equipment – ADP Software	190	-	-
32.0	Land and Structure – Overhead Distribution	726	-	-
41.0	Grants, subsidies, and contributions	2,266	11,908	11,680
	Subtotal, obligations, Direct obligations	**38,301**	**43,688**	**39,250**
	Reimbursable Obligations:			
25.3	Reimbursable Obligations: Other goods and services from Federal sources	8	2,000	2,000
	Subtotal, Reimbursable obligations	**8**	**2,000**	**2,000**
99.9	**Total new obligations**	**38,310**	**45,688**	**41,250**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

NATIONAL HIGH-PERFORMANCE RAIL SYSTEM
APPROPRIATIONS LANGUAGE

CURRENT PASSENGER RAIL SERVICE

LIMITATION ON OBLIGATIONS)

(TRANSPORTATION TRUST FUND)

Contingent upon enactment of multi-year surface transportation authorization legislation, funds available for the Current Passenger Rail Service Program authorized under title 49, United States Code, shall not exceed total obligations of $2,450,000,000, to remain available until expended: Provided, That the Secretary may retain up to one-half of one percent of the funds limited under this heading to fund program administration and oversight of the National High-Performance Rail System.

CURRENT PASSENGER RAIL SERVICE

(LIQUIDATION OF CONTRACT AUTHORIZATION)

(TRANSPORTATION TRUST FUND)

Contingent upon enactment of multi-year surface transportation authorization legislation, $2,450,000,000 to be derived from the Rail Account of the Transportation Trust Fund and to remain available until expended, for payment of obligations incurred in carrying out the Current Passenger Rail Service Program authorized under title 49, United States Code.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

NATIONAL HIGH-PERFORMANCE RAIL SYSTEM
APPROPRIATIONS LANGUAGE

RAIL SERVICE IMPROVEMENT PROGRAM

(LIMITATION ON OBLIGATIONS)

(TRANSPORTATION TRUST FUND)

Contingent upon enactment of multi-year surface transportation authorization legislation, funds available for the Rail Service Improvement Program authorized under title 49, United States Code, shall not exceed total obligations of $2,325,000,000, to remain available until expended: Provided, That the Secretary may retain up to one percent of the funds limited under this heading to fund program administration and oversight of the National High-Performance Rail System.

RAIL SERVICE IMPROVEMENT PROGRAM

(LIQUIDATION OF CONTRACT AUTHORIZATION)

(TRANSPORTATION TRUST FUND)

Contingent upon enactment of multi-year surface transportation authorization legislation, $2,325,000,000, to be derived from the Rail Account of the Transportation Trust Fund and to remain available until expended, for payment of obligations incurred in carrying out the Rail Service Improvement Program authorized under title 49, United States Code.

EXHIBIT III-1

NATIONAL HIGH-PERFORMANCE RAIL SYSTEM
Summary by Program Activity
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

Item	FY 2014 Actual	FY 2015 Enacted	FY 2016 Request	Change FY 2015-2016
Current Passenger Rail Service				
Northeast Corridor	-	-	550,000	550,000
State Corridors	-	-	225,000	225,000
Long-Distance Routes	-	-	850,000	850,000
National Assets, Legacy Debt, and Amtrak PTC	-	-	475,000	475,000
Stations ADA Compliance	-	-	350,000	350,000
Subtotal, Current Passenger Rail Services	**0**	**0**	**2,450,000**	**2,450,000**
Rail Service Improvement Program				
Passenger Corridors	-	-	1,175,000	1,175,000
Commuter Railroads PTC Compliance	-	-	825,000	825,000
Local Rail Facilities and Safety	-	-	250,000	250,000
Planning and Workforce	-	-	75,000	75,000
Subtotal, Rail Service Improvement Program	**0**	**0**	**2,325,000**	**2,325,000**
TOTAL, NATIONAL HIGH-PERFORMANCE RAIL SYSTEM	**0**	**0**	**4,775,000**	**4,775,000**
Full-time Equivalents (FTE)				
Direct Funded	-	-	9.5	9.5
Reimbursable, Allocated, Other	-	-	-	-
TOTAL FTE	**0**	**0**	**9.5**	**9.5**

Program and Performance Statement

Current Passenger Rail Service: Through the Current Passenger Rail Service program account, FRA will make grants to ensure passenger rail assets are maintained to provide safe and reliable life-cycle service, as well as to continue operating long-distance train services. The FY 2016 budget request includes $2.45 billion for this account, a significant portion of which will be dedicated to "Fix-it-First" activities such as clearing the backlog of state of good repair needs on the Nation's rail system. This program consists of five areas:

Northeast Corridor to bring Northeast Corridor infrastructure and equipment into a state of good repair, thus enabling future growth and service improvements.

State Corridors to replace obsolete equipment on State-supported corridors and to facilitate efficient transition to financial control for these corridors to States. This is a temporary program that will be phased out.

Long-Distance Routes to continue operations of the Nation's important long-distance routes.

National Assets, Legacy Debt, and Amtrak PTC to improve efficiency of the Nation's "backbone" rail facilities, make payments on Amtrak's legacy debt, and implement positive train control (PTC) on Amtrak routes. Portions of this program are temporary and will be phased out.

Stations Americans with Disabilities Act (ADA) Compliance to bring stations into compliance with requirements of the ADA. This is a temporary program that will be phased out.

Rail Service Improvement Program: Through the Rail Service Improvement Program, FRA will make grants to develop high-performance passenger rail networks throughout the United States; fund PTC for commuter railroads; and support network planning and workforce development. The FY 2016 budget request includes $2.325 billion for this account, which consists of four areas:

Passenger Corridors to develop high-performance passenger rail networks through construction of new corridors, substantial improvements to existing corridors, and mitigation of passenger train congestion at critical chokepoints.

Commuter Railroads PTC Compliance to assist commuter railroads with the implementation of PTC systems.

Local Rail Facilities and Safety to help mitigate the impact of rail in local communities through rail line relocation, grade crossing enhancements, and investments in short line railroad infrastructure.

Planning and Workforce to develop comprehensive plans that will guide future investments in the Nation's rail system and to develop the workforce and technology necessary for advancing America's rail industry.

EXHIBIT III-1a

NATIONAL HIGH-PERFORMANCE RAIL SYSTEM
SUMMARY ANALYSIS OF CHANGE FROM FY 2015 TO FY 2016
Appropriations, Obligation Limitations, and Exempt Obligations

($000)Item	Change from FY 2015 to FY 2016 $000	FTE [1/]
FY 2015 Enacted	**-**	**5.5**
ADJUSTMENTS TO BASE:		
Administrative Adjustments to Base	213	1.5
Annualization of FY 2015 FTE	*199*	*1.5*
Annualization of FY 2015 Pay Raise	*2*	-
FY 2016 Pay Raise	*9*	
One More Compensable Day	*3*	-
Subtotal, Adjustments to Base	***213***	***1.5***
NEW OR EXPANDED PROGRAMS:		
Current Passenger Rail Service	**2,450,000**	**1.5**
Northeast Corridor	*550,000*	-
State Corridors	*225,000*	-
Long-Distance Routes	*850,000*	-
National Assets, Legacy Debt, and Amtrak PTC	*475,000*	-
Stations ADA Compliance	*350,000*	-
Rail Service Improvement Program	**2,325,000**	**2.5**
Passenger Corridor	*1,175,000*	-
Commuter Railroads PTC Compliance	*825,000*	-
Local Rail Facilities and Safety	*250,000*	-

EXHIBIT III-1a

NATIONAL HIGH-PERFORMANCE RAIL SYSTEM (Cont'd)
SUMMARY ANALYSIS OF CHANGE FROM FY 2015 TO FY 2016
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

Item	Change from FY 2015 to FY 2016 $000	FTE [1/]
Planning and Workforce	*75,000*	-
Subtotal, New or Expanded Programs	***4,775,000***	**4.0**
TOTAL, FY 2016 REQUEST	***4,775,000***	**9.5**

Note:

1/ In FY 2016, FRA proposes transferring 5.5 FTE funded with Amtrak oversight funding to the Current Passenger Rail Service program.

FEDERAL RAILROAD ADMINISTRATION

RAIL GRANTS CROSSWALK FROM FY 2015 ENACTED TO FY 2016 NATIONAL HIGH-PERFORMANCE RAIL SYSTEM

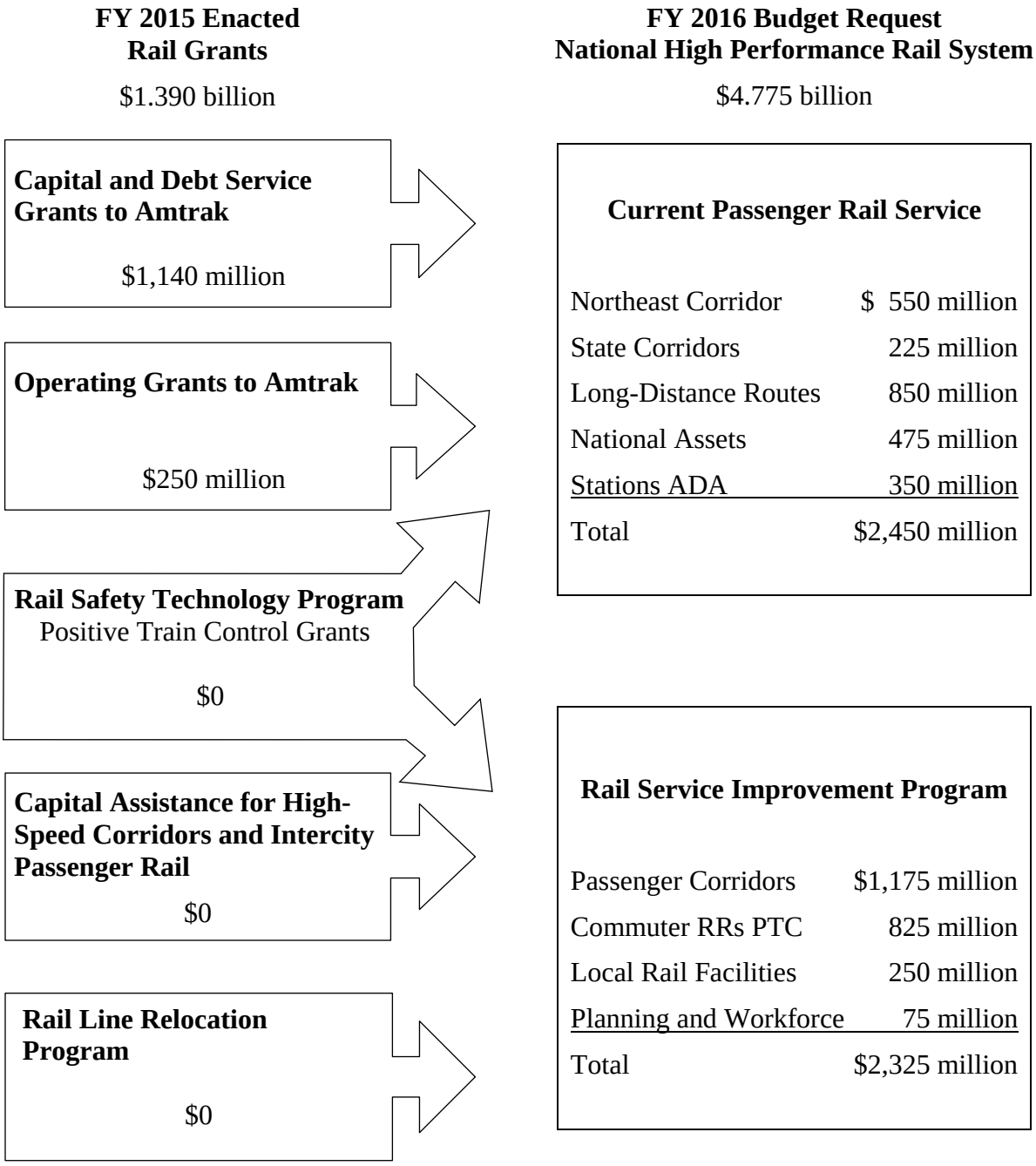


EXHIBIT III-2
ANNUAL PERFORMANCE RESULTS AND TARGETS
FEDERAL RAILROAD ADMINISTRATION

FRA integrates performance results into its budget request to demonstrate alignment with the Department of Transportation's strategic plan.

DOT Strategic Goal: State of Good Repair – Ensure that the United States proactively maintains its critical transportation infrastructure in a state of good repair.

Strategic Objective: Maintain or improve the availability, reliability, and performance of the Nation's transportation infrastructure, equipment, and facilities by ensuring that they are functioning as designed within their useful lives.

Performance Goal: Eliminate Amtrak's state of good repair backlog by cumulatively obligating at least 25 percent of funds needed for the Northeast Corridor State of Good Repair Plan* by 2018, subject to the availability of funds.

	2012	2013	2014	2015	2016
Target	0%	0%	0%	0%	5%
Actual	0%	0%	0%	---	---

* Amtrak, April 15, 2009 n.a. Not applicable—FRA had not established and did not track this measure before FY 2012.

Note: No appropriation has targeted Amtrak's state of good repair backlog since the FRA began tracking this measure in FY 2012.

DOT Strategic Goal: Economic Competitiveness – Promote transportation policies and investments that bring lasting and equitable economic benefits to the nation and its citizens.

Strategic Objective: Improve the contribution of the transportation system to the Nation's productivity and economic growth by supporting strategic, multi-modal investment decisions and policies that reduce costs, increase reliability, satisfy consumer preferences more efficiently, and advance U.S. transportation interests worldwide.

AGENCY PRIORITY GOAL: Advance the development of high-speed and intercity passenger rail in the United States by—

Performance Goal: achieving initial construction on at least 65 passenger rail construction projects by 2015.

	2012	2013	2014	2015	2016
Target	22	36	60	65	*to be determined*
Actual	27	41	60	---	---

Performance Goal: substantially completing at least 74 planning, preliminary engineering, environmental analysis, and construction passenger rail projects.

	2012	2013	2014	2015	2016
Target	n.a.	n.a.	51	74	*to be determined*
Actual	**---**	---	53	---	---

n.a. Not applicable—FRA had not established and did not track this measure before FY 2014.

EXHIBIT III-2 (Cont'd)
ANNUAL PERFORMANCE RESULTS AND TARGETS
FEDERAL RAILROAD ADMINISTRATION

DOT Strategic Goal: Quality of Life in Communities – Foster quality of life in communities through place-based policies and investments that increase transportation choices and access to transportation services.

Strategic Objective: Expand convenient, safe, and affordable transportation choices for all users by directing federal investments toward projects that more efficiently meet transportation, land use, and economic development goals.

Performance Goal: Increase intercity passenger rail ridership to at least 7.50 billion miles traveled by the end of FY 2018.

	2012	2013	2014	2015	2016
Target	6.60 billion	6.75 billion	6.90 billion	6.90 billion	7.05 billion
Actual	6.80 billion	6.80 billion	6.65 billion	---	---

Strategic Objective: Ensure federal transportation investments benefit all users by emphasizing greater public engagement, fairness, equity, and accessibility in transportation investment plans, policy guidance, and programs.

Performance Goal: Improve access to transportation for people with disabilities and older adults by ensuring that 100 percent of intercity passenger rail stations*comply with the certain requirements of ADA by the end of 2020, subject to the availability of funds.

(1) Percentage of stations* that are **functionally accessible**

	2012	2013	2014	2015	2016
Target	n.a.	n.a.	n.a.	94%	96%
Actual	n.a.	n.a.	n.a.	---	---

(2) Percentage of stations* that have **accessible restrooms**

	2012	2013	2014	2015	2016
Target	n.a.	n.a.	n.a.	87%	97%
Actual	n.a.	n.a.	n.a.	---	---

(3) Percentage of stations* that have **ADA-compliant passenger information display systems** installed where required

	2012	2013	2014	2015	2016
Target	n.a.	n.a.	n.a.	84%	88%
Actual	n.a.	n.a.	n.a.	---	---

* Where Amtrak is responsible for compliance.
n.a. FRA had not set a target and did not track this measure before FY 2015.

For the purposes of this goal, the following definitions apply—

(1) **Functionally accessible** means that passengers have an accessible path from the public right of way to the train platform.
(2) **Accessible restrooms** mean the station restrooms meet 2006 U.S. Department of Transportation standards, which provide minimum requirements for all facilities in a restroom to ensure all Americans, including those in wheelchairs, can use the facilities.
(3) **Passenger information display systems** mean integrated messaging services that deliver synchronized audible and visual messages regarding train service (arrival and departure times, gate and track assignments, boarding locations, stops and train status) and general announcements (passenger paging, emergency messages, etc.).

What Do I Need To Know Before Reading This Justification?

- For the last four decades intercity passenger rail service in the United States has been provided primarily by the National Railroad Passenger Corporation (Amtrak).

- During that time, Congress appropriated funds to FRA for Amtrak grants to support Amtrak's operating and capital costs across all business lines. Amtrak also receives support from some States for certain routes, in addition to ticket and other revenue.

- Amtrak owns, leases, or controls most of the track and infrastructure along the Northeast Corridor (Washington, D.C., to Boston, Massachusetts). Elsewhere, Amtrak primarily operates on track owned and managed by private freight railroads.

- FRA's role in developing intercity passenger rail service grew substantially in recent years. Congress passed the *Passenger Rail Investment and Improvement Act of 2008* (PRIIA), which established significant new FRA policy, planning, and programmatic responsibilities. Subsequent appropriations acts provided more than $10 billion for a new, competitive, high-speed and intercity passenger rail program and funding for continued investment in Amtrak.

- PRIIA included important reforms, such as requiring States to fund operating and capital costs for State corridor services; requiring performance measures and new management practices by Amtrak; and authorizing new multi-jurisdictional committees to advance next generation passenger rail equipment and Northeast Corridor operations and infrastructure management.

- PRIIA, and the *Rail Safety Improvement Act of 2008* (RSIA), expired at the end of FY 2013.

- The Administration plans to resubmit to Congress its surface transportation legislative proposal, the GROW AMERICA Act, with a $478 billion, six-year authorization, starting in FY 2016. In 2014, the President sent the legislative proposal to Congress with a $302 billion, four-year authorization, starting in FY 2015.

What Is The Request And What Will We Get For The Funds?

FY 2016 – National High-Performance Rail System – Budget Request
($000)

Program Activity	FY 2014 Actual	FY 2015 Enacted	FY 2016 Request	Difference from FY 2015 Enacted
Current Passenger Rail Service				
Northeast Corridor	-	-	550,000	550,000
State Corridors	-	-	225,000	225,000
Long-Distance Routes	-	-	850,000	850,000
National Assets, Legacy Debt, and Amtrak PTC	-	-	475,000	475,000
Stations ADA Compliance	-	-	350,000	350,000
Subtotal, Current Passenger Rail Service	**0**	**0**	**2,450,000**	**2,450,000**
Rail Service Improvement Program				
Passenger Corridors	-	-	1,175,000	1,175,000
Commuter Railroads PTC Compliance	-	-	825,000	825,000
Local Rail Facilities and Safety	-	-	250,000	250,000
Planning and Workforce	-	-	75,000	75,000
Subtotal, Rail Service Improvement Program	**0**	**0**	**2,325,000**	**2,325,000**
TOTAL, NATIONAL HIGH-PERFORMANCE RAIL SYSTEM	**0**	**0**	**4,775,000**	**4,775,000**

What is This Program and Why is it Necessary?

FRA requests $29 billion over six years for a proposed National High-Performance Rail System (NHPRS). The funding would provide significant new capital investment for rail projects that benefit the public. NHPRS has two major programs: **Current Passenger Rail Service** focuses on *maintaining* the current rail network and **Rail Service Improvement Program** focuses on *expanding and improving* the U.S. rail network to accommodate growing travel demand.

NATIONAL HIGH-PERFORMANCE RAIL SYSTEM FUNDING
FY 2016 to FY 2021
(millions of dollars)

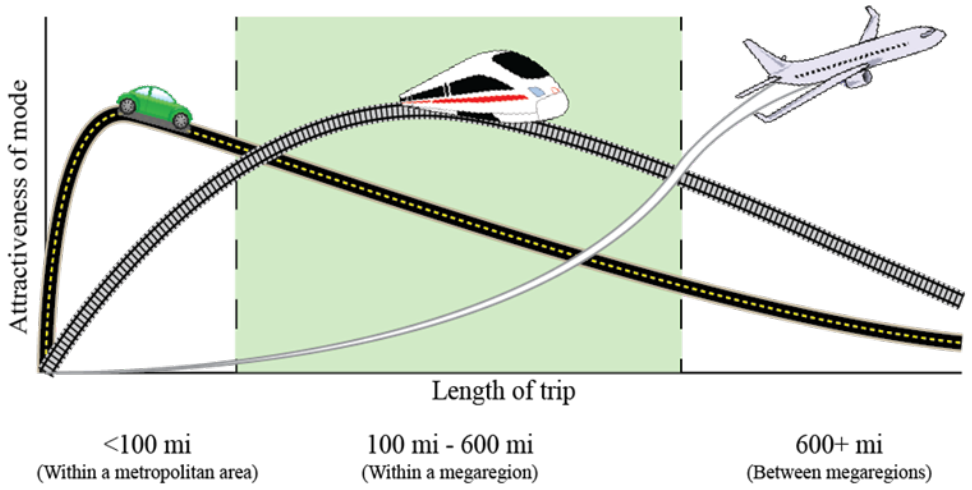
Program Activity	2016	2017	2018	2019	2020	2021	Total
Current Passenger Rail Service							
Northeast Corridor	550	550	700	800	885	940	4,425
State Corridors	225	175	125	75	45	-	645
Long-Distance Routes	850	850	730	690	690	690	4,500
National Assets, Legacy Debt, and Amtrak PTC	475	475	445	385	330	320	2,430
Stations ADA Compliance	350	350	350	350	350	350	2,100
Subtotal, Current Passenger Rail Service	**2,450**	**2,400**	**2,350**	**2,300**	**2,300**	**2,300**	**14,100**
Rail Service Improvement Program							
Passenger Corridors	1,175	1,375	1,575	1,775	1,775	1,775	9,450
Commuter Railroads PTC Compliance	825	705	470	350	350	350	3,050
Local Rail Facilities and Safety	250	250	250	250	250	250	1,500
Planning and Workforce	75	75	75	75	75	75	450
Subtotal, Rail Service Improvement Program	**2,325**	**2,405**	**2,370**	**2,450**	**2,450**	**2,450**	**14,450**
Total, National High-Performance Rail System	**4,775**	**4,805**	**4,720**	**4,750**	**4,750**	**4,750**	**28,550**

Investment through NHPRS will substantially improve the Nation's rail system to accommodate a growing population and growing freight traffic. It is estimated the nation's population will increase by 95 million people from 2015 to 2050. Freight shipments are forecasted to increase by four billion over the same period. Rail is the mode of transportation best suited to accommodate this growth and provide an alternative to the Nation's increasingly congested airports and highways. In this sense, rail is the mode of opportunity.

Passenger Rail

NHPRS will support FRA's strategy to advance rail networks in the Nation's growing megaregions—densely populated, metropolitan areas with interlocking economies and shared transportation, environmental, and cultural resources. These megaregions are well-suited for intercity rail transportation, given the relatively short distances between large cities, generally less than 600 miles.

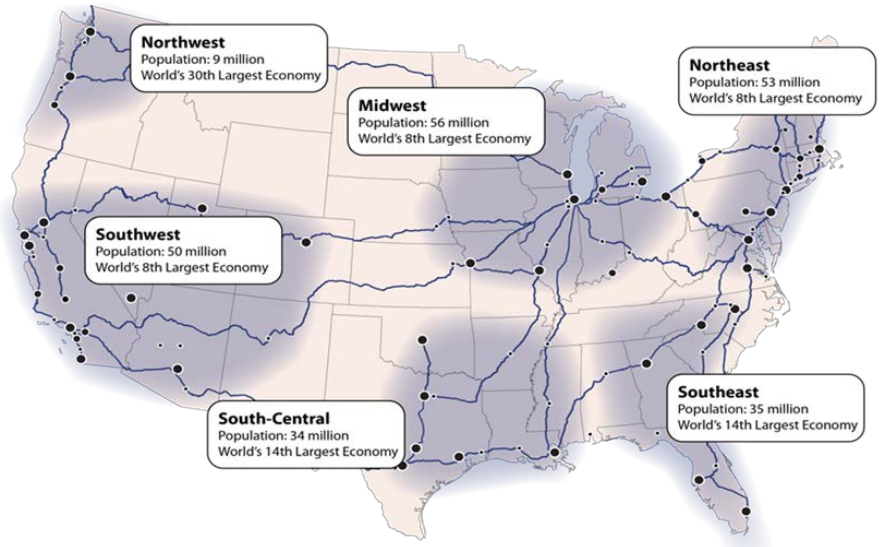
DISTANCES BEST-SUITED FOR HIGH-PERFORMANCE RAIL



Source: FRA analysis.

Each regional network will contain a range of corridor types and levels of service, based on its market conditions and transportation needs. In some regions, numerous trains per hour operating at speeds above 125 miles-per-hour will best address these needs; in others, incremental upgrades to existing services will be appropriate and cost-effective. This **market-based** approach is consistent with the investment strategy followed in rail programs throughout the world – including every nation with successful high-speed rail services.

NATIONAL HIGH-PERFORMANCE RAIL SYSTEM REGIONS



Source: FRA analysis.

FRA has identified three general types of high-performance passenger rail service, differentiated by characteristics such as speed, frequency of service, and whether the trains run on dedicated passenger track or shared track.

HIGH-PERFORMANCE INTERCITY PASSENGER RAIL SERVICES

Service	Top Speed (miles-per-hour)	Market	Frequency	Power	Track
Core Express	125 to 250 +	Rail is dominant mode of choice for most travelers	At least hourly	Electrified	Dedicated
Regional	90 to 125	Rail is competitive with flying and driving	Hourly or bihourly	Electrified and Diesel	Dedicated and Shared
Feeder	Up to 90	Rail is competitive with driving	3 or more daily roundtrips	Diesel	Shared

Freight Rail

The Nation's 140,000-mile freight rail network is the most developed and cost-efficient in the world. Rail's share of total U.S. freight ton-miles is approximately 40 percent.[1] The $70 billion

[1] American Association of Railroads, *Overview of America's Freight Railroads*, April 2014.

industry consists of seven Class I railroads[2] (which generate over 90 percent of the industry's revenue), 21 regional railroads, and more than 500 local railroads (which provide critical linkages to the Class I network).[3] Currently, 89 percent of total freight rail tonnage on the Class I railroads are commodities such as coal, chemicals, farm products, and general merchandise traffic, with the remainder consisting of intermodal goods, such as consumer products.[4]

The continued strong performance of the Nation's freight rail network is critical to meeting the needs of a growing economy. Shifting long-haul intercity trucks to rail would yield substantial public benefits, including avoided motor vehicle fatalities; improved state of good repair and less damage to the highways; improved economic competitiveness due to lower fuel consumption and logistics costs; and improved environmental sustainability with avoided greenhouse gas emissions.

The Need for Coordinated Planning

FRA's goal is that each region will develop coordinated, multi-state plans, based on common parameters and standards that ensure national consistency and compatibility. Coordinated planning is essential to the development of regional passenger rail corridors and improved intermodal freight facilities, because of the complexity of the transportation system and stakeholder interests. Therefore, FRA recognizes that local, regional, public, and private stakeholders must guide the creation of rail plans. Developing rail plans in the context of a broader regional framework will yield more cost-effective investments that are responsive to the economically interdependent needs of communities across a region. Likewise, intermodal freight projects, particularly terminal area upgrades and improvements, involve multiple railroads and require partnerships with local and State officials, other modal representatives, planning organizations, and stakeholders to identify infrastructure needs and undertake strategic investments to improve capacity, relieve congestion, and enable cost savings for shippers and their customers.

In October 2014, FRA published its first multi-state plan for a comprehensive, high-performing passenger rail network, the Southwest Multi-State Rail Planning Study (Southwest Study). The Southwest Study will support rail planning and development in six Southwestern states and serve as a model for future regional rail planning.

DOT and FRA are also leading the NEC FUTURE program, a comprehensive planning effort to define, evaluate, and prioritize future investments in the Northeast Corridor. Through this effort, DOT and FRA are collaborating with numerous stakeholders along the corridor.

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[2] The seven Class I freight railroads are: BNSF Railway, CSX Transportation, Grand Trunk Corporation, Kansas City Southern Railway, Norfolk Southern Combined Railroad Subsidiaries, Soo Line Railroad, and Union Pacific Railroad.

[3] Federal Railroad Administration, *Freight Railroads Background*, March 2012.

[4] American Association of Railroads, *Class I Railroad Statistics*, July 2014. Intermodal refers to transporting goods on trains before and/or after transfers from planes, ships, or trucks.

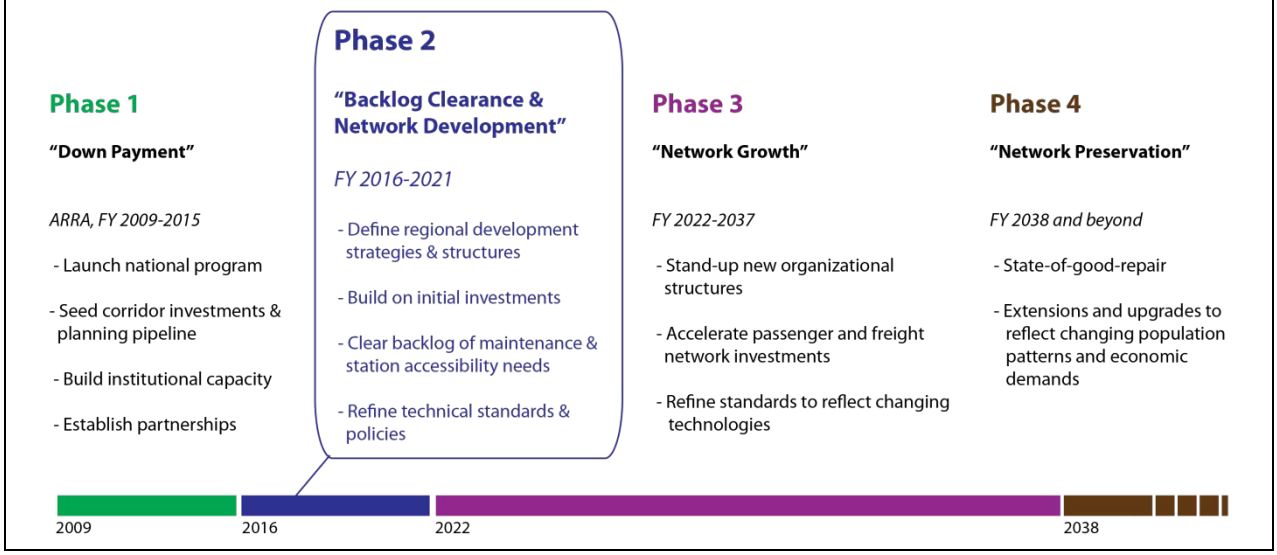
In addition to the FRA-led efforts in the Southwest and Northeast, states in the Northwest, Midwest, Gulf Coast, Southeast, and South-Central have also engaged in regional planning and cooperation.

Recent appropriations, including FY 2014, provided rail planning funds for States and FRA. As a result, a pipeline of projects exists around the country that are ready to advance from planning to construction. Keeping the project pipeline moving and growing is a cornerstone of FRA's NHPRS proposal.

Program Phases

The Administration's goal is for 80 percent of Americans to have access to high-performance rail. This year's budget is a stepping stone to this transformational goal, which will take many years to achieve. The following timeline identifies the general phases of this long-term effort.

PHASES OF THE NATIONAL HIGH-PERFORMANCE RAIL SYSTEM PROGRAM



- **Phase 1 (FY 2009 to 2015) – Down Payment:** The first phase began with the most significant Federal investment in the Nation's passenger rail infrastructure in several decades: $9.3 billion appropriated in the *American Recovery and Reinvestment Act* (ARRA).[5] FRA's focus areas in Phase 1 have included establishing an overall program framework; making capital investments in key regions and developing a pipeline of future projects through planning and engineering activities; and laying the institutional foundations for long-

[5] $8 billion was provided for high-speed and intercity passenger rail development activities and $1.3 billion was provided to Amtrak for capital investments.

term program success. During this phase, Federal funding was primarily provided through three separate accounts: Amtrak Operating Grants, Amtrak Capital and Debt Service Grants, and Capital Assistance for High-Speed Rail Corridors and Intercity Passenger Rail Service.

- **Phase 2 (FY 2016 to 2021) – Backlog Clearance and Network Development:** The second phase begins with the Administration's FY 2016 budget request and six-year rail investment and reauthorization proposal. In this phase, FRA will comprehensively address the maintenance and improvement of current passenger rail services; safety and mobility improvements on existing rail corridors; and new capacity and connections for passenger rail services. Phase 2 will also support regional planning and help clear the backlog of capital needs in the Nation's rail infrastructure, equipment, and station accessibility.

- **Phase 3 (FY 2022 to 2037) – Network Growth:** Based on the regional plans and corridor planning, engineering, and environmental analyses currently underway, NHPRS will focus on implementation and project delivery, with investments and significant construction occurring throughout the United States.

- **Phase 4 (FY 2038 and beyond) – Network Preservation:** NHPRS focus will shift to state of good repair activities and extending and upgrading corridors to reflect changing growth patterns and transportation needs.

Backlog of Needs on the Nation's Rail Network

After decades of underinvestment, a significant backlog of rail infrastructure, stations, and equipment repair or replacement needs has accumulated. This six-year plan will make significant progress towards addressing this backlog. Certain activities in this plan will phase-out or operate with reduced funding as the backlog is reduced.

NATIONAL HIGH-PERFORMANCE RAIL SYSTEM
Estimated Phase-Out of Temporary Activities

Program Area	Activity	Goal	Estimated Final Year of Federal Funding*
Northeast Corridor	Backlog of state of good repair needs	Identified state of good repair backlog on NEC is eliminated	FY 2026 to 2029
Northeast Corridor	Replacement of legacy and obsolete equipment	All legacy/obsolete equipment replaced	FY 2021
State Corridors	Transitional capital support for State corridors	States are financially supporting State corridors	FY 2020
State Corridors	Replacement of legacy/obsolete equipment on State corridors	All legacy/obsolete equipment replaced	FY 2020
National Assets	Legacy debt service	Amtrak's legacy debt is substantially retired	FY 2024**
Stations ADA Compliance	Upgrade Amtrak-served stations to comply with ADA requirements	All required stations are in compliance	FY 2021
Passenger Railroad PTC Compliance	Positive train control implementation on commuter railroads and Amtrak	Positive train control is implemented on commuter railroads and Amtrak	FY 2019 to 2021***

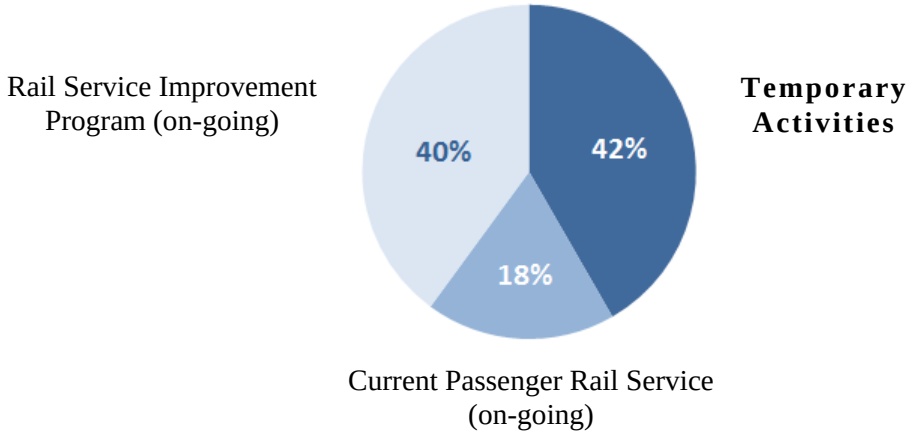
* Assumes 6-year investment strategy is enacted and funded, as proposed. Dates indicate the final year of Federal funding obligations; outlays and final project deliveries might occur in subsequent years.

** Additional payments may be made on legacy debt service beyond this year, but they are expected to be relatively minimal.

*** The GROW AMERICA Act proposes to enable the Secretary to grant merit-based extensions of the December 31, 2015, positive train control implementation deadline on a case-by-case basis, due to challenges faced by the rail industry in meeting this deadline.

In total, more than 40 percent of the 6-year, $29 billion NHPRS proposal will be dedicated to these temporary activities.

NATIONAL HIGH-PERFORMANCE RAIL SYSTEM
Ongoing And Temporary Activities, FY 2016 to FY 2021 ($29 billion)



NHPRS PROGRAM DESCRIPTION

The NHPRS consists of two complementary programs:

Current Passenger Rail Service

DOT requests $2.45 billion for preservation and renewal of the Nation's existing rail services, organized largely by Amtrak business lines.

CURRENT PASSENGER RAIL SERVICE ($2.45 billion)
FY 2016 Request, Objectives, and Eligibility

Business Line and FY 2016 Request	Objectives	Eligible Activities	Eligible Recipients
Northeast Corridor $550 million	Bring infrastructure and equipment into a state of good repair to enable future growth and service improvements	• Ongoing equipment overhaul capital needs • Backlog of state of good repair capital needs* • Replacement of legacy/obsolete equipment * • Offset by user "access" charges (phased in)	Amtrak**
State Corridors $225 million	Facilitate efficient transition to State financial control over State-supported corridors	• Legacy/obsolete equipment replacement* • Support phase-in of fixed asset capital charges to States under PRIIA Section 209*	States
Long-Distance Routes $850 million	Sustain operation of the Nation's long-distance routes, while improving financial efficiency	• Long-distance route capital equipment overhauls and replacement, stations, maintenance facilities • Long-distance route operations	Amtrak

CURRENT PASSENGER RAIL SERVICE ($2.45 billion) FY 2016 Request, Objectives, and Eligibility			
Business Line and FY 2016 Request	**Objectives**	**Eligible Activities**	**Eligible Recipients**
National Assets, Legacy Debt and Amtrak PTC $475 million	Invest in efficient "backbone" rail facilities that support all business lines	• Operating and capital for national reservations system; security and policing; training; and other national systems • Legacy debt service and principal* • PTC capital on Amtrak routes*	Amtrak
Stations ADA Compliance $350 million	Bring stations into compliance with the requirements of the ADA	• Capital to upgrade Amtrak-served stations to be ADA compliant *	Amtrak

* Temporary activities.

** This program will be based on the 5-year Northeast Corridor capital asset plan prepared by Amtrak in coordination with the Northeast Corridor Infrastructure and Operations Advisory Commission–States and other NEC infrastructure owners and users, and approved by FRA. For specific capital projects, this plan may identify other appropriate lead agencies or recipients for these funds, such as States, in which case grants could be directed to those entities.

Northeast Corridor ($550 million): The Northeast Corridor is one of the most important U.S. transportation assets, with more than 11 million riders per year on Amtrak's intercity services, over 240 million people on commuter railroads, and an average of 50 freight trains per day. The FY 2016 budget will fund the following capital needs:

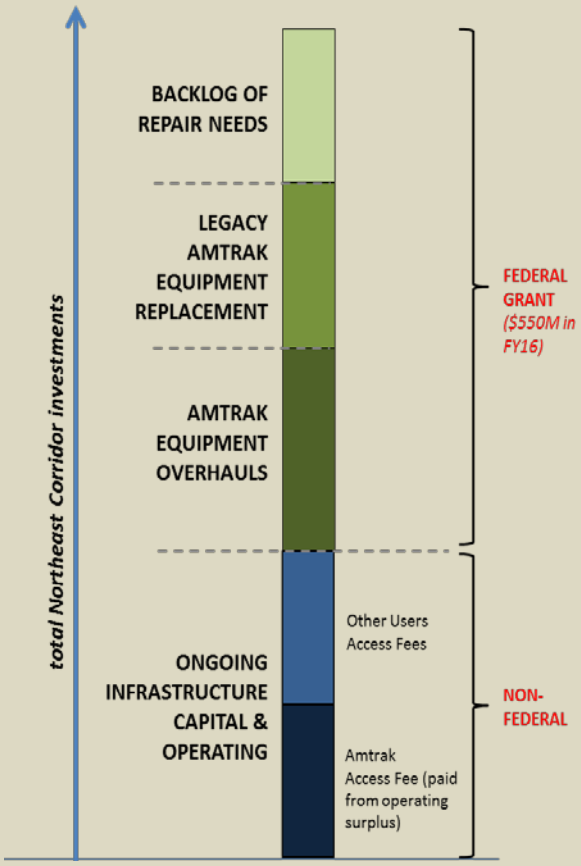
- Backlog state-of-good repair needs on Northeast Corridor infrastructure. Amtrak has identified a maintenance backlog exceeding $9 billion.
- Replacement of aging and obsolete intercity rail equipment. Many of the cars and locomotives operating on the Northeast Corridor are several decades old, near or past their useful lives, and have high maintenance costs and reduced performance.
- The portion of annual equipment overhauls that the Corridor's operating surplus does not cover.

During this six-year proposal, Federal funding increases to address more of the state-of-good repair backlog. Larger, more complex projects (such as bridge and tunnel replacements) generally require long lead times before construction begins. After the backlog is cleared, Federal support for ongoing Northeast Corridor services will be minimal. The Corridor's operating surpluses and other revenue should pay for most capital replacement and equipment overhauls. Amtrak and States will be eligible for competitive Federal grants through the Rail Service Improvement Program to upgrade Northeast Corridor services.

ALLOCATING COSTS – PRIIA SECTION 212

Section 212 of PRIIA requires the Northeast Corridor Infrastructure and Operations Advisory Commission (representatives from Amtrak, U.S. DOT, NEC Northeast Corridor States, and other NEC stakeholders) to develop and implement a method to allocate costs in order to avoid cross-subsidization among the Corridor's infrastructure owners and service operators. The Commission voted to approve an interim policy in December 2014, with the first owner and operator payments expected to begin in FY 2016.

Under the adopted policy, Amtrak and commuter railroads that operate over the Northeast Corridor will pay an "access fee" that is proportional to the amount of the Corridor's operating and capital resources they consume. FRA expects that Amtrak will use its Northeast Corridor operating surplus to pay its access fee. The surplus will then no longer offset operating losses on Amtrak's other routes, as it does today.



This change increases the transparency of Amtrak's budget and aligns costs and revenues to individual business lines—an FRA guiding principle.

State Corridors ($225 million): Section 209 of PRIIA required States to be financially responsible for supporting their corridor services, beginning in FY 2014. In FY 2014, states were due to pay Amtrak approximately $280 million for capital and operating costs associated with State-supported routes. This strong financial commitment demonstrates the importance of these routes to State transportation systems, economies, and communities' quality of life.

The State Corridors program will provide capital financial assistance for the following:

- Replacement of aging and obsolete rail cars and locomotives on State-supported corridors. This funding will fully replace all legacy equipment by the end of the 6-year plan, which will reduce maintenance costs and improve the passenger experience, better positioning State corridors for long-term economic success. The Federal share of these activities will be up to 80 percent.

- Transition assistance to help States pay a fixed-asset capital charge to be phased-in as part of Section 209 implementation (which is in addition to the costs that states began to pay in FY 2014).

Capital funds that previously flowed through Amtrak will now be provided directly to States in this program. This transitional Federal support is critical to ensuring the continued efficient operation of State-supported corridors, many of which are experiencing record ridership, while States are facing significant budget challenges. States are also eligible to compete for capital grants under the Rail Service Improvement Program to support service growth and improvement.

Long-Distance Routes ($850 million): The long-distance routes operated by Amtrak provide a critical transportation alternative to communities throughout the United States. The long-distance routes serve 39 States and are the only form of intercity rail transportation in 23 of these States. This funding will support operating and capital needs, including the 130 single-level replacement passenger cars, currently being manufactured by CAF USA in Elmira, New York.

FRA's budget shows the full cost of supporting long distance routes, including operating losses and capital expenses. During the six-year proposal, Federal funding declines slightly as the passenger car equipment order is paid for and operational efficiencies are gained. FRA anticipates that long-distance routes will need between $700 million and $750 million annually in Federal operating and capital subsidy for the current routes, assuming no changes to the current route structure.

National Assets, Legacy Debt and Amtrak Positive Train Control ($475 million): This program area will fund:

- National facilities, such as some information technology systems, whose capital and operating costs cannot efficiently be allocated to individual passenger rail business lines. The costs are partially offset by an operating surplus that Amtrak generates on ancillary business activities, such as contracts to operate commuter rail services.[6] FRA expects these costs to decline during the 6-year proposal period.
- Principal and interest payments on Amtrak's legacy debt.
- Support the implementation of positive train control on Amtrak routes, as required by the *Rail Safety Improvement Act of 2008*.

Federal passenger funding for this program will decrease substantially in the future as temporary activities are completed and as other capital and operating expenses are either reduced or allocated to one of the other business lines. In the future, FRA anticipates that the long-term level of Federal support for National Assets would be between $100 million and $150 million annually.

[6] These offsetting, ancillary activities are not directly associated with a business line.

***2016 SAFETY INITIATIVE*:** Amtrak positive train control is central to FRA's 2016 initiative to improve **passenger railroad safety**. Positive train control could have prevented the Metro-North derailment that occurred on December 1, 2013, when an employee apparently operated a train too quickly around a curve, causing a derailment that killed four people. Addressing the passenger rail safety issues that surfaced in the wake of the Metro-North accidents is one of the top three most pressing rail safety issues.

FRA Grant Agreements Based on Business Plans

FRA's grant agreements for each Amtrak business line will require Amtrak to submit 5-year business plans for FRA approval. These plans, which Amtrak may update annually, must justify each business line's program of operating and capital activities. FRA will actively monitor Amtrak's adherence to these plans as part of FRA's comprehensive grant management and oversight.

Stations ADA Compliance ($350 million): This program will fund upgrades to Amtrak-served stations to comply with Americans with Disabilities Act (ADA) requirements. These investments will help make stations more convenient, accessible, and comfortable for all travelers. FRA considers station accessibility a top priority and proposes fully funding these upgrades during the 6-year authorization.

Oversight is up to one half of one percent of the funds appropriated under this title shall be available to conduct oversight activities, including conducting site visits to review the progress and implementation of projects; providing training and technical assistance to grantees and other stakeholders; executing project evaluations to assess outcomes and public benefits; and other activities needed to ensure the effective and efficient use of funds appropriated under the **Current Passenger Rail Service program**. For FY 2016 FRA proposes transferring the 5.5 FTE funded with the Amtrak oversight funding to the Current Passenger Rail Service program.

Rail Service Improvement Program

DOT requests $2.325 billion to expand and improve the U.S. rail network to accommodate growing demand for rail travel and increasing freight traffic.

RAIL SERVICE IMPROVEMENT PROGRAM ($2.325 billion)
FY 2016 Request, Objectives, and Eligibility

Program Area and FY 2016 Request	Objective	Eligible Activities	Eligible Recipients
Passenger Corridors $1.175 billion	Build and upgrade regional networks of passenger rail corridors; relieve congestion on shared use corridors	• Environmental studies • Right-of-way acquisition • Preliminary engineering • Design and construction • Rolling stock acquisition • Congestion mitigation projects identified by the Surface Transportation Board or DOT • Cost of the Credit Risk Premium under the RRIF Program for intercity passenger rail capital projects	• States • Multi-state entities • Amtrak • Equipment entity
Commuter Railroads PTC Compliance $825 million	Support implementation of PTC on commuter railroads	• PTC capital on commuter railroads *	• States • Commuter railroads
Local Rail Facilities and Safety $250 million	Mitigate the adverse impacts of rail operations in local communities	• Highway-rail grade crossing improvements • Rail line relocation projects. • Capital upgrades to short-line freight railroads • Cost of the Credit Risk Premium under the RRIF Program for short-line capital projects • Training and technical assistance for local governments	• States • Multi-state entities • Local governments
Planning and Workforce $75 million	Develop comprehensive plans to guide future investments in the Nation's rail system; develop the workforce and technology necessary to advance the rail industry	• National, multi-state planning • Corridor and terminal area planning and environmental analyses • Capital upgrades to the Transportation Technology Center • Rail-based University Transportation Centers • National Cooperative Rail Research Program • Support for Buy America implementation	• States • Multi-State entities • Metropolitan planning organizations • Transportation Research Board • University Transportation Centers • Manufacturing Exchange Partnership • FRA

Passenger Corridors ($1.175 billion): This program will continue funding projects that lead to new or substantially improved passenger rail corridors, as well as projects to mitigate congestion and rail chokepoints that are consistent with state, multi-state, and national rail plans. Several corridor development projects that began planning and engineering studies in the initial years of the NHPRS program will be ready to begin construction in FY 2016.

To be eligible for this funding, projects must be included in a State or Multi-State Regional Rail Plan. FRA multi-disciplinary teams of rail engineering, planning, and operations experts will review all applications. FRA will select projects based on rigorous analysis of quantitative and qualitative benefits and costs. FRA will ensure that selected projects have strong business and public investment cases and meet demonstrated current and future market needs. FRA will assess applicants' travel time and cost savings, safety and environmental improvements, congestion mitigation on other transportation modes, and economic benefits related to long-term productivity and job creation. Cost assessments will consider capital, operating, maintenance, renewal, and replacement, and the degree to which applicants contribute non-Federal funds and private sector participation.

Commuter Railroads PTC Compliance ($825 million): This program will fund projects that support implementation of PTC for commuter railroads, which carry over 1.7 million passengers per day. Many commuter railroads have limited capital resources with which to fund these costs.

***2016 SAFETY INITIATIVE*:** This program is central to FRA's 2016 initiative to improve **passenger railroad safety**. PTC could have prevented the Metro-North accident that occurred on December 1, 2013, when an employee apparently operated a train too quickly around a curve, causing a derailment that killed four people. Addressing the passenger rail safety issues that surfaced in the wake of the Metro-North accidents is one of the top three safety issues facing the industry currently.

Local Rail Facilities and Safety ($250 million): This program will fund four types of projects that will help rail work better for local communities:

- Improvements to highway-rail grade crossings, resulting in significant safety and local traffic operations benefits.
- Upgrades to short-line railroads, which often provide the connective last mile link between local business and the mainline freight network. FRA will coordinate the delivery grants and credit assistance under its Railroad Rehabilitation and Improvement Financing (RRIF) program. The objective is ensure all financial assistance programs (both grants and loans) work together in a cohesive and comprehensive fashion, improving the Nation's passenger and freight rail networks through an integrated investment portfolio.
- Relocation of rail lines that run through residential neighborhoods or other land use contexts that are not compatible with rail operations.
- Training and technical assistance to help local governments better coordinate with railroads on operations and safety challenges, and integrate rail considerations into land use and transportation planning processes.

Projects must be included on a State Freight Plan or State Rail Plan to be eligible for funding.

***2016 SAFETY INITIATIVE*:** FRA proposes this program to support two of three FRA 2016 safety initiatives: **Grade Crossing and Pedestrian Safety** and **Safe Transport of Energy Products (STEP)**. FRA would target these resources to highway-rail crossing improvement and pedestrian protection projects. It would also reserve funds for grants to small railroads to make capital investments on routes with heavy crude oil and other energy products. For example, FRA would encourage small railroads to install electronically controlled pneumatic brakes, which can greatly improve stopping performance and train dynamics.

Planning and Workforce ($75 million): This program area will fund two activities:

- Planning ($50 million): FRA believes the success of the NHPRS vision hinges on development of sound planning, analysis, and implementation strategies. The demand for planning funds is strong, exhibited by the substantial volume of applications FRA received in prior funding rounds. The funding level requested is only two percent of the total requested funding for the Rail Service Improvement Program, which is a level that is slightly lower than other federal transportation infrastructure grant programs. Through grants, contracts, and other forms of support, FRA will undertake the following activities:
    - National, multi-state, and state planning activities necessary to advance regional rail networks and ensure that projects are appropriately prioritized through a comprehensive understanding of costs and benefits; and
    - Service development plans and environmental analyses for corridors and terminal areas.

- Workforce Development ($25 million): The United States needs a workforce that is ready to develop, build, and operate a modern, high-performance rail system. Unlike other modes of transportation, no railroad engineering degree programs exist in the United States. Moreover, existing rail apprenticeship programs generally do not prepare individuals for working with new technologies. FRA proposes a series of investments to develop the Nation's rail workforce:
    - *Upgrades to the Transportation Technology Center ($15 million)*: The Transportation Technology Center (the Center) in Pueblo, Colorado, does not have facilities for testing, evaluating, and demonstrating state-of-the-art high-performance rail infrastructure and equipment. Upgrading the Center will result in faster approvals for new equipment, stronger safety standards, and early identification of reliability issues, saving long-term maintenance costs and ensuring better passenger service. These upgrades will also improve the ability for American companies to design and test new technologies, helping to boost their global competitiveness and further growing the domestic rail workforce.

    - *National Cooperative Rail Research Program ($5 million)*: Section 306 of PRIIA established this program, managed by the National Academy of Sciences, to provide a rail research program similar to those for aviation, highways, and transit. FRA launched the program in 2012 to develop the intellectual infrastructure needed to advance effective rail policy, and proposes to continue funding the program.

- *Rail-based University Transportation Center ($3 million)***:** On-going Federal funding is essential to sustain universities' development of rail-based degree programs. UTCs will provide dual benefits of (1) conducting basic research that FRA can apply to improve railroad safety and performance; and (2) producing qualified professionals who can lead implementation of high-performance rail.

- *Buy America Support ($2 million)*: This activity will allow FRA to continue coordinating with the Manufacturing Extension Partnership, a National Institute of Standards and Technology program that works with private manufacturing firms to meet the industry needs and grow capacity for American-made rail products.

Oversight is up to one percent of the funds appropriated under this title shall be available to conduct oversight activities, including conducting site visits to review the progress and implementation of projects; providing training and technical assistance to grantees and other stakeholders; executing project evaluations to assess outcomes and public benefits; and other activities needed to ensure the effective and efficient use of funds appropriated under the **Rail Service Improvement program**. For FY 2016 FRA requests 2.5 FTE to be funded with the oversight funding of this program.

Why Do We Need To Fund The Program At The Requested Level?

Current Passenger Rail Service..... $2.450 billion

Northeast Corridor ..... $550 million
This funding level is based on an analysis of ongoing state of good repair and equipment overhaul needs for the NEC, informed in part by Amtrak's *FY 2015 Budget Request* and *Five-Year Financial Plan* (2014-2018), less the expected operating surplus from Corridor operations. Additionally, this funding level will fund a portion of the state of good repair backlog and begin the process of replacing the aging and obsolete rail cars and locomotives in use on the NEC.

State Corridors ..... $225 million
This funding level is based on an analysis of the estimated needs to help support the phase-in of a fixed asset capital charge as part of the PRIIA Section 209 process. FRA is proposing to cover a portion of these costs, with Federal support declining in out-years. The remainder of the request will be dedicated to the procurement of new rail cars and locomotives to replace aging and obsolete equipment, at a maximum of 80 percent Federal share.

Long-Distance Routes ..... $850 million
This funding level is based on an analysis of the operating and capital needs for long-distance routes, informed in part by Amtrak's *FY 2015 Budget Request* and *Five-Year Financial Plan* (2014-2018). The capital portion will be used for long-distance

equipment overhauls and replacement, as well as an allocated share of stations, mechanical facilities, and other Amtrak assets that support long-distance services.

National Assets, Legacy Debt and Amtrak PTC ..... $475 million
The funding level is based on an analysis by FRA of capital and operating needs for core national assets managed by Amtrak, such as the reservations system and other technology infrastructure. The remainder of the funding will be dedicated to the temporary payments towards retiring Amtrak's legacy debt and PTC implementation.

2016 SAFETY INITIATIVE: PTC implementation on Amtrak is a key element of FRA's 2016 safety initiative to improve **passenger rail safety,** as there are more than 30 million passengers that ride Amtrak every year. Given this exposure, ensuring Amtrak has access to funds for PTC is a top priority for FRA.

Stations ADA Compliance ..... $350 million
ADA compliance projects were funded under the previous Amtrak capital grants program and the Capital Assistance for High Speed Rail Corridors and Intercity Passenger Rail Service program. This funding level is based on an analysis of the outstanding ADA investment needs at Amtrak-served stations.

Rail Service Improvement Program ..... $2.325 billion

Passenger Corridors ..... $1,175 million
This funding level is based on an analysis of corridors that will be ready for new infrastructure investments in FY 2016, as well as the additional funding needs of corridor development projects currently underway. FRA will ensure that the business and public investment case for each project is strong. Only proposals that meet demonstrated current and future market needs will be funded.

Commuter Railroads PTC Compliance ..... $825 million
***2016 SAFETY INITIATIVE*:** PTC implementation on commuter railroads is a key element of FRA's 2016 safety initiative to improve **passenger rail safety**. About 500 million riders take commuter railroads each year. Given this exposure, ensuring commuters have access funds for PTC is a top priority for FRA. This figure is based on FRA analysis of the outstanding PTC needs for the Nation's commuter railroads.

Local Rail Facilities and Safety ..... $250 million
***2016 SAFETY INITIATIVE*:** FRA requests $250 million to support two of three 2016 safety initiatives: **Grade Crossing Safety and Pedestrian Protection** and **Safe Transport of Energy Products initiative (STEP).**

This funding level will support projects to improve the integration of rail activities in local communities. Funding will be provided to upgrade highway-rail grade crossings; in previous solicitations for grade crossing improvements, demand has exceeded available funding by factors of 2.5 through 4. This program will also support rail line relocation activities, which have important community and safety benefits and can result in more efficient freight operations. Demand for previous rounds of discretionary rail line

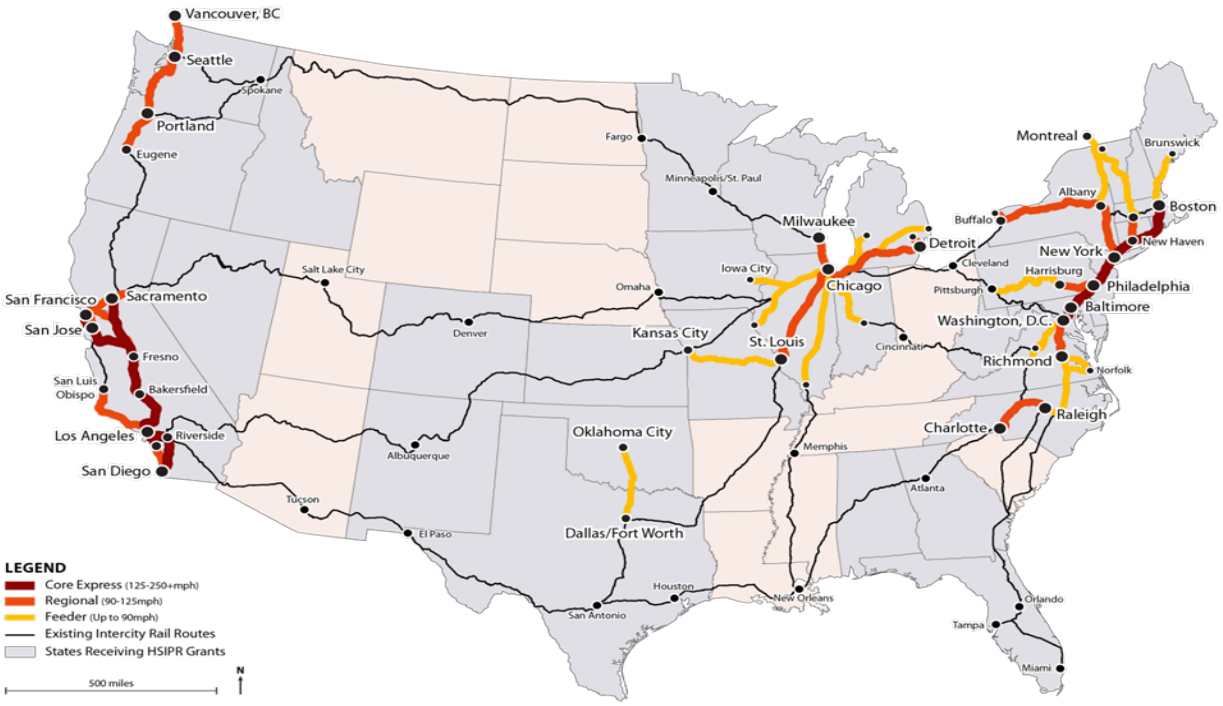
relocation grants has been strong, ranging from $70 to $200 million. Finally, funding will be available for short line railroads to upgrade their infrastructure. Short line railroads play a critical role in making "last mile" connections from local businesses to the national main line network.

Planning and Workforce ..... $75 million
This request is based on an analysis of regional, state, and corridor planning needs. This funding amount ($50 million) is approximately two percent of the total requested funding for the Rail Service Improvement Program, a level consistent with other long-term transportation investment programs. The balance of the program ($25 million) is based on an analysis of upgrade needs at the Transportation Technology Center ($15 million), continuation of the National Cooperative Rail Research Program ($5 million, as authorized in PRIIA), continuation of rail-based University Transportation Centers ($3 million), and continuation of FRA's relationship with the Manufacturing Extension Partnership, which is helping boost the domestic rail industry and ensure compliance with Buy America requirements ($2 million).

Rail Investment is underway and it works. Major activities and accomplishments in Phase 1 of the NHPRS program include:

- **Success of Initial Investments.** The $10.1 billion provided under ARRA and the subsequent FY 2010 appropriation for Phase 1 of the NHPRS is having a substantial impact on the Nation's rail system: 6,000 corridor miles are being improved, 30 stations are being upgraded, and hundreds of new passenger cars and locomotives are being procured. These projects are improving the customer experience by reducing trip times, improving reliability, adding additional frequencies, and making stations and equipment more comfortable and accessible. These projects are also enhancing rail safety through track and bridge improvements, grade crossing protection and separations, and PTC and signal system upgrades. Collectively, these projects represent the foundational elements to fulfill the long-term vision for high-performance rail.

HIGH-SPEED AND INTERCITY PASSENGER RAIL PROGRAM
Current Investments



CURRENT HIGH-SPEED AND INTERCITY PASSENGER RAIL
Program Investments

Type of Corridor	Miles Under Development		Federal Investment		Population Served	
	Number of Miles	Percentage of Total	Millions of Dollars	Percentage of Total	Millions of People	Percentage of U.S. Population
Core Express	1,250	20%	$4,919	48.8%	74	24%
Regional	3,127	50%	$4,578	45.4%	102	33%
Feeder	1,911	30%	$555	5.5%	39	8%
Other	*n.a.*	*n.a.*	$25	0.2%	*n.a.*	*n.a.*
TOTAL	**6,288**	**100%**	**$10,077**	**100%**	**135**	**44%***

* Cumulative figure excludes double counting of populations served by more than one corridor type.

n.a. Not applicable.

- **Projects Completed and Rail Services Improved.** Project sponsors have substantially completed 61 projects, resulting in upgraded stations, improved operational efficiency, and

enhanced services.[7] Passenger rail service has been extended to Freeport and Brunswick, Maine, and track, signal, and bridge improvements are now in-service on Amtrak's *Vermonter*, reducing travel times by nearly 30 minutes. Initial reliability and travel time improvements have also been achieved on the Chicago-St. Louis, Chicago-Detroit, Los Angeles-San Diego, and Philadelphia-Harrisburg corridors.

- **Construction Underway throughout the United States.** Construction is underway on 37 projects for approximately $5 billion in Federal investments.[8] FRA's partners are investing billions of their own funds to match these Federal investments. Additionally, the freight rail industry invested more than $25 billion of private capital in the Nation's rail network in both 2012 and 2013.[9] FY 2015 will see significant corridor construction underway in North Carolina, Michigan, Illinois, California, and the State of Washington.

  Program progress to date includes:
  - *Illinois*: In October 2014, the Englewood Flyover opened outside Chicago, eliminating one of the worst passenger and freight train bottlenecks in the country. Additionally, 110 mile-per-hour service began on the Chicago – St. Louis corridor in November 2012.
  - *North Carolina*: Station upgrades in Cary, High Point, and Burlington; projects at the Raleigh Capital Yard; and locomotive rehabilitations are complete on the Charlotte-Raleigh corridor. Construction continues for several grade separation, passing siding, and track crossover projects.
  - *California:* On January 6, 2015 major construction work began on the California High-Speed Train with a groundbreaking ceremony in Fresno, CA. Construction on the first 29-mile section of track is underway between Merced and Fresno in California's Central Valley. Additionally, construction work is ongoing at the new Transbay Transit Center, which will permit intercity and commuter trains to provide direct access to downtown San Francisco.
  - *Oregon and Washington*: Construction projects in Seattle, Tacoma, and Portland are complete, and construction is ongoing to add additional daily round trips, reduce travel time, and improve on-time performance between Seattle and Portland.
  - *Michigan:* Approximately 135 miles of rail line between Kalamazoo and Dearborn has been purchased and track and signal rehabilitation work is now underway.
  - *Equipment:* In 2014, construction work began on an equipment purchase for up to 93 new passenger rail cars and 37 new locomotives. Through an $831 million Federal investment and partnerships across six states, the new equipment will permit speeds of up to 125 mph with more efficient locomotives and rail cars that improve passenger comfort.

- **Pipeline of New Projects.** Seventy-six planning, environmental analysis, and engineering projects are completed or underway across the country. The products that result from these

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[7] As of January 2015.

[8] As of January 2015.

[9] American Association of Railroads, Freight Railroad Capacity and Investment, April 2014.

efforts will lay the foundation for future construction projects and service improvements. See the related discussion on FY 2015 and 2016 accomplishments.

- **Next Generation of Passenger Rail Equipment.**
  - *Technical Specifications*: With FRA's participation, the Next Generation Equipment Committee (NGEC) has approved specifications for single- and bi-level passenger rail cars, diesel locomotives, train sets and diesel multiple units. Additional work is underway to complete the remaining equipment specification for dual-mode locomotives and refine existing specifications and processes. These specifications will substantially advance the goals of ensuring interoperability of equipment and lowering unit costs.
  - *Procurement*: A multi-state contract for the procurement of 130 bi-level passenger rail cars was issued to Sumitomo/Nippon-Sharyo, with initial deliveries expected in summer 2016; Siemens Industry Inc. was selected in December 2013 to build 35 high-speed diesel locomotives through a second multi-state procurement. Option orders for both cars and locomotives are currently being negotiated. Additionally, Amtrak has selected Siemens to manufacture 70 high-performance Northeast Corridor locomotives in California, Georgia, and Ohio, and CAF to manufacture 130 single-level passenger cars in New York.
  - *Fleet Management:* FRA is working with the Illinois Department of Transportation and other Midwest states to develop standards for integrated management of rail equipment, addressing issues such as fleet planning, state-of-the-art maintenance practices, institutional fleet ownership structures, cost-sharing methodologies for cross-state border services, funding and financing arrangements, and other factors essential to developing an efficient and effective equipment pool in the Midwest. These standards shall function as guiding policies for all states procuring, owning, and operating equipment.

- **Rail Research.** FRA, jointly with the Transportation Research Board, established the National Cooperative Rail Research Program in September 2010 to advance research on issues critical to rail policy development. The first set of research projects selected are all underway, with some expecting to be completed in FY 2015.

Anticipated FY 2015 and FY 2016 Accomplishments

- **Passenger network development:** Since the passage of PRIIA, states and local governments have spent significant time and money preparing planning, engineering, and environmental analyses. Until recent years, no federal funds were available to support this critical groundwork necessary to inform capital investment. But now, many states and local governments have plans in place, which has created a strong "pipeline" of potential rail capital projects in regions across the country. FRA expects this pipeline will create heavy demand for the new grant assistance programs proposed in the Rail Service Improvement Program. These new grant programs will provide the funding required to make market-based investments to turn these studies into improved and new services Substantial private sector participation is also anticipated for several of these corridors, particularly those operating at a Core Express level of service.

  Additionally, FRA estimates it can accomplish the following with requested funds:

- Fund the procurement of **100 locomotives and 400 rail cars** to replace old and obsolete equipment and to serve growing demand on specific corridors.
- At least **30 state rail plans and corridor service development plans** will establish the framework for future rail investments throughout the country. The Northeast Corridor service development plan and environmental impact statement will be complete, which is a significant pre-requisite to making major improvements on the Nation's busiest rail corridor.
- Accelerate projects to **reduce the infrastructure maintenance backlog on the Northeast Corridor**, leading to service and reliability improvements.

The cumulative impact of these investments is that rail travel will become a more attractive option by offering travelers and shippers faster travel times, better reliability, and more frequent trains. Increased rail ridership and freight movement means fewer people driving on congested roads or flying to/from congested airports, reduced greenhouse gas emissions and fuel consumption, and other public benefits.

What benefits will the American public receive through this request?

The importance of transportation infrastructure to global economic competitiveness is indisputable. The World Economic Forum (WEF) notes, "Extensive and efficient infrastructure is critical for ensuring the effective functioning of the economy... Well-developed infrastructure reduces the effect of distance between regions, integrating the national market and connecting it at low cost to markets in other countries and regions."

Even in challenging fiscal situations, it is imperative that the United States continue to invest in the infrastructure that will enable the country to maintain and strengthen its position as a global economic leader in the 21st century and beyond. The WEF currently ranks the U.S. 16th in quality of overall infrastructure, down from 7th in 1999 and below several western European, Asian, and Middle Eastern countries.[10]

Maintaining economic competitiveness over the long-term will require the U.S. to address a number of interconnected transportation challenges:

- **Population growth**—By 2050, the U.S. Census Bureau projects that an additional 95 million people will reside in the United States, compared to 2015. The vast majority of this growth will be concentrated in a small number of "megaregions." The U.S. DOT and Department of Commerce have found that 40 tons of freight is moved through the U.S. for each resident, and thus this population increase will mean an extra 4 billion tons of freight moved each year, an increase of 35 percent over 2010 levels.[11]

[10] World Economic Forum, Global Economic Competitiveness Report, 2014-2015, 2014.

[11] U.S. Department of Transportation, U.S. Department of Commerce, Commodity Flow Survey.

- **Energy consumption**—In 2010, the United States used more than 13 million barrels of oil every day for transportation. U.S. citizens consume nearly twice the oil per capita as citizens of OECD member nations.[12]

- **Energy costs**—The inflation-adjusted cost of oil increased 129 percent from 1990 to 2010. As a result, Americans spent $630 million more *per day* on oil for transportation than they did 20 years earlier—an average annual increase of nearly $750 for every American. The Energy Information Administration expects crude oil prices to rise an additional 50 percent between 2011 and 2035.[13]

- **Environmental protection**— In April of 2014, the *Inventory of U.S. Greenhouse Gas Emissions and Sinks* found that the U.S. emitted 4.7 percent more greenhouse gases in 2012 than it did in 1990.[14] In addition, 28 percent of all greenhouse gas emissions are now from the transportation sector. Many of these emissions have serious public health implications, which can have substantial impacts on quality of life and the economy.

- **Congestion and Mobility—**Highway and aviation congestion continues to rise, with an estimated economic impact growing from $24 billion in 1982 to $121 billion in 2011 in lost time, productivity, and fuel.[15] In many places with the worst congestion, expanding airports and highways is difficult, as land is limited and environmental/community impacts are significant.

- **Changing Demographics**— As the U.S. population grows, it is also changing. A large number of Americans are entering their retirement years and are choosing to drive less often, particularly over longer distances. Only 15% of Americans older than 65 drive regularly, and that rate declines to just 6% for those older than 75.[16] At the same time, younger generations of Americans are choosing to drive both less often and for fewer miles than previous generations, and are obtaining driver's licenses at record low rates.[17] This cohort uses public transportation more frequently than older Americans and has different expectations for the composition of their transportation system. As the U.S. population grows, it is also changing.

Rail is uniquely well-suited to meeting these challenges. To accommodate population growth, rail provides very high capacity within a relatively limited geographic "footprint." As highway

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[12] U.S. Central Intelligence Agency, World Factbook: United States, August 1, 2012.

[13] U.S. Energy Information Administration, AEO2014 Early Release Overview, February 27, 2014.

[14] U.S. Environmental Protection Agency, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2012, April 2014.

[15] Texas Transportation Institute, 2012 Urban Mobility Report, December 2012.

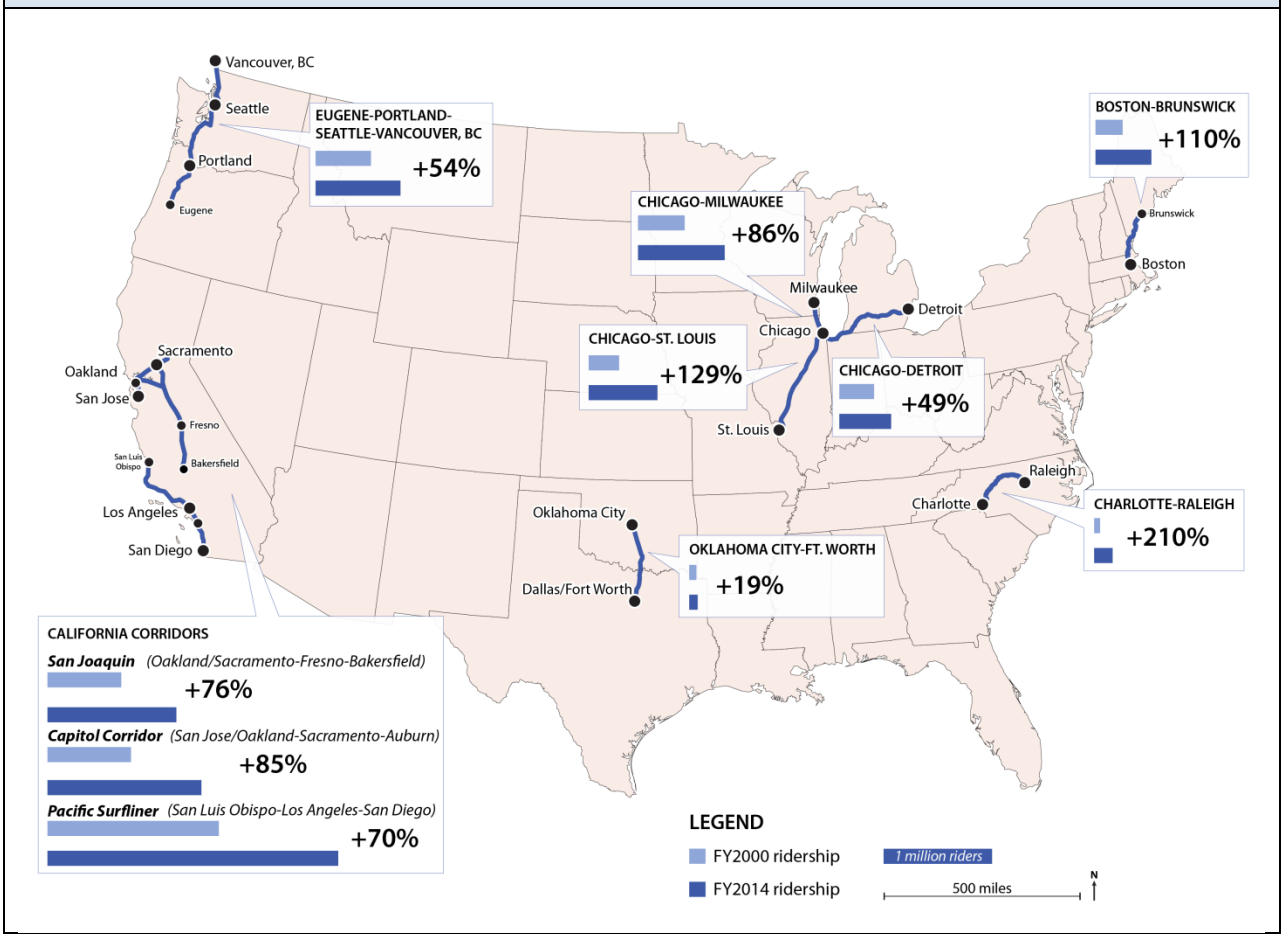
[16] AARP, Travel Behavior by Age, 2012.

[17] Dutzik, Tony; Inglis, Jeff; Baxandall, Phineas, Millennials in Motion, Frontier Group/U.S. PIRG Education Fund, October 2014.

and airport congestion increases, rail can provide a more reliable and efficient travel options for many markets.

Americans are choosing rail in record numbers— Demand for passenger rail continues to climb across the United States. In FY 2014, Amtrak carried 30.9 million passengers and set a new ridership record on the NEC with 11.6 million passengers. Eight other routes also set new ridership records, and overall ticket revenues set a new record at nearly $2.2 billion.[18] These ridership levels are being achieved even before many of the substantial service improvements funded in recent years begin to come online. Once new trains are added and trip times and delays reduced, the system will see even higher levels of ridership.

RIDERSHIP GROWTH ON SELECTED PASSENGER RAIL CORRIDORS, 2000 TO 2014



Source: Amtrak.

[18] Amtrak, Amtrak Ridership and Revenues Continue Strong Growth in FY 2014, October 27, 2014.

More goods are traveling by rail—The intermodal market has been the fastest growing segment of the freight rail industry since 1980. In 2014, U.S. rail intermodal freight volumes set a new record with nearly 13.5 million containers and trailers, up 5.2 percent over the previous record achieved in 2013.[19] Furthermore, goods are traveling shorter distances by rail on average, as new infrastructure to support intermodal freight comes online. This growth demonstrates the demand for intermodal rail transportation as more shippers decide to take advantage of the mode's inherent economic advantages.

Communities across the Nation are competing for rail investment dollars—Every region in the U.S. has demonstrated demand for investments in passenger rail services. Between August 2009 and April 2011, FRA evaluated nearly 500 applications submitted by 39 states, the District of Columbia, and Amtrak, requesting more than $75 billion. In the absence of recent HSIPR appropriations, prospective applicants have also turned to the Transportation Investment Generating Economic Recovery (TIGER) program, which has awarded more than $300 million for intercity passenger rail projects since the passage of the Recovery Act..

Rail has demonstrated public benefits, domestically and internationally—

- Strengthening passenger rail services can help balance the Nation's transportation network, as demonstrated on the Northeast Corridor (NEC). Since the introduction of the *Acela* service 13 years ago, Amtrak has almost tripled its air/rail market share on the NEC, carrying 75 percent of travelers between New York and Washington.[20] These changing travel patterns can free airport capacity for more cost-efficient long-distance flights.

- Rail is among the most energy-efficient ways to travel, and also has lower pollution emission rates than other modes. One intermodal train between Chicago and Los Angeles can save 75,000 gallons of fuel by replacing 300 trucks.[21] Diverting just 10 percent of long-distance freight from truck to rail would save one billion gallons of fuel each year; the resulting decrease in greenhouse gas emissions would be the equivalent of taking nearly 2 million cars off the road for a year.[22]

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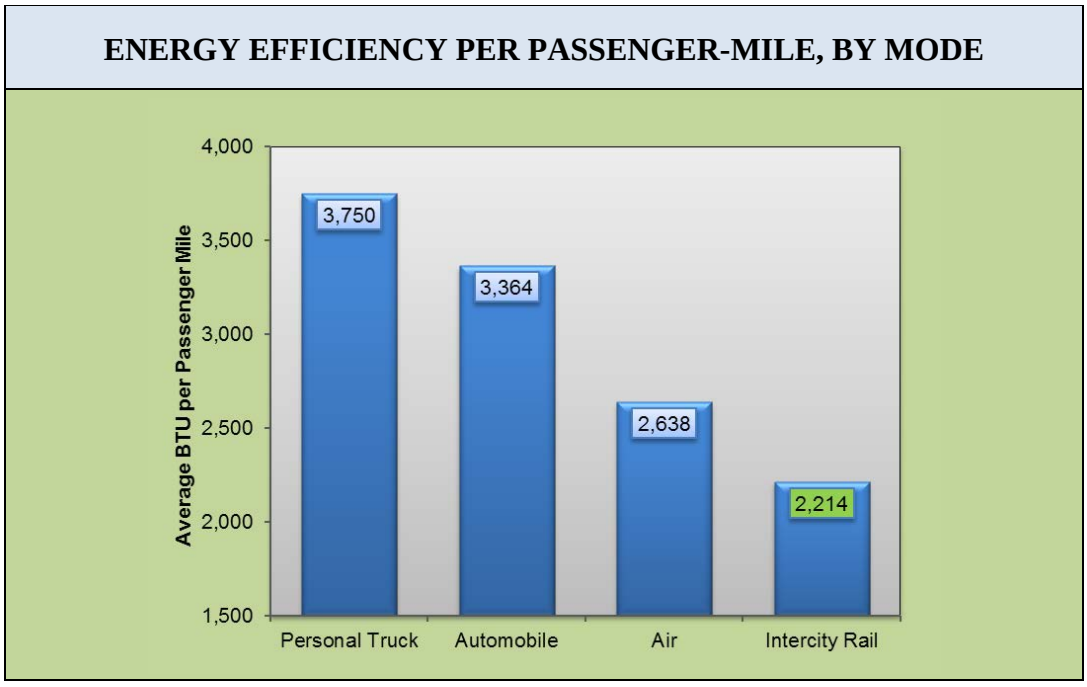
[19] American Association of Railroads, AAR Reports Increased Freight Rail Traffic for 2014, January 8, 2015

[20] Nixon, Ron, Frustrations of Air Travel Push Passengers to Amtrak, The New York Times, August 15, 2012.

[21] Federal Railroad Administration, Comparative Evaluation of Rail and Truck Fuel Efficiency on Competitive Corridors, November 19, 2009.

[22] American Association of Railroads, Freight Railroads Help Reduce Greenhouse Gas Emissions, April 2014.



Source: U.S. Department of Energy, *Transportation Energy Data Book*, Edition 32, July 2013.

- Furthermore, freight rail systems consist primarily of privately-owned infrastructure and are maintained out of railroad revenues. In contrast, heavy intercity trucks pay only 80 percent of the costs they impose on Federal highways through wear-and-tear.[23]

- Finally, investing in rail produces tangible economic returns even beyond the improved transportation network. For example, German towns connected to high-speed rail achieved 2.5 percent greater economic growth than comparable, nearby towns not connected to the rail system.[24]

[23] Federal Highway Administration, Addendum to 1997 *Federal Highway Cost Allocation Study*, May 2000.

[24] Gabriel Ahlfeldt and Arne Feddersen, From Core To Periphery, London School of Economics and University of Hamburg, 2010.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
NATIONAL HIGH-PERFORMANCE RAIL SYSTEM
CURRENT PASSENGER RAIL SERVICE
Program and Financing Schedule
($000)

Account Number: 69-8320-4-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Obligations by program activity:			
0001	Northeast Corridor	-	-	550,000
0002	State Corridors	-	-	225,000
0003	Long-Distance Routes	-	-	850,000
0004	National Assets, Legacy Debt, and Amtrak PTC	-	-	475,000
0005	Stations ADA Compliance	-	-	350,000
0900	**Total new obligations**	**-**	**-**	**2,450,000**
	Budgetary Resources:			
	Budget authority:			
	Appropriations, discretionary:			
1101	Appropriation (special or trust fund)	-	-	2,450,000
1137	Appropriation applied to liquidate contract authority	-	-	2,450,000
1160	**Appropriation, disc (total)**	**-**	**-**	**-**
	Contract Authority, mandatory:			
1600	Contract Authority	-	-	2,450,000
1640	**Contract Authority, mandatory (total)**	**-**	**-**	**2,450,000**
1900	**Budget authority (total)**	**-**	**-**	**2,450,000**
1930	**Total budgetary resources available**	**-**	**-**	**2,450,000**
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	-	-	-
3010	Obligations incurred, unexpired accounts	-	-	2,450,000
3020	Outlays (gross)	-	-	-1,376,000
3050	Unpaid obligations, end of year (gross)	-	-	1,074,000
3200	**Obligated balance, end of year (net)**	**-**	**-**	**1,074,000**

DEPARTMENT OF TRANSPORTATION (Cont'd)
FEDERAL RAILROAD ADMINISTRATION
NATIONAL HIGH-PERFORMANCE RAIL SYSTEM
CURRENT PASSENGER RAIL SERVICE
Program and Financing Schedule
($000)

Account Number: 69-8320-4-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Budget authority and outlays, net:			
	Mandatory:			
4090	Budget authority, gross	-	-	2,450,000
	Outlays, Gross			
4100	Outlays from new mandatory authority	-	-	1,376,000
4160	Budget authority, net (mandatory)	-	-	2,450,000
4170	Outlays, net (mandatory)	-	-	1,376,000
4180	**Budget authority, net (total)**	**-**	**-**	**2,450,000**
4190	**Outlays, net (total)**	**-**	**-**	**1,376,000**
5061	**Limitation on obligations (Transportation Trust Funds)**	**-**	**-**	**2,450,000**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
NATIONAL HIGH-PERFORMANCE RAIL SYSTEM
RAIL SERVICE IMPROVEMENT PROGRAM
Program and Financing Schedule
($000)

Account Number: 69-8310-4-401

Line	Line Title	FY 2013 ACT	FY 2014 EST	FY 2015 EST
	Obligations by program activity:			
0001	Passenger Corridors	-	-	1,175,000
0002	Commuter Railroads PTC Compliance	-	-	825,000
0003	Local Rail Facilities and Safety	-	-	250,000
0004	Planning and Workforce	-	-	75,000
0900	**Total new obligations**	**-**	**-**	**2,325,000**
	Budgetary Resources:			
	Budget authority:			
	Appropriations, discretionary:			
1101	Appropriation (special or trust fund)	-	-	2,325,000
1137	Appropriation applied to liquidate contract authority	-	-	2,325,000
1160	**Appropriation, disc (total)**	**-**	**-**	**-**
	Contract Authority, mandatory:			
1600	Contract Authority	-	-	2,325,000
1640	**Contract Authority, mandatory (total)**	**-**	**-**	**2,325,000**
1930	**Budget authority (total)**	**-**	**-**	**2,325,000**
1930	**Total budgetary resources available**	**-**	**-**	**2,325,000**
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	-	-	-
3010	Obligations incurred, unexpired accounts	-	-	2,325,000
3020	Outlays (gross)	-	-	-438,400
3050	Unpaid obligations, end of year (gross)	-	-	1,886,600
3200	**Obligated balance, end of year (net)**	**-**	**-**	**1,886,600**

DEPARTMENT OF TRANSPORTATION (Cont'd)
FEDERAL RAILROAD ADMINISTRATION
NATIONAL HIGH-PERFORMANCE RAIL SYSTEM
RAIL SERVICE IMPROVEMENT PROGRAM
Program and Financing Schedule
($000)

Account Number: 69-8310-4-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Budget authority and outlays, net:			
	Mandatory:			
4090	Budget authority, gross	-	-	2,325,000
	Outlays, Gross			
4100	Outlays from new mandatory authority	-	-	438,400
4160	Budget authority, net (mandatory)	-	-	2,325,000
4170	Outlays, net (mandatory)	-	-	438,400
4180	**Budget authority, net (total)**	**-**	**-**	**2,325,000**
4190	**Outlays, net (total)**	**-**	**-**	**438,400**
5061	**Limitation on obligations (Transportation Trust Funds)**	**-**	**-**	**2,325,000**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
NATIONAL HIGH-PERFORMANCE RAIL SYSTEM
CURRENT PASSENGER RAIL SERVICE
Object Classification Schedule
($000)

Account Number: 69-8320-4-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Direct Obligations:			
11.1	Full time permanent compensation	-	-	730
11.5	Compensation civilian personnel benefits	-	-	12
12.0	Civilian Personnel Benefits	-	-	203
21.0	Travel	-	-	230
25.1	Advisory and assistance service	-	-	11,075
41.0	Grants, subsidies, and contributions	-	-	2,437,750
99.9	**Total new obligations**	**-**	**-**	**2,450,000**

RAIL SERVICE IMPROVEMENT PROGRAM
Object Classification Schedule
($000)

Account Number: 69-8310-4-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Direct Obligations:			
11.1	Full time permanent compensation	-	-	262
11.5	Compensation civilian personnel benefits	-	-	4
12.0	Civilian Personnel Benefits	-	-	72
21.0	Travel	-	-	306
25.1	Advisory and assistance service	-	-	22,606
41.0	Grants, subsidies, and contributions	-	-	2,301,750
99.9	**Total new Obligations**	**-**	**-**	**2,325,000**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION AND IMPROVEMENT FINANCING PROGRAM
APPROPRIATIONS LANGUAGE

The Secretary of Transportation is authorized to issue direct loans and loan guarantees pursuant to sections 501 through 504 of the Railroad Revitalization and Regulatory Reform Act of 1976 (Public Law 94–210), as amended, such authority to exist as long as any such direct loan or loan guarantee is outstanding.

Program and Performance Statement

The Transportation Equity Act of the 21st Century of 1998 established the Railroad Rehabilitation and Improvement Financing loan and loan guarantee program. The Safe, Accountable, Flexible, Efficient Transportation Equity Act of 2005: A Legacy for Users, changed the program to allow FRA to issue direct loan and loan guarantees up to $35 billion and it required that no less than $7 billion be reserved for projects primarily benefiting freight railroads other than Class I carriers. The funding may be used: (1) to acquire, improve, or rehabilitate intermodal or rail equipment or facilities, including track, components of track, bridges, yards, buildings, or shops; (2) to refinance debt; or (3) to develop and establish new intermodal or railroad facilities.

What Is This Program and Why is it Necessary?

Under the Railroad Rehabilitation and Improvement Financing (RRIF) program, the Secretary of Transportation has delegated the responsibility for implementing the program to the Federal Railroad Administrator. The FRA Administrator is authorized to provide direct loans or loan guarantees up to $35 billion of which $7 billion is reserved for projects benefiting freight railroads other than Class I carriers.

Loans may be used to:

- Acquire, improve, or rehabilitate intermodal or rail equipment or facilities, including track, components of track, bridges, yards, buildings and shops;
- Refinance outstanding debt incurred for the purposes listed above; and
- Develop or establish new intermodal or railroad facilities

The Federal Railroad Administration (FRA) gives priority to projects that provide public benefits, including benefits to public safety, the environment and economic development. In providing financial assistance through RRIF, FRA must fulfill its obligations under the National Environmental Policy Act and related laws, regulations, and orders.

Eligible applicants are State and local governments, railroads, and other ventures with rail operations. Direct loans can be made for up to one hundred percent of the total project cost, for terms up to 35 years and at an interest rate not less than the cost of borrowing for a comparable term based on the current Treasury rate at the time of closing.

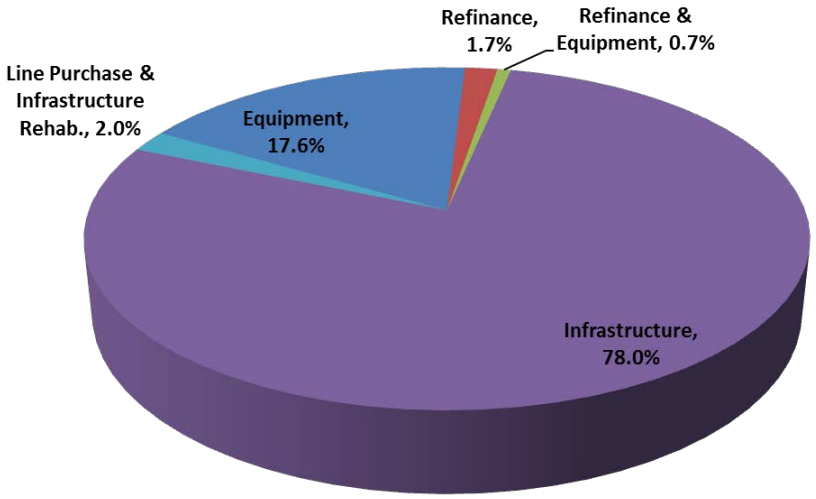
The program is necessary to address the market failure facing railroads, particularly small railroads, which cannot easily access long-term financing from private financial institutions. Short lines, being mostly independent and privately held, do not enjoy the same access to private-sector capital as the Class I railroads. Private sector loans with favorable rates are typically only available on short term loans. Short line railroads need long-term loans to support track and structure upgrades that will enjoy useful lives of 20 to 30 years. Given the greater risk of longer term repayments, these loans carry a much higher interest rate. The cost to upgrade

and repair a rail line is expensive, but necessary, to avoid safety-related speed reductions and derailments.

FRA's priority is to make capital available to the small railroads (i.e., Class II and Class III railroads are collectively referred to as "short line railroads") in particular because they often lack adequate resources to invest in infrastructure. This is critical because a lack of capital investment leads to deteriorating safety performance. Of the 33 loans FRA has made since 2002, 13 are for less than $10 million and 25 are less than $50 million.

FRA's assessment of RRIF loans to short line railroads shows that slightly over 78 percent went to infrastructure (bridges and track) while 17.6 percent went to equipment. (See Figure 1.) Figure 1 also shows that 1.7 percent of RRIF loans went to refinancing and 2 percent went to a combination of line purchases and infrastructure rehabilitation. Loans for a combination of refinancing and equipment purchases accounted for 0.7 percent.

Figure 1. Class II and Class III Railroad RRIF Loan Allocation



Source: FRA data, as of December, 2014.

FRA prepared and submitted a study of investment needs of the rail industry[1], and has found that the small railroads generally have insufficient capital to meet their infrastructure needs:

[1] Class II and Class III Railroad Capital Needs and Funding Sources. http://www.fra.dot.gov/eLib/Details/L16020

> Carriers reported that they did not believe that they would be able to meet all of these future spending needs… Overall, the Class II carriers responding reported that they would meet nearly 83 percent of their spending requirements for infrastructure. The Class IIIs reported that they would be able to meet 69 percent of their needs. For equipment, the Class IIs reported that they would be able to meet 71 percent of equipment, while the Class IIIs reported that they would meet nearly 69 percent.

In the report, FRA estimated the entire shortline industry faces an unmet investment need of $6.9 billion.

GROW AMERICA Act

For FY 2016, FRA is not requesting additional resources for RRIF. However, in the GROW AMERICA Act introduced in 2014, the Administration proposed a series of legislative updates to enhance program management and accessibility for borrowers. GROW AMERICA authorizes appropriations for the cost of direct loans and loan guarantees under the RRIF program, with the goal of increasing the ease of access to the program, particularly for short line and regional railroads. This provision will make the RRIF program more similar to the Transportation Infrastructure Finance and Innovation Act (TIFIA) program, which has been highly successful at attracting a range of project types. GROW AMERICA also allows FRA grantees to use NHPRS grant funds in certain circumstance to pay for the credit subsidy cost of obtaining a RRIF loan.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION IMPROVEMENT FUND PROGRAM ACCOUNT (69-15-0750)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS ($000)

Account Number 69-0750-0-3-401

Line	Line Title	2014 ACT	2015 EST	2016 EST
	Obligations by program activity:			
	Credit program obligations:			
0705	Reestimates of direct loan subsidy	15,460	4,118	-
0706	Interest on reestimates of direct loan subsidy	28,384	27,337	-
0791	Direct program activities, subtotal	43,844	31,455	-
0900	**Total new obligations (object class 43.0)**	**43,844**	**31,455**	**-**
	Budgetary resources:			
	Budget authority:			
	Appropriations, mandatory:			
1200	Appropriation	43,844	31,455	-
1260	Appropriations, mandatory (total)	43,844	31,455	-
1930	**Total budgetary resources available**	**43,844**	**31,455**	**-**
	Change in obligated balance:			
	Unpaid obligations:			
3000	Unpaid obligations, brought forward, Oct 1	-	-	-
3010	Obligations incurred, unexpired accounts	43,844	31,455	-
3020	**Outlays (gross)**	**(43,844)**	**(31,455)**	**-**
	Budget authority and outlays, net:			
	Mandatory:			
4090	**Budget authority, gross**	**43,844**	**31,455**	**-**
	Outlays, gross:			
4100	Outlays from new mandatory authority	43,844	31,455	-
4160	Budget authority, net (mandatory)	43,844	31,455	-
4170	Outlays, net (mandatory)	43,844	31,455	-
4180	**Budget authority, net (total)**	**43,844**	**31,455**	**-**
4190	**Outlays, net (total)**	**43,844**	**31,455**	**-**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION IMPROVEMENT FUND FINANCING ACCOUNT (69-X-4420)
PROGRAM AND FINANCING
($000)

Account Number 69-4420-0-3-401

Line	Line Title	2014 ACT	2015 EST	2016 EST
	Obligations by program activity:			
	Credit program obligations:			
0710	Direct loan obligations	-	600,000	600,000
0713	Payment of interest to Treasury	35,919	38,000	38,000
0742	Downward reestimate paid to receipt account	19,906	50,000	-
0743	Interest on downward reestimates	219	8,000	-
0900	**Total new obligations**	**56,044**	**696,000**	**638,000**
	Budgetary resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	4,992	8,000	-
1021	Recoveries of prior year unpaid obligations	6,394	-	-
1050	Unobligated balance (total)	11,386	8,000	-
	Financing authority:			
	Borrowing authority, mandatory:			
1400	Borrowing authority	16,669	600,000	600,000
1440	**Borrowing authority, mandatory (total)**	**16,669**	**600,000**	**600,000**
	Spending authority from offsetting collections, mandatory:			
1800	Offsetting collections (interest on uninvested funds)	4,509	3,000	3,000
1800	Offsetting collections (principal-borrowers)	41,999	60,000	60,000
1800	Offsetting collections (upward reestimate)	43,844	31,000	-
1800	Offsetting collections (interest-borrowers)	20,009	27,000	27,000
1800	Collected	7,037	18,000	10,000
1825	Spending authority from offsetting collections applied to repay debt	(81,714)	(51,000)	(62,000)

DEPARTMENT OF TRANSPORTATION (Cont'd)
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION IMPROVEMENT FUND FINANCING ACCOUNT (69-X-4420)
PROGRAM AND FINANCING
($000)

Account Number 69-4420-0-3-401

Line	Line Title	2014 ACT	2015 EST	2016 EST
1850	Spending auth from offsetting collections, mand (total)	35,684	88,000	38,000
1900	Financing authority (total)	52,353	688,000	638,000
1930	**Total budgetary resources available**	**63,739**	**696,000**	**638,000**
	Memorandum (non-add) entries:			
1941	**Unexpired unobligated balance, end of year**	**7,695**	**-**	**-**
	Change in obligated balance:			
	Unpaid obligations:			
3000	Unpaid obligations, brought forward, Oct 1	353,238	262,000	322,000
3010	Obligations incurred, unexpired accounts	56,044	696,000	638,000
3020	Financing disbursements (gross)	(140,885)	(636,000)	(636,000)
3040	Recoveries of prior year unpaid obligations, unexpired	(6,394)	-	-
3050	**Unpaid obligations, end of year**	**262,003**	**322,000**	**324,000**
	Financing authority and disbursements, net:			
	Mandatory:			
4090	**Financing authority, gross**	**52,353**	**688,000**	**638,000**
	Financing disbursements:			
4110	**Financing disbursements, gross**	**140,885**	**636,000**	**636,000**
	Offsets against gross financing authority and disbursements:			
	Offsetting collections (collected) from:			
4120	Federal sources	(43,844)	(31,000)	-
4122	Interest on uninvested funds	(4,509)	(3,000)	(3,000)
4123	Credit Risk Premium	(7,037)	(18,000)	(10,000)

DEPARTMENT OF TRANSPORTATION (Cont'd)
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION IMPROVEMENT FUND FINANCING ACCOUNT (69-X-4420)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS ($000)

Account Number 69-4420-0-3-401

Line	Line Title	2014 ACT	2015 EST	2016 EST
4123	Principal Repayment	(41,999)	(60,000)	(60,000)
4123	Interest Repayment	(20,009)	(27,000)	(27,000)
4123-10	Non-Federal sources (total)	(69,045)	(105,000)	(97,000)
4130	Offsets against gross financing auth and disbursements (total)	(117,398)	(139,000)	(100,000)
4160	Financing authority, net (mandatory)	(65,660)	549,000	538,000
4170	Financing disbursements, net (mandatory)	23,487	497,000	536,000
4180	**Financing authority, net (total)**	**(65,660)**	**549,000**	**538,000**
4190	**Financing disbursements, net (total)**	**23,487**	**497,000**	**536,000**

EXHIBIT III-1

OPERATING SUBSIDY GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION
Summary by Program Activity
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

ACCOUNT	FY 2014 Actual	FY 2015 Enacted	FY 2016 Request	Change FY 2015-2016
Operating Grants to the National Railroad Passenger Corporation	340,000	250,000	-	(250,000)
TOTAL	**340,000**	**250,000**	-	**(250,000)**
Full-time Equivalents	-	-	-	-
Direct Funded	-	-	-	-

Program and Performance Statement

No funds are requested for this account in 2016. The Administration is proposing funding for these programs within a multiyear surface transportation reauthorization. As part of that reauthorization proposal, programs currently administered from this account would be continued in a new Current Passenger Rail Service account that would be funded from the Rail Account of the Transportation Trust Fund.

EXHIBIT III-1a

OPERATING SUBSIDY GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION
Summary Analysis of Change from FY 2015 to FY 2016
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

	Change from FY 2015 to FY 2016	
ITEM	**$000**	**FTE**
FY 2015 BASE	**250,000**	**-**
PROGRAM CHANGES		
Operating Grants To The National Railroad Passenger Corporation	(250,000)	-
SUBTOTAL, PROGRAM CHANGES	**(250,000)**	**-**
TOTAL FY 2016 REQUEST	**-**	**-**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
OPERATING SUBSIDY GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION
Program and Financing Schedule
($000)

Account Number: 69-0121-Combined-1-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Obligations by program activity:			
0001	Operating Subsidy Grants	340,000	250,000	
0091	Direct program activities, subtotal	340,000	250,000	-
0100	**Total direct program**	**340,000**	**250,000**	**-**
0900	**Total new obligations**	**340,000**	**250,000**	**-**
	Budgetary Resources:			
	Budget authority:			
	Appropriations, mandatory:			
1200	Appropriation	340,000	250,000	
1260	**Appropriation, mand (total)**	**340,000**	**250,000**	**-**
1900	**Budget authority (total)**	**340,000**	**250,000**	**-**
1930	**Total budgetary resources available**	**340,000**	**250,000**	**-**
	Change in obligated balance:			
3010	Obligations incurred, unexpired accounts	340,000	250,000	-
3020	Outlays (gross)	-340,000	-250,000	
3050	Unpaid obligations, end of year (gross)	-	-	-
	Budget authority and outlays, net:			
	Mandatory:			
4090	Budget authority, gross	340,000	250,000	
	Outlays, Gross			
4100	Outlays from new mandatory authority	340,000	250,000	
4101	Outlays from mandatory balances			
4110	**Outlays, gross (total)**	**340,000**	**250,000**	**-**
4190	**Outlays, net (total)**	**340,000**	**250,000**	**-**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
OPERATING SUBSIDY GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION
Object Classification Schedule
($000)

Account Number: 69-0121-0-1-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Direct Obligations:			
41.0	Grants, subsidies, and contributions	340,000	250,000	-
99.9	**Total new obligations**	**340,000**	**250,000**	**-**

EXHIBIT III-1

CAPITAL AND DEBT SERVICE GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION
Summary by Program Activity
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

ACCOUNT	FY 2014 Actual	FY 2015 Enacted	FY 2016 Request	Change FY 2015-2016
Capital and Debt Service Grants to the National Railroad Passenger Corporation	1,050,000	1,140,000	-	(1,140,000)
TOTAL	**1,050,000**	**1,140,000**	**-**	**(1,140,000)**
Full-time Equivalents				
Direct Funded	1	5.5	-	(5.5)
Reimbursable, Allocated, Other	-	-	-	-
Total FTE	**1**	**5.5**	**-**	**(5.5)**

Program and Performance Statement

No funds are requested in this account for 2016. The Administration is proposing funding for these programs within a multiyear surface transportation reauthorization. As part of that reauthorization proposal, programs currently administered from this account would be continued in a new Current Passenger Rail Service account that would be funded from the Rail Account of the Transportation Trust Fund.

EXHIBIT III-1a

CAPITAL AND DEBT SERVICE GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION
Summary Analysis of Change from FY 2015 to FY 2016
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

ITEM	Change from FY 2015 to FY 2016 $000	FTE
FY 2015 BASE	1,140,000	**5.5**
SUBTOTAL, BASELINE CHANGES	**-**	**-**
PROGRAM CHANGES		
Capital and Debt Service Grants to the National Railroad Passenger Corporation	(1,140,000)	(5.5)
SUBTOTAL, PROGRAM CHANGES	**(1,140,000)**	**(5.5)**
TOTAL FY 2016 REQUEST	**-**	**-**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
CAPITAL & DEBT SERVICE GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION
Program and Financing Schedule
($000)

Account Number: 69-0125 -Combined-1-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Obligations by program activity:			
0001	Capital and Debt Service Grants	989,750	1,092,700	-
0002	Oversight	7,481	8,992	-
0003	Northeast Corridor Infrastructure and Operations Improvement (PRIIA Sec. 212)	9,310	5,000	-
0004	American Disability Act (ADA)	50,000	50,000	-
0091	Direct program activities, subtotal	1,047,231	1,161,692	-
0100	**Total direct program**	**1,047,231**	**1,161,692**	**-**
0799	Total direct obligations	1,047,231	1,161,692	-
0801	Reimbursable services	-	-	-
0809	Reimbursable program activities, subtotal	-	-	-
0900	**Total new obligations**	**1,047,231**	**1,161,692**	**-**
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	18,923	21,692	-
1021	Recoveries of prior year unpaid obligations	1	-	-
1022	Capital transfer of unobligated balances to general fund	-	-	-
1050	**Unobligated balance (total)**	**18,924**	**21,692**	**-**
	Budget authority:			
	Appropriations, mandatory:			
1200	Appropriation	1,050,000	1,140,000	-

DEPARTMENT OF TRANSPORTATION (Cont'd)
FEDERAL RAILROAD ADMINISTRATION
CAPITAL & DEBT SERVICE GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION
Program and Financing Schedule
($000)

Account Number: 69-0125 -Combined-1-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
1260	**Appropriation, mand (total)**	**1,050,000**	**1,140,000**	**-**
	Baseline Civilian Pay	-	1	-
	Baseline Non-Pay	1,050,000	1,139,000	-
	Spending authority from offsetting collections,mandatory:			
1800	Collected	-	-	-
1801	Change in uncollected payments, Federal sources	-	-	-
1850	**Spending auth from offsetting collections, mand (total)**	-	-	-
1900	**Budget authority (total)**	**1,050,000**	**1,140,000**	-
1930	**Total budgetary resources available**	**1,068,924**	**1,161,692**	-
1941	Unexpired unobligated balance, end of year	21,692	-	-
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	15,413	169,306	199,649
3010	Obligations incurred, unexpired accounts	1,047,231	1,161,692	-
3020	Outlays (gross)	-893,338	-1,131,349	-199,649
3040	Recoveries of prior year unpaid obligations, unexpired	-1	-	-
3041	Recoveries, prior year unpaid obs. expired account	-	-	-
3050	Unpaid obligations, end of year	169,306	199,649	-
3060	Uncollected pymts, Fed sources, brought forward, Oct 1	-	-	-

DEPARTMENT OF TRANSPORTATION (Cont'd)
FEDERAL RAILROAD ADMINISTRATION
CAPITAL & DEBT SERVICE GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION

Program and Financing Schedule
($000)

Account Number: 69-0125 -Combined-1-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
3100	**Obligated balamce, start of year (net)**	**15,413**	**199,649**	**-**
3200	**Obligated balance, end of year (net):**	**169,306**	**199,649**	**-**
	Budget authority and outlays, net:			
	Mandatory:			
4090	Budget authority, gross	1,050,000	1,140,000	-
	Outlays, gross			
4100	Outlays from new mandatory authority	886,144	969,000	-
4101	Outlays from mandatory balances	7,194	162,349	199,649
4110	**Outlays, gross (total)**	**893,338**	**1,131,349**	**199,649**
	Offsets against gross budget authority and outlays:			
	Offsetting collections (collected) from:			
4120	Federal sources	-	-	-
4130	**Offsets against gross budget authority and outlays (total), mandatory**	**-**	**-**	**-**
	Additional offsets against gross budget authority only:			
4142	Offsetting collections credited to expired accounts	-	-	-
4150	**Additional offsets against budget authority only (total)**	**2,101**	**-**	**-**
4180	**Budget authority, net (total)**	**1,050,000**	**1,140,000**	**-**
4190	**Outlays, net (total)**	**893,338**	**1,131,349**	**199,649**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
CAPITAL AND DEBT SERVICE GRANTS FOR THE NATIONAL RAILROAD PASSENGER CORPORATION

Object Classification Schedule
($000)

Identification Code 69-0125-0-1-401		FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Direct Obligations:			
11.1	Full time permanent compensation	62	565	-
11.5	Other Personnel Compensation	-	10	-
12.1	Civilian Personnel Benefits	21	157	-
21.0	Travel	37	150	-
25.1	Advisory & assistance service	7,311	8,110	-
25.3	Other purchases from government accounts	50	-	-
41.0	Grants, subsidies, and contributions	1,039,750	1,152,700	-
99.0	Subtotal Direct	1,047,231	1,161,692	-

FEDERAL RAILROAD ADMINISTRATION
GRANTS TO NATIONAL RAILROAD PASSENGER CORPORATION
Program and Financing Schedule
($000)

Account Number: 69-0704 -0-1-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Obligations by program activity:			
0001	Amtrak Asset Valuation	-	259	-
0002	System Engineering / Program Management	-	268	-
0003	Operating Grant - Sandy Recovery	-	-	-
0004	New York Penn Station Project	-	320	-
0005	Capital and Debt Grant - Sandy Mitigation	-	81,292	-
0006	FTA Transfer - Hurricane Sandy Disaster Resiliency	-	-	-
0007	Hurricane Sandy Oversight	151	409	-
0091	Direct program activities, subtotal	151	82,548	-
0100	**Total direct program**	**151**	**82,548**	-
0900	**Total new obligations**	**151**	**82,548**	-
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	82,699	82,548	-
1050	**Unobligated balance (total)**	**82,699**	**82,548**	-
	Budget authority:			
	Appropriations, discretionary:			
1100	Appropriation	-	-	-
1160	**Appropriation, disc (total)**	-	-	-
1900	**Budget authority (total)**	-	-	-
1930	**Total budgetary resources available**	**82,699**	**82,548**	-
	Memorandum (non-add) entries:			
1940	Unobligated balance expiring			
1941	Unexpired unobligated balance, end of year	82,397	-	-
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	194,953	61,020	65,422

DEPARTMENT OF TRANSPORTATION (Cont'd)
FEDERAL RAILROAD ADMINISTRATION
GRANTS TO NATIONAL RAILROAD PASSENGER CORPORATION
Program and Financing Schedule
($000)

Account Number: 69-0704 -0-1-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
3001	Adjustments to unpaid obligations, brought forward, Oct 1	-	-	-
3010	Obligations incurred, unexpired accounts	151	82,548	-
3011	Obligations incurred, expired accounts	472	-	-
3020	Outlays (gross)	-134,076	-78,146	-49,130
3041	Recoveries of prior year unpaid obligations, expired	-480	-	-
3050	Unpaid obligations, end of year (gross)	61,020	65,422	16,292
3091	Uncollected pymts, Fed sources, end of year			
3100	**Obligated balance, start of year (net)**	**194,953**	**61,020**	**16,292**
3200	**Obligated balance, end of year**	**61,020**	**65,422**	**16,292**
	Budget authority and outlays, net:			
	Discretionary:			
	Outlays, gross:			
4010	Outlays from new discretionary authority	-	-	-
4011	Outlays from discretionary balances	134,076	78,146	49,130
4020	**Outlays, gross (total)**	**134,076**	**78,146**	**49,130**
	Offsets against gross budget authority and outlays:			
	Offsetting collections (collected) from:			
4033	Non-Federal sources	-472	-	-
4040	**Offsets against gross budget authority and outlays, disc (total)**	**-472**	-	-
4052	Offsetting collections credited to expired accounts (discretionary)	472	-	-
4060	**Additional offsets against budget authority only (total)**	**472**	-	-
4080	**Outlays, net (discretionary)**	**133,604**	**78,146**	**49,130**
4190	**Outlays, net (total)**	**133,604**	**78,146**	**49,130**

Program and Performance Statement:

The National Railroad Passenger Corporation (Amtrak) was established in 1970 through the Rail Passenger Service Act. Amtrak is operated and managed as a for-profit corporation with all Board members appointed by the President, with the advice and consent of the Senate. Amtrak is not an agency or instrument of the U.S. Government, although since the railroad's creation FRA has provided it annual grants for operating and capital costs.

Prior to 2006, FRA received annual appropriations in this account for grants to Amtrak. Since that time, FRA has received individual appropriations for capital, operating, and efficiency incentive grants.

In addition, the American Recovery and Reinvestment Act of 2009 (Recovery Act) provided $1.3 billion to Amtrak for capital grants, of which $450 million was for improving security and $850 million was for improving infrastructure.

In FY 2013, FRA received $112 million in this account from the Disaster Relief Appropriations Act of FY 2013 (PL 113–2) to fund Amtrak's recovery from Superstorm Sandy, including $30 million for repair work and $81 million for disaster mitigation projects. FRA also received a $185 million transfer from the Federal Transit Administration for the Hudson Yards disaster resiliency project in New York City. No funds are requested for this account for fiscal year 2016.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION
Object Classification Schedule
($000)

Identification Code 69-0704-0-1-401		FY 2014 ACT	FY 2015 EST	FY 2016 EST
Direct Obligations:				
25.1	Advisory & assistance service	151	936	-
41.0	Grants, subsidies, and contributions	-	81,612	-
99.9	Total new obligations	151	82,548	-

EXHIBIT III-1

RAILROAD SAFETY GRANTS
Summary by Program Activity
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

ACCOUNT	FY 2014 Actual	FY 2015 Enacted	FY 2016 Request	Change FY 2015-2016
Railroad Safety Grants	**-**	**10,000**	**-**	**(10,000)**
TOTAL	**-**	**10,000**	**-**	**(10,000)**
Full-time Equivalents	**-**	**-**	**-**	**-**
Direct Funded	**-**	**-**	**-**	**-**

Program and Performance Statement

Funding for this program was provided in FY 2015 for grade crossing and track improvement on rail routes that transport energy products. No new funds are requested in this account for fiscal year 2016.

EXHIBIT III-1a

Railroad Safety Grants
SUMMARY ANALYSIS OF CHANGE FROM FY 2015 TO FY 2016
Appropriations, Obligations, Limitations, and Exempt Obligations
($000)

ITEM	Change from FY 2015 to FY 2016 $000	FTE
FY 2015 BASE	**10,000**	**-**
PROGRAM CHANGES		
Railroad Safety Grants	(10,000)	-
SUBTOTAL, PROGRAM CHANGES	**(10,000)**	**-**
TOTAL FY 2016 REQUEST	**-**	**-**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD SAFETY GRANTS (69-0702)
Program and Financing Schedule
($000)

Account Number: 69-0702-0-1-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Obligations by program activity:			
0001	Railroad Safety Grants		10,000	
0002	Railroad Safety		7	
0900	**Total new obligations**	**-**	**10,007**	**-**
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	7	7	-
1021	Recoveries of prior year unpaid obligations	-	-	-
1050	**Unobligated balance (total)**	**7**	**7**	**-**
	Budget authority:			
	Appropriations, discretionary:			
1100	Appropriation		10,000	
1160	**Appropriation, disc (total)**	**-**	**10,000**	**-**
1900	**Budget authority (total)**	**-**	**10,000**	**-**
1930	**Total budgetary resources available**	**7**	**10,007**	**-**
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)		0	9,000
3010	Obligations incurred, unexpired accounts		10,007	-
3011	Obligations incurred, expired accounts			
3020	Outlays (gross)		-1,000	-4,000
	Obligated balance, end of year (net):	-	9,000	5,000
3050	Unpaid obligations, end of year (gross)	-	9,000	5,000
3100	**Obligated balance, start of year (net)**	**-**	**0**	**9,000**
3200	**Obligated balance, end of year**	**-**	**9,000**	**5,000**
	Budget authority and outlays, net:			
	Discretionary:			
4000	Budget authority, gross		10,000	-
	Outlays, gross:			

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD SAFETY GRANTS (69-0702) (cont'd)
Program and Financing Schedule
($000)

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
4010	Outlays from new discretionary authority		1,000	4,000
4020	**Outlays, gross (total)**	**-**	**1,000**	**4,000**
4070	**Budget authority, net (discretionary)**	**-**	**10,000**	**-**
4080	**Outlays, net (discretionary)**	**-**	**1,000**	**4,000**
4180	**Budget authority, net (total)**	**-**	**10,000**	**-**
4190	**Outlays, net (total)**	**-**	**1,000**	**4,000**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD SAFETY GRANTS
Object Classification Schedule
($000)

Identification Code 69-0702-0-1-401		FY 2014 ACT	FY 2015 EST	FY 2016 EST
Direct Obligations:				
25.1	Advisory & assistance service	-	7	-
41.0	Grants, subsidies, and contributions	-	10,000	-
99.9	Total new obligations	-	10,007	-

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
CAPITAL ASSISTANCE FOR HIGH-SPEED RAIL CORRIDORS AND INTERCITY PASSENGER RAIL
Program and Financing Schedule
($000)

Account Number: 69-X-0719-Combined-1-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Obligations by program activity:			
0001	Capital Assistance High-Speed Rail Corridors and IPR Service Grants	23,517	53,237	-
0002	Capital Assistance High-Speed Rail Corridors and IPR Service Oversight	6,533	3,822	3,696
0003	Capital Assistance High-Speed Rail Corridors and IPR Service Research and Demonstrating Technologies	861	30	-
0004	Capital Assistance High-Speed Rail Corridors and IPR Service Planning Activities	870	176	-
0091	Direct program activities, subtotal	31,781	57,265	3,696
0100	**Total direct program**	**31,781**	**57,265**	**3,696**
0900	**Total new obligations**	**31,781**	**57,265**	**3,696**
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	98,700	68,549	11,544
1021	Recoveries of prior year unpaid obligations	1,514	350	350
1050	**Unobligated balance (total)**	**100,241**	**68,809**	**11,894**
	Appropriations, mandatory:			
1260	**Appropriation, disc (total)**	**-**	**-**	**-**
1900	**Budget authority (total)**	**-**	**-**	**-**
1930	**Total budgetary resources available**	**100,241**	**68,659**	**11,544**
	Memorandum (non-add) entries:			
1940	Unobligated balance expiring	1	-	-
1941	Unexpired unobligated balance, end of year	68,459	11,544	8,198
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	8,397,086	7,324,040	5,568,838
3010	Obligations incurred, unexpired accounts	31,781	57,265	3,696

DEPARTMENT OF TRANSPORTATION (Cont'd)
FEDERAL RAILROAD ADMINISTRATION
CAPITAL ASSISTANCE FOR HIGH-SPEED RAIL CORRIDORS AND INTERCITY PASSENGER RAIL
Program and Financing Schedule
($000)

Account Number: 69-X-0719-Combined-1-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
3020	Outlays (gross)	-1,093,739	-1,812,118	-2,688,795
3040	Recoveries of prior year unpaid obligations, unexpired	-1,541	-350	-350
3041	Recoveries of prior year unpaid obligations, expired	-9,546	-	-
3050	Unpaid obligations, end of year (gross)	7,324,040	5,568,838	2,883,389
3091	Uncollected pymts, Fed sources, end of year	-	-	-
3100	**Obligated balance, start of year (net)**	**8,397,086**	**7,324,040**	**5,568,838**
3200	**Obligated balance, end of year**	**7,324,040**	**5,568,838**	**2,883,389**
	Budget authority and outlays, net:			
	Discretionary:			
4000	Budget authority, gross	-	-	-
4100	Outlays from new mandatory authority	-	-	-
4101	Outlays from mandatory balances	**1,093,739**	**1,812,118**	**2,688,795**
4110	**Outlays, gross (total)**	**1,093,739**	**1,812,118**	**2,688,795**
4170	**Outlays, net (mandatory)**	**1,093,739**	**1,812,118**	**2,688,795**
4180	**Budget authority, net (total)**	**-**	**-**	**-**
4190	**Outlays, net (total)**	**1,093,739**	**1,812,118**	**2,688,795**

Program and Performance Statement

Through this program, FRA provides capital grants to States to invest and improve intercity passenger rail service, including the development of new high-speed rail capacity. Activity in this account includes the $8 billion provided by the American Recovery and Reinvestment Act of 2009 and an additional $2.1 billion provided in subsequent enacted appropriations. No funds are requested in this account for fiscal year 2016. The Administration is proposing funding for these programs within a multi-year surface transportation reauthorization. As part of that reauthorization proposal, programs currently administered from this account would be continued in a new Rail Service Improvement Program account that would be funded from the Rail Account of the Transportation Trust Fund.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
CAPITAL ASSISTANCE FOR HIGH SPEED RAIL CORRIDORS AND INTERCITY
Object Classification Schedule
($000)

Identification Code 69-0719-Combined-1-401		FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Direct Obligations:			
11.3	Personnel Compensation for other than full time permanent position	434	411	522
11.5	Other Personnel Compensation	-	7	7
12.1	Civilian Personnel Benefits	124	114	145
21.0	Travel	150	149	150
22.0	Transportation of Things	-	-	-
25.1	Advisory & assistance service	6,582	3,317	2,872
25.3	Advisory & assistance service	158	-	-
25.5	Research and Development Contracts	816	30	-
41.0	Grants, subsidies, and contributions	23,517	53,237	-
99.9	**Total new obligations . . . .**	**31,781**	**57,265**	**3,696**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
NORTHEST CORRIDOR IMPROVEMENT PROGRAM
Program and Financing Schedule
($000)

Account Number: 69-0123-X-1-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Obligations by program activity:			
0001	Northeast Corridor Improvement Program	-	1,000	-
0900	**Total new obligations**	**-**	**1,000**	**-**
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	5,419	5,419	-
1050	**Unobligated balance (total)**	**5,419**	**5,419**	**-**
	Budget authority:			
	Appropriations, discretionary:			
1131	Unobligated balance of appropriations permanently reduced	-4,419	-	-
1160	**Appropriation, disc (total)**	**-4,419**	**-**	**-**
1930	**Total budgetary resources available**	**1,000**	**1,000**	**-**
	Memorandum (non-add) entries:			
1930	Total Budgetary Resources Available	1,000	1,000	-
1941	Unexpired unobligated balance, end of year	1,000	-	-
	Change in obligated balance:			
	Unpaid obligations, brought forward, Oct 1			
3000	(gross)	-	-	-
3010	Obligations incurred, unexpired accounts	-	1,000	-
3020	Outlays (gross)	-	(1,000)	-
	Recoveries of prior year unpaid obligations,			
3040	unexpired	-	-	-
3050	Unpaid obligations, end of year (gross)	-	-	-
3100	**Obligated balance, start of year (net)**	**-**	**-**	**-**
3200	**Obligated balance, end of year**	**-**	**-**	**-**
	Budget authority and outlays, net:			
	Mandatory:			
4000	Budget authority, gross	-	-	-
	Outlays, gross:			
4011	Outlays from discretionary balances	-	**1,000**	-
4080	**Outlays, net (discretionary)**	**-**	**1,000**	**-**
4190	**Outlays, net (total)**	**-**	**1,000**	**-**

Program and Performance Statement

This program provided funds to continue the upgrade of passenger rail service in the corridor between Washington, District of Columbia, and Boston, Massachusetts. Since 2001, capital funding has been provided in the National Railroad Passenger Corporation (Amtrak) appropriation. No funds are requested for this account in fiscal year 2016.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
NORTHEAST CORRIDOR IMPROVEMENT PROGRAM
Object Classification Schedule
($000)

Identification Code 69-0123-0-1-401		FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Direct Obligations:			
41.0	Grants, subsidies, and contributions	-	1,000	-
99.9	**Total new obligations . . . . . .**	**-**	**1,000**	**-**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
NEXT GENERATION HIGH SPEED RAIL
Program and Financing Schedule
($000)

Account Number: 69-0722-X-1-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Obligations by program activity:			
0001	Next Generation High Speed Rail	-	7,038	-
0900	**Total new obligations**	**-**	**7,038**	**-**
	Budgetary Resources:			
1000	Unobligated balance brought forward, Oct 1	9,868	9,038	-
1021	Recoveries of prior year unpaid obligations	1,143	-	-
1050	**Unobligated balance (total)**	**11,011**	**9,038**	**-**
	Appropriations, discretionary:			
1130	Appropriations and/or unobligated balance of appropriations permanently reduced	-1,973	-	-
1160	**Appropriation, discretionary (total)**	**-1,973**	**-**	**-**
1900	**Budget authority (total)**	**-1,973**	**-**	**-**
1930	**Total budgetary resources available**	**9,038**	**9,038**	**2,000**
1941	Unexpired unobligated balance, end of year	9,868	2,000	2,000
	Change in obligated balance:			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	4,139	2,481	6,182
3010	Obligations incurred, unexpired accounts	-	7,038	-
3020	Outlays (gross)	-515	-3,337	-3,337
3040	Recoveries of prior year unpaid obligations, unexpired	-1,434	-	-
3050	Unpaid obligations, end of year (gross)	2,481	6,182	2,845
3100	**Obligated balance, start of year (net)**	**4,139**	**2,481**	**6,182**
3200	**Obligated balance, end of year**	**2,481**	**6,182**	**2,845**
	Budget authority and outlays, net:			
	Discretionary:			
4000	Budget authority, gross	-1,973	-	-
	Outlays, Gross			
4011	Outlays from discretionary balances	515	3,337	3,337
4080	**Outlays, gross (total)**	**515**	**3,337**	**3,337**
4180	Budget authority, net (discretionary)	-1,973	-	-
4190	Outlays, net (discretionary)	515	3,337	3,337
4180	**Budget authority, net (total)**	**-1,973**	**-**	**-**
4190	**Outlays, net (total)**	**515**	**3,337**	**3,337**

Program and Performance Statement

The Next Generation High-Speed Rail Program funds: research, development, and technology demonstration programs and the planning and analysis required to evaluate high-speed rail technology proposals. No new funds are requested for this program in fiscal year 2016.

FEDERAL RAILROAD ADMINISTRATION
NEXT GENERATION HIGH-SPEED RAIL
Object Classification Schedule
($000)

Identification Code 69-0722-0-1-401		FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Direct Obligations:			
25.5	Research and Development Contracts	-	500	-
41.0	Grants, subsidies, and contributions	-	6,538	-
99.9	Total new obligations	-	7,038	-

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
EMERGENCY RAILROAD REHABILITATION AND REPAIR

Program and Financing Schedule
($000)

Account Number: 69-0124 -0-1-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Obligations by program activity:			
0001	Emergency Railroad Rehabilitation & Repair	214	1,657	-
0091	Direct program activities, subtotal	214	1,657	-
0100	**Total direct program**	**214**	**1,657**	**-**
0799	Total direct obligations	214	1,657	-
0900	**Total new obligations**	**214**	**1,657**	**-**
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	1,871	1,657	-
1021	Recoveries of prior year unpaid obligations	-	-	-
1050	**Unobligated balance (total)**	**1,871**	**1,657**	**-**
1930	**Total budgetary resources available**	**1,871**	**1,657**	**-**
1941	Unexpired unobligated balance, end of year	1,657	-	-
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	1,189	256	-
3001	Adjustments to unpaid obligations, brought forward, Oct 1	-	-	-
3010	Obligations incurred, unexpired accounts	214	1,657	-
3020	Outlays (gross)	-1,147	-1,913	-
3040	Recoveries of prior year unpaid obligations, unexpired	-	-	-
3050	Unpaid obligations, end of year (gross)	256	-	-
3100	**Obligated balance, start of year (net)**	**1,189**	**-**	**-**
3200	**Obligated balance, end of year**	**256**	**-**	**-**
	Budget authority and outlays, net:			
	Discretionary:			
4000	Budget authority, gross	-	-	-
4011	Outlays from discretionary balances	1,147	1,913	-
4020	**Outlays, gross (total)**	**1,147**	**1,913**	**-**
4080	**Outlays, net (discretionary)**	**1,147**	**1,913**	**-**
4190	**Outlays, net (total)**	**1,147**	**1,913**	**-**

Program and Performance Statement

Funding for this program was provided in a supplemental appropriation in 2008. This program provides discretionary grants to States to repair and rehabilitate Class II and Class III railroad infrastructure damaged by hurricanes, floods, and other natural disasters in areas for which the President declared a major disaster under title IV of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1974. No new funds are requested for this account in fiscal year 2016.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
EMERGENCY RAILROAD REHABILITATION AND REPAIR
Object Classification Schedule
($000)

Identification Code 69-0124-0-1-401		FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Direct Obligations:			
41.0	Grants, subsidies, and contributions	214	1,657	-
99.9	**Total new obligations**	**214**	**1,657**	**-**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD SAFETY TECHNOLOGY PROGRAM
Program and Financing Schedule
($000)

Account Number: 69-0701-0-1-401

Line	Line Title	FY 2014 Actual	FY 2015 Est.	FY 2016 Est.
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	585	603	603
1021	Recoveries of prior year unpaid obligations	18	-	-
1041	Anticipated recoveries of prior year unpaid obligations			-
1050	**Unobligated balance (total)**	**603**	**603**	**-**
1910	**Total budgetary resources available**	**603**	**603**	**-**
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	18,466	10,915	915
3020	Outlays (gross)	-7,533	-10,000	-
3040	Recoveries of unpaid prior year obligations, unexpired	-18	-	-
3050	Unpaid obligations, end of year	10,915	915	915
3100	**Obligated balance, start of year (net)**	**18,466**	**11,518**	**915**
3200	**Obligated balance, end of year (net)**	**10,895**	**915**	915
	Budget authority and outlays, net:			
	Discretionary:			
4011	Outlays from discretionary balances	7,533	10,000	-
4020	**Outlays, gross (total)**	**7,533**	**10,000**	**-**
4080	**Outlays, net (discretionary)**	**7,533**	**10,000**	**-**
4190	**Outlays, net (total)**	**7,533**	**10,000**	**-**

Program and Performance Statement

The Railroad Safety Technology Program is a competitive grant program for the deployment of train control technologies to passenger and freight rail carriers, railroad suppliers, and State and local governments. Projects may include the deployment of train control technologies, train control component technologies, processor- based technologies, electronically controlled pneumatic brakes, rail integrity inspection systems, rail integrity warning systems, switch position indicators and monitors, remote control power switch technologies, track integrity circuit technologies, and other new technologies that improve the safety of railroad systems.

FRA has given priority to projects that make technologies interoperable between railroad systems; accelerate the deployment of train control technology on high risk corridors, such as those that have high volumes of hazardous materials shipments, or over which commuter or passenger trains operate; or benefit both passenger and freight safety and efficiency. No new funds are requested in this account for fiscal year 2016.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD SAFETY TECHNOLOGY
Object Classification Schedule
($000)

Identification Code 69-0701-0-1-401		FY 2013 ACT	FY 2014 EST	FY 2015 EST
	Direct Obligations:			
41.0	Grants, subsidies, and contributions	-	-	-
99.9	**Total new obligations**	**-**	**-**	**-**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
INTERCITY PASSENGER RAIL GRANT PROGRAM
Program and Financing Schedule
($000)

Account Number: 69-0715 -0-1-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Obligations by program activity:			
0001	Intercity Passenger Rail Grants	-	11,000	7,569
0002	Oversight	-	31	-
0900	**Total new obligations**	**-**	**11,031**	**7,569**
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	17,271	18,600	7,569
1021	Recoveries of prior year unpaid obligations	1,329	-	-
1930	**Total budgetary resources available**	**18,600**	**18,600**	**7,569**
	Memorandum (non-add) entries:			
1940	Unobligated balance expiring	-	-	-
1941	Unexpired unobligated balance, end of year	18,600	7,569	-
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	70,085	39,870	33,781
3010	Obligations incurred, unexpired accounts	-	11,031	7,569
3020	Outlays (gross)	-28,886	-17,120	-13,934
3040	Recoveries of prior year unpaid obligations, unexpired	-1,329	-	-
3050	Unpaid obligations, end of year (gross)	39,870	33,781	27,416
3100	**Obligated balance, start of year (net)**	**70,085**	**39,870**	**33,781**
3200	**Obligated balance, end of year**	**39,870**	**44,812**	**34,985**
	Budget authority and outlays, net:			
	Discretionary:			
4011	Outlays from discretionary balances	28,886	17,120	13,934
4020	**Outlays, gross (total)**	**28,886**	**17,120**	**13,934**
	Offsets against gross budget authority and outlays:			
	Offsetting collections (collected) from:			
4080	**Outlays, net (discretionary)**	**28,886**	**17,120**	**13,934**
4190	**Outlays, net (total)**	**28,886**	**17,120**	**13,934**

Program and Performance Statement

This competitive grant program encourages state participation in passenger rail service. Under this program, a State or States may apply for grants for up to 50 percent of the cost of capital investments necessary to support improved intercity passenger rail service that either requires no operating subsidy or for which the State or States agree to provide any needed operating subsidy. To qualify for funding, States must include intercity passenger rail service as an integral part of Statewide transportation planning as required under 23 U.S.C. 135. Additionally, the specific project must be on the Statewide Transportation Improvement Plan at the time of application. No new funds are requested for this program in fiscal year 2016.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
INTERCITY PASSENGER RAIL GRANT PROGRAM
Object Classification Schedule
($000)

Identification Code 69-0715-0-1-401		FY 2014 ACT	FY 2015 EST	FY 2016 EST
Direct Obligations:				
25.1	Advisory & assistance service		31	
41.0	Grants, subsidies, and contributions	-	11,000	7,569
99.9	**Total new obligations . . . .**	**3,259**	**11,031**	**7,569**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
PENNSYLVANIA STATION REDEVELOPMENT PROJECT
Program and Financing Schedule
($000)

Account Number: 69-0723 -0-1-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Obligations by program activity:			
0001	Pennsylvania Station Redevelopment Project	-	19	
0900	**Total new obligations**	-	**19**	-
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	19	19	-
1050	**Unobligated balance (total)**	**19**	**19**	-
1930	**Total budgetary resources available**	**19**	**19**	-
	Memorandum (non-add) entries:			
1940	Unobligated balance expiring	-		
1941	Unexpired unobligated balance, end of year	19	-	-
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	44,526	33,049	18,782
3020	Outlays (gross)	-11,477	-14,267	-9,730
3050	Unpaid obligations, end of year (gross)	33,049	18,782	9,053
3091	Uncollected pymts, Fed sources, end of year	-	-	-
3100	**Obligated balance, start of year (net)**	**44,526**	**18,782**	**9,053**
3200	**Obligated balance, end of year**	**33,049**	**18,782**	**9,053**
	Budget authority and outlays, net:			
	Discretionary:			
4011	Outlays from discretionary balances	11,477	14,267	9,730
4080	**Outlays, net (discretionary)**	**11,477**	**14,267**	**9,730**
4190	**Outlays, net (total)**	**11,477**	**14,267**	**9,730**

Program and Performance Statement

Funds are used to redevelop the Pennsylvania Station in New York City, which involves renovating the James A. Farley Post Office building. Funding for this project was included in the Grants to the National Railroad Passenger Corporation appropriation in 1995 through 1997, and the Northeast Corridor Improvement Program in 1998. In 2000, an advance appropriation of $20 million was provided for 2001, 2002, and 2003. In 2001, Congress specified that the $20 million advance appropriation provided in 2000 for the Farley Building was to be used exclusively for fire and life safety initiatives. No new funds are requested for this program in 2016.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
PENNSYLVANIA STATION REDEVELOPMENT PROJECT
Object Classification Schedule
($000)

Identification Code 69-0723-0-1-401		FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Direct Obligations:			
41.0	Grants, subsidies, and contributions	-	19	-
99.9	**Total new obligations . . .**	**-**	**19**	**-**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAIL LINE RELOCATION AND IMPROVEMENT PROGRAM
Program and Financing Schedule
($000)

Account Number: 69-0716 -0-1-401

Line	Line Title	FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Obligations by program activity:			
0001	Pennsylvania Station Redevelopment Project	8,577	10,504	-
0900	**Total new obligations**	**8,577**	**10,504**	**-**
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	18,971	10,504	-
1021	Recoveries of prior year unpaid obligations	110	-	-
1050	**Unobligated balance (total)**	**19,081**	**10,504**	**-**
1930	**Total budgetary resources available**	**19,081**	**10,504**	**-**
	Memorandum (non-add) entries:			
1940	Unobligated balance expiring	-	-	-
1941	Unexpired unobligated balance, end of year	10,504	-	-
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	43,582	31,890	30,736
3020	Outlays (gross)	-20,159	-11,658	-11,658
3040	Recoveries of prior year unpaid obligations, unexpired	-110	-	-
3100	**Obligated balance, start of year (net)**	**43,528**	**30,736**	**19,077**
3200	**Obligated balance, end of year (net):**	**31,890**	**30,736**	**19,077**
	Budget authority and outlays, net:			
	Discretionary:			
4011	Outlays from discretionary balances	20,159	11,658	11,658
4080	**Outlays, net (discretionary)**	**20,159**	**11,658**	**11,658**
4190	**Outlays, net (total)**	**20,159**	**11,658**	**11,658**

Program and Performance Statement

This program provides assistance to States for relocating or making necessary improvements to local rail lines. No new funds are requested for this program in 2016.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAIL LINE RELOCATION AND IMPROVEMENT PROGRAM
Object Classification Schedule
($000)

Identification Code 69-0716-0-1-401		FY 2014 ACT	FY 2015 EST	FY 2016 EST
	Direct Obligations:			
41.0	Grants, subsidies, and contributions	8,577	10,504	-
99.9	**Total new obligations . . .**	**8,577**	**10,504**	**-**

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DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

ADMINISTRATIVE PROVISIONS—FEDERAL RAILROAD ADMINISTRATION

SEC. 150. The Secretary of Transportation may receive and expend cash, or receive and utilize spare parts and similar items, from non-United States Government sources to repair damages to or replace United States Government owned automated track inspection cars and equipment as a result of third-party liability for such damages, and any amounts collected under this section shall be credited directly to the Safety and Operations account of the Federal Railroad Administration, and shall remain available until expended for the repair, operation and maintenance of automated track inspection cars and equipment in connection with the automated track inspection program.

SEC. 151. Notwithstanding any other provision of law, rule or regulation, the Secretary is authorized to allow the issuer of any preferred stock heretofore sold to the Department to redeem or repurchase such stock upon the payment to the Department of an amount to be determined by the Secretary.

SEC. 152. None of the funds provided 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 previous 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 Amtrak shall notify House and Senate Committees on Appropriations within 30 days of waiving such cap and delineate the reasons for such waiver.

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FEDERAL RAILROAD ADMINISTRATION
HISTORY OF APPROPRIATIONS
FY 2006 - 2015
($000)

Account	FY 2006 [1/]	FY 2007	FY 2008	FY 2009	FY 2010
Safety and Operations	144,490	150,271	150,193	159,445	172,270
Railroad Safety Technology Program	--	--	--	--	50,000
Railroad Research and Development	54,524	34,524	35,964	33,950	37,613
Rail Line Relocation and Improvement	--	--	20,040 [2/]	25,000	34,532
Rail Safety Grants					
Operating Subsidy Grants to National Railroad Passenger Corporation	495,000	495,000	574,000	550,000	563,000
Capital and Debt Service Grants to National Railroad Passenger Corporation	780,000	780,000	850,000	940,000	1,001,625
Efficiency Grants to National Railroad Passenger Corporation	40,000	31,300	--	--	--
Grants to the National Railroad Passenger Corporation	--	--	--	--	--
Intercity Passenger Rail Grants	--	--	30,000	90,000	--
North East Corridor	--	--	--	--	--
Alaska Railroad Rehabilitation	9,900	--	--	--	--
Capital Assistance for HSR Corridors and IPR	--	--	--	--	2,500,000
Subtotal	1,502,547	1,478,345	1,561,197	1,798,395	4,359,040
Railroad Rehab and Improvement Program	--	3,294	20,751	16,753	18,441
Emergency Railroad Rehabilitation & Repair	--	--	20,000 [3/]	--	--
Capital Grants to National Railroad Passenger Corporation	--	--	--	1,300,000 [4/]	--
Capital Assistance for High Speed Rail Corridors and Intercity Passenger Rail Service	--	--	--	8,000,000 [4/]	--
Total FRA Budget Authority	**1,502,547**	**1,481,639**	**1,601,948**	**11,115,148**	**4,377,481**

FEDERAL RAILROAD ADMINISTRATION (Cont'd)
HISTORY OF APPROPRIATIONS
FY 2006 - 2015
($000)

Account	FY 2011 [5/]	FY 2012	FY 2013 [7/]	FY 2014	FY 2015
Safety and Operations	176,596	178,596	169,254	184,500	186,870
Railroad Safety Technology Program	--	--	--	--	
Railroad Research and Development	35,030	35,000	33,169	35,250	39,100
Rail Line Relocation and Improvement	10,511	--	--	--	--
Rail Safety Grants					10,000
Operating Subsidy Grants to National Railroad Passenger Corporation	563,000	466,000	441,625	340,000	250,000
Capital and Debt Service Grants to National Railroad Passenger Corporation	920,652	952,000	902,205	1,050,000	1,140,000
Efficiency Grants to National Railroad Passenger Corporation	--	--	--	--	--
Grants to the National Railroad Passenger Corporation	--	--	297,100 [8/]	--	--
Intercity Passenger Rail Grants	--	--	--	--	--
Next Generation High-Speed Rail	--	--	--	[-1,973] [9/]	--
North East Corridor	--	--	--	[-4,419] [9/]	--
Capital Assistance for HSR Corridors and IPR	[-400,000] [6/]	--	--	--	--
Subtotal	1,705,789	1,631,596	1,843,353	1,609,750	1,625,970
Railroad Rehab and Improvement Program	23,692	--	--	--	--
Emergency Railroad Rehabilitation & Repair	--	--	--	--	--
Capital Grants to National Railroad Passenger Corporation	--	--	--	--	--
Capital Assistance for High Speed Rail Corridors and Intercity Passenger Rail Service	--	--	--	--	--
Total FRA Budget Authority	**1,729,481**	**1,631,596**	**1,843,353**	**1,609,750**	**1,625,970**

DEPARTMENT OF TRANSPORTATION (Cont'd)
FEDERAL RAILROAD ADMINISTRATION
HISTORY OF APPROPRIATIONS
FY 2005 - 2014
($000)

Notes:

1/ FY 2006 appropriations (P.L. 109-115) reflect a 1.0% across-the-board rescission.

2/ FY 2008 Rail Line Relocation and Improvement appropriation (P.L. 110-161) reflects a 2% rescission on $5.24M in earmarks.

3/ FY 2008 Emergency Supplemental (P.L. 110-329).

4/ FY 2009 ARRA appropriations (P.L. 111-5) reflects $1.3B for Amtrak and $8.0B for HSIPR.

5/ FY 2011 full year CR appropriations (P.L. 112-10) reflect a 0.02% across-the-board rescission.

6/ FY 2011 appropriations (P.L. 112-10) reflect a $400M rescission of prior year unobligated balances.

7/ FY 2013 figures reflect .2% rescission and sequestered amounts excluded.

8/ FY 2013 The Disaster Relief Appropriations Act of FY 2013 (P.L. 113-2) provided funds to Amtrak for Hurricane Sandy, including $32 million for repair work and $86 million for disaster mitigation projects, less sequestration. $ 185 million for transferred from FTA to FRA for the Hudson Yards Project.

9/ FY 2014 Omnibus (P.L. 113-76) reflects a $4,419M rescission on the NEC prior year unobligated balances, and $1,973M rescission on the Next Generation High-Speed Rail prior year unobligated balances.

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EXHIBIT IV-1

FEDERAL RAILROAD ADMINISTRATION
RESEARCH, DEVELOPMENT, AND TECHNOLOGY
BUDGET AUTHORITY
($000)

Program	FY 2014 Actual	FY 2015 Enacted	FY 2016 Request	FY 2016 Applied	FY 2016 Development
Railroad Research and Development Account	**35,250**	**39,100**	**39,250**	**26,844**	**9,405**
Track Program	11,429	11,279	11,429	5,926	2,502
Rolling Stock Program	8,322	10,322	10,322	8,050	2,272
Train Control and Communication	8,086	8,086	8,086	5,256	2,830
Human Factors Program	3,542	5,542	5,542	3,322	1,220
Railroad Systems Issues Program	3,871	3,871	3,871	3,290	581
Rail Service Improvement Program	**-**	**-**	**25,000**	**4,556**	**7,244**
Safety and Operations	**3,677**	**3,677**	**4,028**	**2,578**	**1,450**
Salaries & Expenses (R&D)	3,677	3,677	4,028	2,578	1,450
Subtotal, Research &Development	**35,926**	**39,926**	**52,077**	**33,978**	**18,009**
Subtotal, Technology Investment (T)	**-**	**-**	**3,000**	**N/A**	**N/A**
Subtotal, Facilities (F)	**3,001**	**2,851**	**13,201**	**N/A**	**N/A**
Total, FRA	**38,927**	**42,777**	**68,278**	**33,978**	**18,099**

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U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

Railroad Safety Strategy FY 2015–2019: Progress Assessment

January 2015

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CONTENTS

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SUMMARY OF FINDINGS

In this Progress Assessment, the Federal Railroad Administration (FRA or the Agency) reports on accomplishments made in fiscal year (FY) 2014 toward achieving the safety goals for the period from FY 2015 to FY 2019, as described in the Railroad Safety Strategy.[1] The Railroad Safety Strategy is FRA's long-term plan to realize the safety goals enumerated in Section 102(a) of the Rail Safety Improvement Act of 2008 (RSIA).

In FY 2013 and 2014, FRA continued working to improve railroad industry safety and meet the mandates of the RSIA. FRA has full year data for FY 2014. Comparing FY 2014 to FY 2013, the rates of all rail-related accident/incidents, grade crossing incidents, equipment-caused train accidents, signal and miscellaneous caused train accidents, and non-accidental rail hazmat releases increased. However, the rates of human factors train accidents and track-caused train accidents decreased. Many of the rates that increased were affected by particularly inclement winter weather conditions during FY 2014. In FY 2013 and 2014, FRA focused on developing its Risk Reduction Program (RRP), advancing initiatives for the high-speed rail (HSR) program, facilitating implementation of Positive Train Control (PTC) systems by December 2015, making necessary updates to Track Safety Standards, and expanding the Confidential Close Call Reporting System (C^3RS) program.

In addition to implementing the strategy presented in the Railroad Safety Strategy FY 2015–2019, during FY 2014 FRA focused closely on two emergent issues impacting rail safety. The first was the safe transport of crude oil by rail. FRA supported and continues to support a comprehensive Departmental initiative in this area. The second was a comprehensive review of Metro-North Commuter Railroad's safety program, including its safety culture.

BACKGROUND

FRA promotes safety in various ways, including by regulating the Nation's railroad industry. FRA's regulatory authority derives primarily from the statutory authority of the Secretary of Transportation (Secretary) under Title 49 U.S.C. Chapters 201–213, which the Secretary has delegated to FRA by regulations at Title 49 Code of Federal Regulations (CFR) Section 1.49. FRA's safety regulations are codified under 49 CFR Parts 209–244. Under FRA's delegated statutory authority, the Agency has numerous enforcement tools, including defect and deficiency warnings, civil penalties, compliance orders, emergency orders, special notices, and directives. FRA also enforces the hazmat transportation laws (49 U.S.C. Chapter 51) and implementing regulations and orders, especially in the rail mode of transportation. See 49 CFR Parts 171–177. FRA executes its regulatory and inspection responsibilities through a diverse staff of railroad safety experts assigned to headquarters in Washington, D.C. and eight regional offices across the Nation. An FRA safety inspector specializes in one of five core disciplines. These disciplines consist of Track, Signal and Train Control (S&TC), Motive Power and Equipment (MP&E), Operating Practices (OP), and Hazardous Materials (HM). In addition, FRA's headquarters and regional offices include program managers and specialists for PTC, passenger rail, risk

[1] Dated January 2014.

reduction, highway-rail grade crossing safety and trespass prevention, assessing rail and infrastructure integrity (including bridges), and industrial hygiene and workplace safety.

Safety statistics show that the railroad industry's long-term safety record improved significantly from FY 2005 through FY 2014. During this 10-year period, the total number of all reportable rail-related accidents and incidents declined 16 percent.[1] Also, train accidents fell by about 46 percent (3,342 vs. 1,792); casualties (deaths and injuries) dropped 8 percent (10,292 vs. 9,482); and highway-rail grade crossing incidents decreased 24 percent (2,986 vs. 2,258). Under the Government Performance and Results Act of 1993 (GPRA), the Agency also devoted four of its six safety performance measures to evaluating safety performance using train accidents.

FRA SAFETY PERFORMANCE MEASURES

FRA believes that the progress made toward achieving the long-term goals set forth in the Railroad Safety Strategy required by Section 102 of the RSIA, and the results of other FRA safety efforts, are best evaluated using the GPRA measures. The GPRA measures correspond to the functional areas in which FRA provides safety guidance and exercises enforcement authority. FRA has been using these GPRA goals to measure regional performance and overall safety performance since GPRA was officially implemented at the Agency in 2003.[2]

A historic review of FRA's safety program, including information from GPRA measures during a 10-year period, are provided in the following tables to show the progress made leading up to the enactment in 2008 of the RSIA requirements and thereafter.

FRA Safety Performance Measures

In summary, using the data below for the complete years from FY 2005 to FY 2014, the actual rates of the various accidents, incidents, etc. *decreased* by the following percentages—showing safety improvements in all measures:

- Grade crossing incidents rate by 22 percent.
- Human factor-caused train accidents rate by 46 percent.
- Track-caused train accidents rate by 52 percent.
- Equipment-caused train accidents rate by 37 percent.
- Other (signal and miscellaneous) train accidents rate by 33 percent.
- Non-accidental rail hazmat releases rate (per 200 million hazmat ton-miles) by 42 percent.
- Rail-related accidents/incidents rate by 13 percent.

[1] Collisions, derailments, fires, explosions, acts of God, or other events involving the operation of railroad on-track equipment (standing or moving) and causing reportable damages greater than the reporting threshold for the year in which the accident/incident occurred must be reported using Form FRA F6180.54. The threshold for calendar year (CY) 2012 was $9,500; for CY 2013 it is $9,900; for CY 2014 it was $10,500.

[2] FRA re-evaluates and updates the targets annually when newer safety data is available. Future targets could improve further with new safety initiatives and additional resources to carry out those initiatives.

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1. GRADE CROSSING INCIDENTS*

Fiscal Year	Incidents	Train-Miles	Rate per Million Train-Miles	
			Actual	GPRA Goal
2005	2,986	785,881,848	3.800	3.900
2006	3,070	808,609,382	3.797	3.850
2007	2,812	798,261,501	3.523	3.750
2008	2,547	786,070,753	3.240	3.750
2009	2,054	687,912,367	2.986	3.650
2010	2,009	692,314,720	2.902	3.650
2011	2,055	712,873,005	2.883	3.500
2012	2,045	733,019,521	2.790	3.300
2013	2,003	741,818,399	2.700	3.100
2014	2,258	760,557,786	2.969	2.975

* All data is current as of January 2015, and are from the FRA's Office of Railroad Safety Analysis Data Web site. FY 2013 and FY 2014 data are preliminary.

2. HUMAN FACTOR-CAUSED TRAIN ACCIDENTS*

Fiscal Year	Accidents	Train-Miles	Rate per Million Train-Miles	
			Actual	GPRA Goal
2005	1,295	785,881,848	1.648	1.660
2006	1,116	808,609,382	1.380	1.660
2007	1,035	798,261,501	1.297	1.660
2008	967	786,070,753	1.230	1.660
2009	715	687,912,367	1.039	1.350
2010	657	692,314,720	0.949	1.350
2011	709	712,873,005	0.995	1.250
2012	676	733,019,521	0.922	1.200
2013	679	741,818,399	0.915	1.100
2014	683	760,557,786	0.898	1.045

* All data is current as of January 2015, and are from the FRA's Office of Railroad Safety Analysis Data Web site. FY 2013 and FY 2014 data are preliminary.

3. TRACK-CAUSED TRAIN ACCIDENTS*

Fiscal Year	Accidents	Train-Miles	Rate per Million Train-Miles	
			Actual	GPRA Goal
2005	1,099	785,881,848	1.398	1.270
2006	1,066	808,609,382	1.318	1.270
2007	1,004	798,261,501	1.258	1.150
2008	860	786,070,753	1.094	1.150
2009	715	687,912,367	1.039	1.150
2010	677	692,314,720	0.978	1.150
2011	683	712,873,005	0.958	1.120
2012	624	733,019,521	0.851	1.080
2013	561	741,818,399	0.756	1.060
2014	508	760,557,786	0.668	1.015

* All data is current as of January 2015, and are from the FRA's Office of Railroad Safety Analysis Data Web site. FY 2013 and FY 2014 data are preliminary.

4. EQUIPMENT-CAUSED TRAIN ACCIDENTS*

Fiscal Year	Accidents	Train-Miles	Rate per Million Train-Miles	
			Actual	GPRA Goal
2005	392	785,881,848	0.499	0.521
2006	350	808,609,382	0.433	0.521
2007	334	798,261,501	0.418	0.521
2008	343	786,070,753	0.436	0.521
2009	253	687,912,367	0.368	0.450
2010	256	692,314,720	0.370	0.450
2011	244	712,873,005	0.342	0.450
2012	213	733,019,521	0.291	0.430
2013	208	741,818,399	0.280	0.420
2014	241	760,557,786	0.317	0.379

* All data is current as of January 2015, and are from the FRA's Office of Railroad Safety Analysis Data Web site. FY 2013 and FY 2014 data are preliminary.

5. OTHER (SIGNAL AND MISCELLANEOUS) TRAIN ACCIDENTS*

Fiscal Year	Accidents	Train-Miles	Rate per Million Train-Miles	
			Actual	GPRA Goal
2005	556	785,881,848	0.707	0.647
2006	518	808,609,382	0.641	0.647
2007	404	798,261,501	0.506	0.647
2008	390	786,070,753	0.496	0.647
2009	330	687,912,367	0.480	0.647
2010	338	692,314,720	0.488	0.593
2011	332	712,873,005	0.466	0.590
2012	314	733,019,521	0.428	0.560
2013	324	741,818,399	0.437	0.530
2014	360	760,557,786	0.473	0.510

* All data is current as of January 2015, and are from the FRA's Office of Railroad Safety Analysis Data Web site. FY 2013 and FY 2014 data are preliminary.

6. RAIL NON-ACCIDENTAL HAZMAT RELEASES*

Fiscal Year	Releases	Hazardous Material Ton- Miles	Rate per 200-million HM Ton-Miles	
			Actual	GPRA Goal
2005	750	106,698,150,776	1.406	1.422
2006	654	113,372,962,173	1.154	1.385
2007	724	118,127,388,438	1.226	1.348
2008	710	115,079,552,454	1.234	1.326
2009	658	113,179,992,644	1.163	1.278
2010	698	127,103,882,648	1.098	1.278
2011	713	131,763,224,727	1.082	1.249
2012	634	167,882,511,493	0.755	1.220
2013	670	169,907,409,397**	0.789**	1.218
2014	710	174,509,291,832 **	0.814**	1.200

*All data is current as of January 2015 and are derived from the PHMSA hazmat database and the Carload Waybill Sample.
** Projected.

DOT Safety Performance Goal

1. RAIL-RELATED ACCIDENTS/INCIDENTS*

Fiscal Year	Accidents	Train-Miles	Rate per Million Train-Miles	
			Actual	GPRA Goal
2005	14,219	785,881,848	18.093	17.140
2006	14,171	808,609,382	17.525	16.800
2007	13,808	798,261,501	17.298	16.700
2008	13,291	786,070,753	16.908	18.450
2009	11,607	687,912,367	16.873	17.000
2010	11,562	692,314,720	16.700	16.400
2011	11,474	712,873,005	16.095	16.400
2012	11,179	733,019,521	15.251	16.300
2013	11,240	741,818,399	15.152	16.300
2014	11,977	760,557,786	15.748	16.150

* All data is current as of January 2015, and are from the FRA's Office of Railroad Safety Analysis Data Web site. FY 2013 and FY 2014 data are preliminary.

RSIA SAFETY GOALS

Progress Assessment for RSIA Safety Goal #1: Reducing the number and rates of accidents, incidents, injuries, and fatalities involving railroads, including train collisions, derailments, and human factors.

FRA's mission statement establishes a commitment to putting into place processes that enable the safe, reliable, and efficient movement of people and goods for a strong America, now and in the future. A variety of different programs have been incorporated into FRA's Safety Management System (SMS) to reduce the number and rates of accidents, incidents, injuries, and fatalities involving railroads. This section of the Progress Assessment identifies these elements and how they contribute to continuous safety improvement in the railroad industry.

FRA has a philosophy of constantly evaluating its safety improvement programs. The objective is to make changes when such changes can achieve greater advances in industry safety. New programs have also been introduced during recent years to further advance safety improvement objectives.

FRA's safety strategy assessment of risk has several components that contribute to reducing safety risk. Management's focus is on effective ways to achieve improvements that are operationally sustainable over time. The Office of Railroad Safety (RRS) performance targets are both national and regional in scope to facilitate validation of the effectiveness of risk reduction strategies. National measures include GPRA safety targets that are also divided into regional targets by inspector disciplines. The scope and diversity of the programs range from

traditional regulatory requirements and enforcement actions to non-regulatory RRPs that use cooperative partnerships between interested parties to improve industry safety.

FRA's SMS objectives are made up of many interrelated parts. FRA operates as an integrated agency: (1) RRS promotes safety including regulating the Nation's railroad industry with multiple programs that facilitate an overarching management system designed to advance safety improvements. (2) The Office of Chief Counsel (RCC) provides legal support for FRA's various programs by drafting safety legislation, regulations, orders, and interpretations; and by handling civil penalty collections, criminal enforcement, Locomotive Engineer Review Board certification cases, and administrative and judicial litigation. (3) The Office of Railroad Policy and Development (RPD) conducts critical research and development, testing, and evaluation projects to support FRA's safety mission and to enhance the railroad system as a national transportation resource. RPD plays a key role in developing and testing new technology in order to advance science and engineering to improve the technology for railroad safety, and provides support, analysis, and recommendations on broad subjects relating to the railroad industry. (4) The Offices of Financial Management and Administration provide infrastructure support for information technology, capital planning, financial, budget, performance management, and human resources.

FRA plans its safety-related activities to be responsive to: (1) statutory requirements and congressional directives including Government Accountability Office (GAO) recommendations; (2) a review of relevant safety statistics, findings in prior safety inspections and investigations, safety research and development; and (3) recommendations from the National Transportation Safety Board (NTSB) and other oversight bodies, including the U.S. Department of Transportation (DOT) Office of the Inspector General (OIG).

RRS annually evaluates the effectiveness of its safety programs in achieving intended outcomes. The evaluations help determine the extent to which a safety program is having an impact on outcomes versus other variables that affect outcomes. By examining a broader range of information on an ongoing basis through performance measures, evaluations explore the benefits of a program as well as ways to improve program performance. Performance measures are also used to improve program results.

FRA's annual Railroad Safety Strategy and the Progress Assessment supply Congress with the Agency's action plans and overall achievements in reaching or exceeding GPRA safety improvement goals. FRA's Railroad Safety Strategy is a 5-year plan to improve the railroad industry's safety record on the following: (1) reducing the number and rate of accidents, incidents, and fatalities that include train collisions, derailments, and human factors; (2) improving consistency and effectiveness of enforcement and compliance programs; (3) improving identification of high-risk highway-rail grade crossings and strengthening enforcement and other methods to increase grade crossing safety; (4) improving research efforts to enhance and promote railroad safety and performance; (5) preventing railroad trespasser accidents, incidents, injuries, and fatalities; and (6) improving the safety of railroad bridges, tunnels, and related infrastructure to prevent accidents, incidents, injuries, and fatalities caused by catastrophic failures and other bridge and tunnel failures. FRA's Progress Assessment reports on the achievement of strategic goals described in the prior year's Railroad Safety Strategy

report to Congress and any deficiencies identified in achieving safety goals, including measures instituted to remediate deficiencies.

FRA is using GPRA to measure improvements in the management of safety programs by shifting the focus of decisionmaking from staffing and activity levels to the results of Federal programs. Under GPRA, FRA's strategic plan sets the general direction for the safety efforts including annual performance plans that establish the connections between the long-term strategic goals outlined in the strategic plans, and the day-to-day activities of program managers and staff. GPRA is being used to: (1) determine how FRA does business; (2) hold FRA managers accountable for program results; (3) decide how management information is made available so it will be more accessible to the general public; and (4) improve the overall management of safety initiatives. FRA evaluates its existing safety programs and started the RRP, which focuses on new ways to reduce safety risk. FRA's safety program is designed to get the best results making effective use of available funds as efficiently as possible. The Office of Railroad Safety has been using the RRP, National Safety Program Plan (NSPP), Railroad System Oversight Managers (RSOM), National Inspection Plan (NIP), Regional Inspection Points (RIP), Staffing Allocation Model (SAM), Dashboard, Railroad Safety Advisory Committee (RSAC), System Safety Program Plan (SSPP), Highway-Rail Crossing Safety and Trespass Prevention, Switching Operations Fatality Analysis (SOFA), Fatality Analysis of Maintenance-of-Way Employees and Signalmen (FAMES), Operation RedBlock, focused inspections, and program evaluations to formulate a safety strategy to achieve meaningful safety improvements. GPRA provides a way to measure success or failure in achieving stated goals. It provides a baseline, over time, against which to measure FRA safety performance. FRA's Progress Assessment reports on the historical long-term performance results.

Section 103 of the RSIA mandates issuance of a regulation that requires each Class I railroad, commuter and intercity passenger railroad, and railroads with "inadequate safety performance (as determined by the Secretary)" to develop and implement a railroad safety RRP "that systematically evaluates railroad safety risks on its system and manages those risks…." RRP elements include a risk mitigation plan, a technology implementation plan, and a fatigue management plan (broader than hours of service employees). As part of FRA's RRP, the Agency conducts pilot projects with railroad management and labor to find non-regulatory ways to improve safety. In July 2008, an RRP Division was established in the Office of Railroad Safety. On June 16, 2009, FRA issued a Broad Agency Announcement supporting Class I railroad pilot projects. Proposal evaluations were conducted, and in September 2009, seven grants (totaling $433,000) were awarded for pilot projects on six Class I railroads. In 2010, FRA solicited proposals (due to limited funding, only from Class I railroads) and awarded five grants in September 2010 (totaling $350,000). In subsequent years there have been no funds; therefore, no grants have been awarded.

In June 2012, FRA issued a Notice of Funds Availability proposal on a pilot project to make distraction by electronic devices socially unacceptable on the railroads. A grant of $200,000 was subsequently awarded (in September 2012) to the Railroad Research Foundation for a collaborative peer-to-peer project on the Norfolk Southern Railway. The project remains underway.

FRA, working with stakeholders, is creating an environment to gain voluntary participation to reduce risk from operations using confidential information to assist in decisionmaking with nonpunitive actions to improve railroad industry safety so that upstream predictive measures can be used to improve safety. These innovative methods, processes, and technologies will be used to achieve an aggregate 50-percent reduction in reportable accidents and injuries in RRP pilot projects over a 5-year period. FRA's long-term goal is to achieve a similar reduction in reportable accidents and injuries industrywide over a 10-year period. FRA's focus is to develop a risk reduction strategy to further drive down the number of train accidents. Risk reduction programs supplement existing methods of Federal safety oversight and compliance enforcement. FRA will work with railroads to identify, analyze, and correct safety issues before they result in a train accident or employee injury. The ongoing C^3RS demonstration project is one example of the risk reduction strategy at work.

The NSPP is an annual plan to establish a comprehensive outline to implement safety initiatives that are designed to focus efforts on activities that will provide meaningful safety improvement results. NSPP integrates these safety improvement plans into a single document that fully supports GPRA and DOT goals. NSPP has plans for all safety disciplines, regions, and RSOMs for each Class I railroad. At the national level, the emphasis is on data analyses that include interregional initiatives directed at multiregional railroad operations so the efforts are effective and efficient for achieving safety improvement results. These plans are updated quarterly and issued to every employee in RRS.

RSOMs focus on Class I railroads' safety risk issues. These managers identify broad-scale compliance problems that affect multiple locations on a railroad's system. In certain instances, a compliance issue may be an industry concern, such as locomotives used in Remote Control Operations failing to protect against an undesired application of the train air brake, causing an opportunity for a control operator riding the locomotive to be thrown off. Most safety risks are identified through analyses of accident data; inspection data (defects and violations); communication among labor organizations, rail managers, headquarters, and the eight regional offices on the results of analyses and inspection; railroad operations; and by further inspections to obtain more detailed information about identified safety concerns. An RSOM may be called upon to lead and or participate in a focus inspection or more detailed audits (i.e., acquisition of efficiency testing data, waivers requesting relief from Federal regulations, and identified manufactured equipment failing to perform its intended function). During FY 2014, RSOMs have presented safety and compliance issues that involved railroad operational efficiency testing, failure to report Hours of Service (HOS) related to cab signal departure testing, dispatcher software issues on the Norfolk Southern Railway (NS), defects/violation data problems with the NS Action Nest system, human factor caused accidents on all Class I railroads, route locking compliance on CSX Transportation (CSX), remote control locomotive operations and software issues with Cattron Corporation of the Union Pacific Railroad, and enforcement of emergency order (EO) 28 on all Class I railroads.

NIP is intended to optimize FRA's ability to reduce the rates of train accidents, hazmat releases, and casualties from human factor-caused errors. FRA safety inspectors focus on locations that are likely to have safety problems based on data models and regional awareness of safety hazards. NIP involves three steps: (1) FRA headquarters produces an initial baseline plan for

each region; (2) the Regional Administrators (RA) may adjust the goals for their respective regions based on local knowledge and emerging issues; and (3) once the fiscal year begins, FRA monitors how the regions are meeting their inspection goals. NIP is housed on a Web-based interface that allows FRA headquarters and the regions to monitor progress of field inspectors during a fiscal year. NIP is not a standalone program; it is designed to support GPRA initiatives along with RRP, NSPP, and RSOMs with the aid of the SAM, RIP, Dashboard reports, focused enforcement, and program evaluation. The objective is to achieve cost effective safety improvement results.

In March 2014, FRA regions reviewed their inspection status against the NIP goals for FY 2014 and made adjustments, as needed, in response to unexpected events such as spikes in accidents that required shifting inspection resources. Between May and August 2014, the FY 2015 NIP baseline goals were established from updated safety data. In September, the FRA regions provided additional inputs based on local knowledge and emerging issues before the NIP plan was finalized for FY 2015, starting October 1, 2014.

RIP is an inventory of each railroad by discipline compiled by inspectors for their inspection territory to benefit risk analysis. This information is used for planning inspection activity in conjunction with accidents/incidents, defects, violations, and inspections performed by safety inspectors.

SAM provides suggestions to managers for putting inspectors in the best locations using risk data to achieve the most cost-effective safety results. This model uses consequences (i.e., damages and casualties) as the basis for comparison. SAM provides guidance on redistributing FRA's inspection resources across regions and disciplines. Mathematical equations are derived from regression to estimate train accidents, casualties, and damages based on the number of safety inspectors. SAM includes the OP, Track, MP&E, and S&TC disciplines, but not the HM discipline. Hazmat releases are mostly non-accidental releases (i.e., not related to railroad accidents). Toxic inhalation hazard (TIH) material releases in train accidents are mostly the results of other causes.

Dashboard reports are housed on FRA's secure Web site for ready access by safety leadership, regional management, and inspectors to be able to view historical enforcement efforts. Inspection data is compiled into graphs and gauges that show information such as inspection days, defect ratios, and violations. The Dashboard is a tool for scheduling enforcement activities. FRA managers monitor inspection activities to ensure that enforcement and compliance policies are applied uniformly.

RSAC is a partnership effort, chartered under the Federal Advisory Committee Act, which FRA established to work with over 30 organizations representing labor, railroads, suppliers and manufacturers, States, and passenger advocates, as well as advisors from the Federal Transit Administration, Transportation Security Administration, NTSB, the transportation departments of the governments of Canada and Mexico, and various other entities. RSAC provides for greater collaboration with the regulated community to ensure a more inclusive rule development process. For this reason, RSAC-developed regulations have a wide range of support and are more readily understood and implemented.

Since RSAC was chartered on March 25, 1996, it has addressed 44 tasks and conducted more than 550 committee, working group, and task force meetings on critical safety issues. The committee is renewed under the authority of the U.S. Department of Transportation (DOT), established in accordance with the provisions of the Federal Advisory Committee Act (FACA), as amended, 5 U.S.C. App. 2. By harnessing the combined wisdom, resources, and experience of railroad industry experts who have the greatest knowledge and interest in promoting rail safety, including security, FRA is able to leverage its resources to produce rules that are more responsive, flexible, and better accepted by those required to implement them. In FY 2014, RSAC completed Task 08-03: Track Safety Standards; Improving Rail Integrity, with publication of a final rule on January 24, 2014.

FRA's SSPP supports the System Safety Program for passenger railroads. It has (1) a hazard management process; (2) program and implementation audits for compliance; (3) passenger railroads, host railroads, contract operators, and others who provide safety-sensitive services; and (4) passenger railroads system safety training programs.

FRA's Highway-Rail Grade Crossing and Trespass Prevention Division is primarily an outreach program to the general public to reduce the number of fatalities that occur at highway-rail grade crossing collisions and to individuals who are not authorized to be on railroad property. FRA works with the Federal Highway Administration, the Federal Motor Carrier Safety Administration (FMCSA), State DOTs, and private organizations to promote: (1) education with Operation Lifesaver, Inc., (2) enforcement with police officers detailed to FRA, and (3) engineering initiatives to close crossings and conduct upgrades of crossing warning devices. FRA assists the railroads in working with States and local communities to close crossings, plan corridor programs, advance public education and awareness, deter trespassing and promote law enforcement of traffic laws at crossings and trespassing on railroad property.

The SOFA working group analyzes switching operation employee on-duty fatalities. Its findings made it possible to develop five major SOFA safety advisories that FRA regulators use in cooperation with railroad management and unions to address the most common causes associated with these fatalities. The advisories cover what inexperienced employees need to know, close clearances, hazards on industrial track, risk of being struck by mainline trains, and job or safety briefings.

FAMES (Fatality Analysis of Maintenance of way Employees and Signalmen) is a voluntary committee focusing on identifying risks, trends, and factors impacting roadway worker safety in the railroad industry. FAMES issues findings and recommendations based upon its review of available safety data. The committee's activities are focused on education of railroad employees to prevent future roadway worker fatalities.

FY 2014 Reports (and their release dates):

- Fatal Striking Accidents with Roadway Maintenance Machines Present – October 24, 2013
- Fatal Accidents under Train Approach Warning (Watchman/Lookout) – January 6, 2014

- Fatalities on Adjacent Tracks – March 28, 2014

SOFA and FAMES participants consist of railroad management, labor organizations, associations, and FRA. They work on safety improvements that are non-regulatory processes.

Operation RedBlock is a non-regulatory program that has had positive safety improvement results in reducing alcohol use. Operation RedBlock allows employees that may be impaired due to the use of alcohol or drugs to mark-off for the day in a confidential manner. FRA (working with railroad management, labor organizations, and individual employees) promotes and assists with marketing, adopting, and implementing non-regulatory programs. FRA is encouraged by the use of this program by several Class I railroads in concert with appropriate referral to their Employee Assistance Programs (EAP) as required by 49 CFR Part 219 Subpart E, Identification of Troubled Employees. The program, where available, has proven to be an effective way for employees to confidentially receive qualified EAP referrals for counseling and rehabilitation and has been used by employees at a level that exceeds those employees identified with problems by the testing program. Thus, the program is a "force multiplier" for railroad safety in the detection, deterrence, and mitigation of drug using/alcohol misusing employees. In FY 2014, FRA succeeded in compelling one Class I railroad to ensure that employees requiring EAP referrals are indeed referred to qualified, credentialed EAP counselors available through their regulatory compliant Part 219 Subpart E program as opposed to being referred to peer advocates. FRA reviews only summary data from Operation RedBlock and has not examined individual employee records, nor will FRA examine these records in the future.

Focused inspections are basic efforts toward achieving rail safety improvements. This enforcement approach is used by safety inspectors to take advantage of understanding the nature of rail-related accidents and to analyze trends in railroad safety. RRS collects accident/incident data from the railroads and converts this information into meaningful statistical tables, charts, and reports for safety inspectors, which are an integral component of the focused inspection efforts underway on a day-to-day basis. The safety inspectors use this information in dealing directly with the railroads in order to enforce the Federal rail safety laws and measure compliance effectively and efficiently.

Through its Safety Assurance and Compliance Program, FRA enforces Federal rail safety statutes and regulations and the hazmat regulations. The Federal railroad safety statutes and hazmat transportation statutes facilitate compromise of civil penalty assessments, and set forth criteria to be considered when assessing civil penalties and settling civil penalty assessments. These statutes also provide for civil penalties against individuals for willful violations of the rail safety requirements or knowing violations of the hazmat requirements, disqualification of individuals from performing safety-sensitive service for violations, whether willful or not, that demonstrate unfitness for safety-sensitive service, and warning letters to individuals about their violations. The Administrator may issue an order directing compliance after providing notice and opportunity for a hearing. FRA sometimes enters into compliance agreements with railroads in which the railroad promises specific remedial action and, should it fail to deliver on its promise, agrees to the imposition of a compliance order, an emergency order, or particular fines. An inspector may order a locomotive, freight car, or unit of passenger equipment, out of service, or lower the class of track using the authority of special notices for repairs. FRA may request

that the Attorney General seek court injunctions prohibiting violations. The FRA Administrator may issue an emergency order to abate an emergency where an unsafe condition or practice causes an emergency situation involving a hazard or death, personal injury, or significant harm to the environment. Enforcement authority, in conjunction with FRA's other safety management systems, creates a complete overall safety program to maximize existing resources for the best safety improvement outcome.

Positive Train Control

PTC refers to processor/communication-based technology that is capable of preventing train-to-train collisions, overspeed derailments, incursion into established roadway work zone limits, and the movement of a train through an improperly lined switch. PTC systems vary widely in complexity and sophistication. PTC technology may also have security benefits because the system can potentially limit the consequences of incidents such as hijackings and runaway trains.

FRA issued PTC regulation amendments at 49 CFR Part 236 in consideration of stakeholder requests. These modifications address en route failures of PTC-equipped trains, situations when a signal system could be removed after PTC installation, and whether yard movements and certain other train movements should qualify for a *de minimis* risk exception to the PTC rule. The modifications are in clearance for final publication.

As identified in FRA's August 2012 Implementation Status Report to Congress, the industry is facing several challenges in implementing PTC systems by the current statutory December 31, 2015, deadline. Delays associated with resolution of these issues will result in railroads installation efforts extending beyond the current statutory deadline. The large-scale deployment of PTC (covering approximately one-half of all track route miles), the limited time available for installation, and the emerging technical issues will necessitate significant ongoing FRA oversight and assistance. FRA will continue to provide onsite field engineering and pre-revenue service support throughout the PTC implementation period. To facilitate deployment efforts, FRA has developed and promulgated technical guidance that will allow railroads increased flexibility to conduct PTC system implementation and testing with reduced FRA involvement in day-to-day deployment and implementation efforts. This guidance addresses Substitution of Railroad Braking Model Algorithm Test Results in lieu of Live Field Brake Testing of Positive Train Control Systems, Review and Approval Standards for PTC Safety Plans (PTCSP), and the Monitoring and Audit of PTC System Functional Testing and Track Database Verification. FRA provided technical assistance and oversight to the seven Class I railroads and Amtrak, and 29 smaller railroads implementing PTC.

PTC systems require an extensive communications network to operate. This nationwide PTC-related communications network will require the installation of approximately 22,000 antennas/towers. These towers must comply with the National Environmental Policy Act of 1969 and the National Historic Preservation Act of 1966, and require approval from the Federal Communications Commission (FCC) before tower construction may proceed. In the past, FCC has processed only 2,000 to 3,000 applications for such approval per year. The current review and approval process under those laws will delay railroads' compliance with the December 31, 2015, statutory deadline. The FCC is working with the railroads to try to expedite the approval

process. FRA is assisting the FCC in an advisory capacity. Currently, the revised FCC program guidance is undergoing review and is awaiting approval by the Advisory Council on Historical Preservation. Once approved, FRA will continue to work with FCC and the railroads to implement the revised program guidance.

FRA is also using funds authorized by the RSIA to address common PTC implementation issues. Of the nine original grants awarded under the Railroad Safety Technology Grant Program, six are complete and three continue waiting delivery of equipment under development for a FY 2015 completion.

Sufficient funds were returned by the grantees from the completed grants to enable solicitation of additional projects. The NOFA was issued on November 7, 2013 and applications accepted through February 5, 2014. Applications are undergoing final awarding authority review, with additional funds awarded June 2014.

FRA has continued working with the Interoperable Electronic Train Management System (I-ETMS) Joint Rail Safety Team to review a draft PTCSP that will be used towards System Certification for each railroad, with modifications for railroad-specific information. The generic PTCSP language can be used by other railroads that will be installing I-ETMS.

FRA finished funding and technical support to the Peninsula Corridor Commuter Rail Service in California (Caltrain), for preliminary design of the Communications-Based Overlay Signal System (CBOSS), an Incremental Train Control System (ITCS) based PTC system. CBOSS will be implemented on the high-speed corridor between San Francisco and San Jose, CA. FRA has continued production system implementation and testing of advance activation prototype highway-rail grade crossings on a railroad line from St. Louis to Chicago to support operations to 110 mph.

In the draft legislation for the reauthorization of FRA's safety programs, FRA proposed changes to the PTC requirements. These include modifying the full implementation completion beyond December 31, 2015 and permits FRA to grant extensions as necessary. In addition, it proposes to allow railroads to use alternative means of protecting against PTC-preventable accidents if appropriately justified to FRA. Finally, it proposes to require the Secretary, the Chairman of the FCC, and the Assistant Secretary for Communications and Information of the National Telecommunications and Information Administration to coordinate to assess spectrum needs and availability for implementing PTC systems. The reauthorization proposal is pending Congressional action.

RSAC and Other Rulemaking Activities

FRA continued to focus on establishing regulations mandated by the RSIA, as well as other high-priority regulations aimed at reducing accidents, incidents, injuries, and fatalities for FY 2014. FRA issued a final PTC rule that adds more flexibility. During FY 2014, the full RSAC met three times, and various working groups and their task forces held approximately 21 meetings in order to develop recommendations for pressing safety issues.

In FY 2014, the RSAC Passenger Safety Working Group's Engineering Task Force (ETF) continued to work with stakeholders to establish minimum safety standards for Tier III passenger equipment.[1] To date, the ETF has reached consensus on 23 items, ranging from crashworthiness to fire safety for Tier III trainsets. The full RSAC approved the draft ETF recommendations, based on these consensus items, which will allow FRA to move forward with the first of two rulemakings on Tier III. In addition, two task groups continued to work concurrently with the full ETF; the Engineering Structures and Integrity (ESI) Task Group continues to develop a "compliance guidance manual" to complement the proposed rules, while a new task group was formed to develop Inspection Testing and Maintenance (ITM) requirements and look at the application of 49 CFR Part 229 to Tier III. FRA is currently working on the notice of proposed rulemaking (NPRM) to codify the previous guidance for Tier I[2] alternative crashworthiness standards, and the consensus recommendations for Tier III equipment. During FY 2014, FRA made significant progress toward completing an NPRM.

FRA worked to develop the following safety regulations in collaboration with the RSAC or through the traditional rulemaking process:

- Rail Integrity (Final rule FY 2014)
- Control of Alcohol and Drug Use: Coverage of Maintenance of Way Employees, Amendments
- Critical Incidents Stress Effect on Employees (Final Rule FY 2014)
- Risk Reduction Program
- Fatigue Management
- Railroad Workplace Safety: Adjacent-Track On-Track Safety for Roadway Workers (Final Rule in response to petitions for reconsideration FY 2014)
- Train Crew Size
- Train Securement
- Hours of Service Reporting Requirements
- Signal System Reporting Requirement Amendments (Final Rule FY 2014)
- Highway-Rail Grade Crossing Inventory
- Passenger Train Emergency Systems II (Final Rule FY 2014)
- Passenger Train Exterior Side Door Safety (NPRM FY 2014)
- PTC (*de minimis* amendment to final rule, published Final Rule FY 2014)
- Safety Glazing Standards (NPRM FY 2014)
- Roadway Worker Protection, Miscellaneous Amendments (Final Rule FY 2014)
- Training Standards for Safety-Related Railroad Employees (Final Rule FY 2014)
- Emergency Escape Breathing Apparatus

[1] Per 49 CFR Section 238.5, Trainset, Tier III means a short-distance or long-distance intercity passenger train that provides service in a shared right-of-way at speeds not exceeding 125 mph and in an exclusive right-of-way without grade crossings at speeds exceeding 125 mph but not exceeding 220 mph. A Tier III trainset is designed to be compatible with both Tier I and Tier II passenger equipment at speeds not exceeding 125 mph.
[2] Tier I means operating at speeds not exceeding 125 mph; 49 CFR Section 238.5.

Locomotive Engineer Certification

Section 402 of the RSIA requires FRA to prescribe regulations to establish a program requiring the certification of conductors. The final rule was published on November 9, 2011 (76 FR 69802), and a response to petitions for reconsideration was published on February 8, 2012. The final rule mandates that railroads have a formal program for certifying conductors. As a part of the conductor certification RSAC task statement, FRA also agreed to consider any revisions to 49 CFR Part 240 appropriate to conform and update the certification programs for locomotive engineers. The promulgation of the conductor certification regulation highlighted areas in the regulation governing locomotive engineer certification that could benefit from conforming changes. Such changes could include amending the program submission process, handling engineer and conductor petitions for review with a single FRA board, and revising filing requirements for petitions to the Locomotive Engineer Review Board. In FY 2013, FRA prepared draft regulatory text which it shared with the RSAC, and after receiving the Working Group's comments, is in the process of completing the NPRM in FY 2014.

Risk Reduction and Human Performance Programs

In FY 2012, RSAC established a working group to develop recommendations for a fatigue management risk plan regulation with requirements that would be integrated into the RRP rule, making these plans a component of a railroads' overall RRP. Work on this vital component continued in FY 2013. The Working Group established three task forces: scheduling, training and education, and infrastructure and environment. The Working Group achieved consensus on draft regulatory text in June 2013. In FY 2014, FRA developed a draft NPRM and supporting guidance documents, addressing the three areas that the task forces worked on.

In FY 2014, the C^3RS Implementation Team emphasized the need to transition C^3RS from research demonstration project to a nationwide risk reduction program, embedded with existing railroad safety programs. Although the Implementation Team continues to provide support to the Union Pacific, New Jersey Transit, and Amtrak, additional expansion initiatives are underway on Amtrak to include all crafts in C^3RS by the end of calendar year 2014.

The Implementation Team continues to advance C^3RS in the railroad industry. The team delivers presentations at numerous rail industry events in North America in an effort to educate railroad leaders and mangers about how C^3RS can complement their existing portfolio of safety and risk reduction strategies. In December 2013, a short line railroad implemented C^3RS on its railroad across all departments. Additional C^3RS expansion initiatives promoted in 2014 include the Metropolitan Bay Area Transit (Boston), Metro-North Railroad (New York), Long Island Rail Road (LIRR), and the Utah Transit Administration (UTA).

Electronic Device Distraction

FRA is participating in an RSAC Working Group tasked with making the use of personal electronic devices by railroad employees who are engaged in safety-critical work socially unacceptable. RRP stakeholders have participated in several peer-to-peer coaching programs on BNSF and UP. These programs involve face-to-face interactions with rail labor, rail

management, and FRA field personnel. To date, several thousand rail employees have been engaged in these discussions. In March 2014, FRA succeeded, with NS and the Brotherhood of Locomotive Engineers and Trainmen, in implementing a new peer-to-peer demonstration project that is focused on electronic device distraction. FRA also worked with the Volpe Center to develop a snapshot of the electronic device distraction (EDD) problem by interviewing a diverse group of railroad workers in a focus group. The final report was published during the spring of 2014. FRA is planning to conduct an industrywide survey to gauge the scope of the EDD problem, determine details of device use, and solicit solutions to the problem. The survey will be conducted with the help of rail labor and management, and is expected to be administered in early 2015.

Passenger Rail Safety

In FY 2014, FRA's Passenger Rail Division (PRD) continued to provide safety oversight of all aspects of passenger rail operations throughout the United States, including rail fixed guideway public transit operations that have limited connections to the general railroad system.

As with other disciplines within RRS, this is accomplished through proactive collaboration directly with members of industry, FRA regional partners, Federal Transit Administration (FTA), and with leading organizations such as the American Passenger Transportation Association (APTA). This oversight includes developing safety standards for passenger rail equipment and operations, and evaluating the safety and efficacy of new start passenger rail operations. PRD's involvement in the new start process begins during the conceptual and preliminary engineering stages and works with partners to ensure that safety is incorporated into the design and operation of passenger rail projects. The issues that are particularly important for the PRD with regard to these new starts are numerous but primarily focus on system safety, emergency response and preparedness, equipment compliance, and hazard identification and mitigation. PRD works with all stakeholders, including FTA and FRA regional personnel, to plan for and determine compliance with Federal regulations.

In FY 2014, PRD provided assistance to new start passenger railroads, in all phases of design and construction, to include the development and implementation of system safety programs for conducting preliminary hazard analyses. In FY 2014, PRD also continued to provide technical assistance to new start passenger rail operations, in all phases of design and construction, throughout the country. These new passenger railroads include TEXRail in Fort Worth, TX; Texas High Speed Rail in Dallas, TX; Sonoma County Transportation Authority (SMART) in Santa Rosa, CA; Denver RTD in Denver, CO; Triangle Transit Authority in Raleigh, NC; All Aboard Florida in Miami, FL; Sunrail in Orlando, FL. In addition, PRD has assisted existing commuter/passenger operations regarding line extensions and associated regulatory and safety requirements to include the Metrolink commuter rail extension to Perris Valley, and the Utah Transit Authority (UTA TRAX) Sandy North/Sound extensions.

In most cases, railroad rolling stock purchases for new start passenger railroads as well as existing railroads represents the greatest expense and can often be the critical path for a project's successful completion. Therefore, PRD maintains an outreach program to new and existing passenger railroads to assist and provide regulatory guidance during the planning/design phases

of such complex and costly rolling stock purchases. Throughout FY 2014, FRA assisted numerous passenger railroads and agencies with all types of rolling stock procurements and modifications to ensure that the FRA's rolling stock safety regulations (49 CFR Parts 223, 224, 229, 231, 238, etc.) are properly understood and applied. These projects include existing and new start passenger railroads, some being joint procurements by State agencies, many of which have not had previous experience procuring FRA compliant equipment. Current projects include: South Florida Regional Transportation Authority (SFRTA), SunRail, Massachusetts Bay Transportation Authority (MBTA), SMART, Amtrak, Caltrans, CalTrain, Denver RTD, Maryland MTA (MARC), Oregon DOT, All Aboard Florida, and Michigan DOT/Amtrak joint venture (using TALGO).

FRA has an outreach program that provides passenger railroads with training and information on system safety techniques. System safety incorporates the use of system safety plans (SSP) and uses innovative hazard management techniques to proactively identify and address safety issues before accidents occur. The use of system safety supports the FRA Railroad Safety Strategy in that the hazard management techniques can reduce the number, frequency, and severity of all passenger rail-related accidents, injuries, and fatalities, including accidents related to trespassing and highway-rail grade crossings.

In FY 2014, FRA developed guides, and training materials and information on system safety and FRA requirements for all passenger rail new starts and existing passenger railroads. FRA's goal is for all passenger rail new starts to have adequate training and information to establish their own SSPs. FRA conducted these workshops in 2014 with Amtrak, Metro-North Railroad, and Sunrail.

FRA works with two types of new start passenger rail projects that can be funded by the FTA-Commuter Rail, which comes under the jurisdiction of the FRA as prescribed in USC § 20102 and 49 CFR Part 209 Appendix A; and urban transit projects that may have limited connections to the general railroad system (sharing track, shared corridor, rail-rail crossings, etc.). Safety oversight of these urban transit systems is the primary responsibility of State Safety Oversight Agencies (SSOA) approved by the FTA. Because urban transit systems do not come under the direct jurisdiction of the FRA, FRA does not expect an urban transit system to conform to the same requirements as required for freight or commuter railroads, and waivers will be necessary from most regulations. Therefore, PRD works with FTA, relevant SSOAs and all other stakeholders (including host railroads) to ensure that wherever a limited connection exists, an equivalent level of safety is maintained, at a minimum, if any waivers are issued. In 2014, PRD worked with Tri-Met in Portland, OR; Memphis Area Transit Authority (MATA); San Diego Trolley Inc. (SDTI); and UTA TRAX in San Diego, CA.

In 2014, FRA provided interpretation to FRA regional forces and to industry stakeholders regarding changes to the Emergency Preparedness regulations in 49 CFR Part 239. Along with managing equipment compliance projects, FRA staff leading the effort to develop new passenger equipment regulations through the RSAC Passenger Safety Working Group's ETF. The ETF is currently working towards publishing its first of two planned rulemakings that will reshape the U.S. passenger equipment landscape by expanding its approach to crashworthiness for different Tiers of equipment (Tier 1, Tier 2, Tier 3, etc.), and establishing

safety standards for the next generation of High Speed Rail equipment. Title 49 CFR Parts 229, 231, 238 etc. are all being revised.

With regard to high speed passenger rail operations, FRA regulations currently support maximum train speeds of 160 mph, as can be seen in 49 CFR Part 213 Appendix G: VTI Rule. The vision contained in the RSIA and ARRA contemplates train speeds of up to 220 mph. In FY 2014, FRA continued working with several HSR projects (California High Speed, Amtrak 160, Texas high Speed Rail), both directly and through the RSAC process, to identify appropriate requirements for these and similar operations.

Minimum Training Standards and Plans

Section 401 of the RSIA requires that FRA issue regulations requiring training standards for safety-related railroad employees and equivalent employees of railroad contractors and subcontractors and that FRA review and approve training plans. To this end, FRA published a final rule on November 7, 2014.

Progress Assessment for RSIA Safety Goal #2: Improving the consistency and effectiveness of enforcement and compliance programs.

Rail Route Analysis Requirements for Security-Sensitive Hazardous Materials

In FY 2013, Countermeasures Assessment and Security Experts (CASE) completed the development of the Hazmat Transportation Analytical Risk Model (H-TRAM) for Class II and Class III railroads. H-TRAM is a Web-based software for a service risk reduction decision support tool to comply with 49 CFR Section 172.820. Additionally, the software has undergone beta testing with three member railroads of the American Short Line and Regional Railroad Association (ASLRRA), Morristown and Erie, Indiana Railroad, South Kansas and Oklahoma, and Wisconsin and Southern Railroad. A number of modifications were made to the software based on feedback from the participating railroads.

In FY 2014, FRA executed a contract to perform an Independent Verification and Validation (IV&V) of the software. An IV&V provides an objective assessment necessary to make an informed, accreditation decision. In the case of H-TRAM, "accreditation" is defined as effectively calculating safety and security risk for regulatory compliance. The verification and validation activities differ in their goals. Verification is the process of determining whether the product of each step of the life cycle fulfills all of the functions levied by the previous step. The outcome of the verification step ensures that the model is built correctly. Validation involves the relevancy, use, and precision of the model in its ability to fulfill the project objectives. Validation answers questions like, "Is the model applicable to assess route risks?" Validation and verification activities are necessary to ensure that the requirements defined for the H-TRAM model and its conceptual model design have been implemented accurately.

Concurrently, FRA will identify the entity that will host and maintain H-TRAM as well as provide classroom and online training for short line and regional railroad personnel. The planned implementation timeframe for H-TRAM is 2015.

FRA Routing Rule audits were conducted in FY 2014 in conjunction with audits of security plans at Class I, II, and III railroads. The Reading Blue Mountain & Northern (RBMN), Indiana (INDR), Boston & Maine Corporation (BM), Providence & Worcester (PW), BNSF Railway (BNSF), and CSX railroads were inspected during this period. During the audits, FRA reviewed a sampling of routes and had the carrier show their routing, methodology, and analysis substantiating routes chosen and why select alternatives were not. The companies audited used a combination of route analysis systems. Two rail carriers (RBMN and BM) with single routes for materials covered under 49 CFR Section 172.820 were responsible for their own methodology and analysis. Neither uses the current routing analysis H-TRAM or Rail Corridor Risk Management System (RCRMS). INDR has adopted H-TRAM and, as indicated above, participated in the beta testing of the software. PW, BNSF and CSX are long term users of RCRMS.

Industrial Hygiene (IH)

FRA continued auditing railroads for compliance with the regulation on Occupational Noise Exposure for Railroad Operating Employees (49 CFR Part 227). These audits were conducted to confirm that the rule was being followed in actual working conditions in the field, including the provision of personal protective equipment and posting of exposure measurements. In FY 2014, FRA completed over 20 audits. These audits were conducted on railroad carriers of all sizes from Class I to Class III. For the smaller Class III railroads, the focus for the first audit was to provide guidance on the actions needed to comply with the rule. FRA will audit these railroads again in the future to confirm their compliance.

A related task is monitoring FRA inspectors for occupational noise exposure to determine if a need exists to establish a hearing conservation program. Over the course of 4 years, this program identified only one employee exposure that exceeded the OSHA 85 dB(a) triggering threshold. This exposure was determined to be an anomaly since it could not be duplicated.

In FY 2014, FRA continued to investigate community noise complaints for compliance with Protection of Environment, Noise Emission Standards for Transportation Equipment; Interstate Rail Carriers (40 CFR Part 201), and Railroad Noise Emission Compliance regulations (49 CFR Part 210). Beginning in FY 2012, FRA has been training inspectors in the procedures and equipment to perform these measurements. Each of these inspectors is expected to do at least two sets of measurements each year in order to maintain competence in this area. In addition, the FRA developed a database for compiling the data collected so that FRA will be better able to respond to the public if complaints are lodged in the future.

FRA continued enforcement of the revised regulations for Construction of Railroad-Provided Sleeping Quarters (49 CFR Part 228, Subpart C), and Safety and Health Requirements for Camp Cars Provided by Railroads as Sleeping Quarters (49 CFR Part 228, Subpart E). In FY 2014, the IH Division conducted 6 audits for compliance.

In FY 2014, FRA continued evaluations of locomotive equipment and roadway maintenance machines for potential employee exposures to silica dust, asbestos, and diesel exhaust. The roadway maintenance machines evaluations were done as part of the FRA's responsibilities under 49 CFR Section 214.505.

FRA also manages a program of occupational safety of FRA employees. In FY 2014, FRA revised a number of the OSHA compliance training programs for Blood Borne Pathogens, Permit Required Confined Space Entry, Hazard Communication, and the Plan for Sustaining Essential Government Services during a Pandemic. This work was done in preparation for a transition of these programs to the electronic DOT Training Management System (TMS) to save costs and increase the availability to FRA employees.

In FY 2013, the field-based industrial hygienists were all certified as First Aid/CPR and AED instructors to provide this training to coworkers and participants from other DOT modes throughout the year. On behalf of the FRA Safety and Health Committee, the Division distributes important safety and wellness tips each month and maintains the committee's SharePoint pages that are a source for FRA's Safety and health program documents as well as FRA specific OSHA program documents.

Discipline-Specific Technical Training

FRA held numerous fundamentals and refresher Instructor Led Training (ILT) courses focused on areas within its five core disciplines (Track, S&TC, MP&E, OP, and HM). The classes are held to instruct FRA and State inspectors in new regulatory requirements to help them more effectively enforce the safety regulations and do so uniformly across the country. In addition, four non-discipline specific training courses were held: Investigative Skills Fundamentals, Accident Investigation Fundamentals, Steam Locomotive Inspection Fundamentals, and Fall Protection from Bridges. ILT consisted of a variety of modules developed to address skill and performance gaps and meet learning needs of regulatory changes such as the Adjacent Track Regulations, Locomotive Safety Standards, Signage and Reporting requirements in connection with reporting Unsafe Conditions at Grade Crossings, and MAP-21 initiatives associated with Hazardous Materials shipments by rail. A total of 48 classes were held at eight strategic locations across the county in an effort to minimize travel distances and expenses for class attendees.

The technical training program is substantial—new inspectors complete structured on-the-job training (OJT) standards under the watchful eye of a journey level inspector. The OJT process is initially coordinated by the Technical Training Standards Division (TTSD), but is principally managed by the regions. OJT generally takes about 4 to 6 months to complete. New inspectors attend 7 weeks of ILT in their first 2 years, followed by 1 week of annual training thereafter. All journey level inspectors attend 1 week of ILT refresher classes in their respective disciplines annually.

TTSD also completed numerous nationwide training events in support of C^3RS and Risk Reduction on various railroad properties. C^3RS related activities include program

orientation/instruction, program implementation, Memorandum of Understanding development/execution, Multiple Cause Incident Analysis (MCIA) training, and program evaluation. FRA also provided program evaluation start-up support in connection with Clear Signal for Action (CSA) in FY 2014.

Compliance Manuals

Compliance manuals provide inspectors and the regulated community with consistent guidance regarding application of the Federal regulations. The compliance manuals are posted on FRA's Web site and distributed to both internal stakeholders and participating State rail safety personnel. In FY 2014, FRA also published compliance manuals for Passenger and Freight Hours of Service, Track and Rail Infrastructure Integrity, and Human Performance, and guidance documents for Positive Train Control.

In FY 2014, FRA completed significant updates to the General Compliance Manual. The General Manual was published in June 2014.

Emergency Orders

FRA issues an EO when an unsafe condition or practice by a railroad causes a situation involving a hazard of death or personal injury. EOs are published in the Federal Register. In FY 2014, FRA worked with the Office of the Secretary of Transportation to issue one Emergency Order: DOT-OST-2014-0067, Emergency Restriction/Prohibition Order on Transport of Bakken Crude Oil. FRA also issued EO 29, Establishing Requirements for Controlling Passenger Train Speeds and Staffing Locomotive Cabs at Certain Locations on the Metro-North Commuter Railroad Company.

Safety Advisories

FRA publishes safety advisories in the Federal Register to provide guidance and clarification on the proper application of existing regulations or other important safety issues. The intended audience is the regulated community, including railroads, railroad contract operators, shippers, consignees, equipment manufacturers, and suppliers. In FY 2014, FRA published three safety advisories, including Safety Advisory 2013-07, Safety and Security Plans for Class 3 Hazardous Materials Transported by Rail; Safety Advisory 2013-08, Operational Tests and Inspections for Compliance with Maximum Authorized Train Speeds and Other Speed Restrictions; and Safety Advisory 2014-01, Recommendations for Tank Cars Used for the Transportation of Petroleum Crude Oil by Rail.

Performance Evaluations

FRA continued to include GPRA safety goals in the job performance evaluations of Regional Administrators, providing further incentive to track progress and make necessary adjustments to meet the safety goals in FY 2014. The Dashboard has also enabled Regional Administrators to monitor safety levels and activities locally on a real-time basis. Through the Dashboard, rising accident trends can be detected quickly, allowing Regional Administrators to shift resources or take other responsive action.

Track

Rail Integrity

The Rail and Infrastructure Integrity Division comprises the rail integrity staff and the bridge and structures staff. The rail integrity staff provides expert advice and oversight for all rail-related issues as determined by the Track Safety Standards regulation (49 CFR Part 213); including non-destructive rail inspection programs, minimum rail inspection operator qualification, defective rail remedial action, rail inspection frequencies, and rail inspection records.

FRA collaborated with the industry through the RSAC process to develop regulations for a new performance-based model for scheduling rail flaw detection, adjusting remedial actions for rail flaws, and significantly improving the reporting of rail inspection information. The Rail Integrity Final Rule became effective on March 25, 2014, and accordingly revised the Track Safety Standards to codify industry best practice in rail maintenance.

FRA developed a methodology for the review of railroad plans for the installation, maintenance, and inspection of continuous welded rail (CWR), and to assure compliance with new CWR regulations. As part of its review, FRA will make recommendations to ensure that CWR maintenance plans are effective nationwide and that risk of CWR related train derailment is prevented. The review and assessment of the railroads' CWR plans, and enforcement of the required procedures is the responsibility of the rail integrity staff. Oversight of this rule expands FRA's capability to enforce any noncompliant CWR rail maintenance and installation procedure.

Automatic Track Inspection Program (ATIP)

Track geometry rail cars are advanced, specially designed cars that provide accurate track geometry data to assess compliance with the Track Safety Standards. Each car operates about 180 days per year, with priorities given to passenger, hazmat, and defense-related routes. In FY 2014, FRA's ATIP cars supported the comprehensive review of track safety as part of "Operation Deep Dive" on Metro-North Railroad and were run along with crude oil routes throughout the country to help ensure track safety. FRA also conducted multiple tests with the Remote Desk Operation and deployed this remote data analysis. This unmanned system is more fully discussed in the Progress Assessment for RSIA Safety Goal #4, improving research efforts to enhance and promote railroad safety and performance.

Progress Assessment for RSIA Safety Goal #3: Improving the identification of high-risk highway-rail grade crossings and strengthening enforcement and other methods to increase grade crossing safety.

In April 2014, FRA published the "Compilation of State Laws and Regulations Affecting Highway-Rail Grade Crossings, Sixth Edition." This guide is a comprehensive reference for researchers, engineers, students, and legal practitioners as well as highway-rail grade crossing safety professionals. The current edition of this document reflects the law in the individual States up to February 2013.

Section 205 of the RSIA mandates that FRA require each railroad, regardless of size, to establish an emergency notification system (ENS) whereby the public can advise the railroad of safety issues at grade crossings, public and private, through which the railroad dispatches trains. FRA published a Final Rule on ENS in 2012. This rule makes it easier for the public to report unsafe conditions at highway-rail grade crossings. The rule requires railroads to establish toll-free telephone numbers to allow the public to report malfunctioning highway-rail grade crossing warning signals, disabled vehicles blocking the crossings, or any other unsafe conditions at crossings. Under the rule, when the railroad receives a call from the public about a malfunctioning crossing signal or a vehicle stalled on the crossing, train operators in that area would be immediately notified of the unsafe condition in an effort to avoid an accident. FRA amended the Final Rule on March 15, 2013, to add flexibility in response to a petition for reconsideration from the Association of American Railroads (AAR) and comments on the AAR's petition received from the Brotherhood of Railroad Signalmen. In 2014, FRA developed guidance for use by Public Safety Answering Points (911 call centers) to use when receiving railroad emergency notifications.

Section 204 of the RSIA makes reporting to the National Highway-Rail Crossing Inventory (Inventory) mandatory for railroads potentially leading to the correction of a significant data-quality issue that affects the Department's collective ability to mitigate the remaining areas of grade crossing risk. The section also authorizes a rulemaking for implementation and authorization of enforcement of each provision of certain departmental guidelines until the provision is superseded by a regulation prescribed under the authority of that section. FRA is evaluating and researching issues of data quality. An NPRM was published on October 18, 2012. The proposed rule would improve safety by ensuring that railroad information regarding all highway-rail and pathway grade crossings is submitted to a national database and updated regularly. This will allow FRA and other safety stakeholders to greatly enhance their analyses of these grade crossings. A new DOT Crossing Inventory Form was proposed in conjunction with this rulemaking. FRA held Technical Symposiums on December 13, 2012 and April 10, 2013 to facilitate the implementation of electronic updating of the Inventory by railroads and States. A public hearing on the NPRM was held on February 19, 2013. FRA made significant progress towards issuance of a Final Rule.

Section 202 of RSIA requires the Secretary to identify the 10 States that have had the most grade crossing collisions on average over the past 3 years and requires them to submit State-specific grade crossing safety plans. In June 2010, FRA published a final rule requiring 10 States to submit grade crossing safety plans. Prior to the start of FY 2013, approved action plans had been received from seven States. FRA worked with the remaining three States in FY 2013 and two States have submitted plans that have been approved. The last action plan was approved in FY 2014, fulfilling the requirements of Section 202.

Progress Assessment for RSIA Safety Goal #4: Improving research efforts to enhance and promote railroad safety and performance.

Throughout FY 2013, FRA made progress towards achieving many Research and Development (R&D) goals. R&D results from FY 2013 are described below.

Critical Incident Intervention Program

The FRA final rule regarding Critical Incident Intervention Programs was published March 25, 2014 with an effective date of June 23, 2014. Submission of plans is required by June 23, 2015. Detailed discussion of required and recommended elements for these plans accompanied publication of the final rule, with additional background information supplied in an FRA Technical Report issued in April 2014. An implementation guide is nearing completion based on a single carrier but designed for easy adaptation by others. This work will include training outlines and materials for key occupational groups impacted by the rule and/or involved in its implementation. It will also include an evaluation structure that can be extended to create a confidential and anonymous data collection repository to monitor the effectiveness of these new implementations.

Countermeasures to Reduce Suicides on Railway Rights-of-Way

In FY 2014, FRA held the first meeting of the Global Railway Alliance for Suicide Prevention (GRASP) working group during the Transportation Research Board annual meeting. The GRASP working group is comprised of researchers and railway representatives from around the world with a common goal of mitigating suicides on the rights-of-way. FRA continued this effort through regular teleconferences throughout FY 2014. A draft report describing potential countermeasures to mitigate suicides on the railroad rights-of-way was completed by the FRA in FY 2014, with a final report anticipated to be published by September 2014. FRA R&D also coordinated with the FRA Office of Railroad Safety to internally share suicide and trespass data. These data will allow FRA R&D to develop a visual map using Geographic Information System (GIS) software for tracking trespasser and suicide incidents on railroad rights-of-way, and to summarize findings from preliminary analyses of the information currently available. Preliminary analyses of that data are expected by September 2014. In addition, FRA initiated the collection of media reports from fatalities on the rights-of-way in an effort to understand if media outlets are following published guidelines for reporting on suicides and if deviations from these voluntary guidelines may have led to copycat incidents. Finally, in an effort to explore possible adaptation of the UK's Ovenstone Criteria for determination of cause of death for fatalities on the railroad rights-of-way, FRA initiated collaboration with a railroad carrier in the U.S.

Program Evaluation

A Program Evaluation section was added to the FRA R&D Strategic Plan, FY 2013–FY 2017. The Office of R&D evaluation vision is to regular employment of sound evaluation to help improve the development, utilization, impact, and overall effectiveness of R&D projects and programs. The evaluation mission is to regularly embed program evaluation methods in its R&D projects and use evaluation findings to help assure project quality, effectiveness, and

accountability. To implement this strategy, a Program Evaluation Capacity Building Strategy and an R&D Evaluation Implementation Plan (http://www.fra.dot.gov/eLib/details/L04865) were developed. The five key purposes of the Evaluation Implementation Plan are to: 1) contribute to improving railroad safety, 2) guide and strengthen the Office's programs, 3) facilitate knowledge diffusion and technology transfer, 4) meet R&D's accountability requirements, and 5) build R&D's evaluation capacity. In addition, a Program Evaluation Statement of Work and Interagency Agreement with the Volpe Center was developed and implemented in FY 2014. A draft evaluation manual was developed and completed in FY 2014 as a companion document to the Evaluation Implementation Plan. The Evaluation Manual provides the Office of R&D's director, division chiefs, staff, and contractors an evaluation framework, evaluation standards, and procedures for planning, conducting, reporting, and using sound evaluations of R&D's projects for improving railroad safety. Specific evaluation tasks from the Volpe statement of work (SOW) and the accompanying manual are being pilot tested in FY 2014 with Volpe project managers. Pilot demonstration evaluations also began during FY 2014 in each of the FRA R&D Divisions in Washington, D.C. This overall evaluation capacity building effort will help increase the efficiency, effectiveness, use, timeliness, and impact of R&D programs that support the goals of DOT and the safety mission of FRA.

Strategic Job Analysis

In FY 2014, FRA's Office of Research and Development published a report, "Development of A Short Line Railroad Safety Institute: Phase I – Job Analysis," detailing the first step in a broad safety initiative designed to enhance safety in the short line freight railroad industry, including the transportation of crude oil and ethanol. FRA is supporting the ASLRRA in the development, implementation, and evaluation of a proposed Short Line Safety Institute. The Institute will perform safety culture assessment, safety compliance assessment, and manager education with the goal of building a stronger and sustainable safety culture in the short line industry. FRA's report describes a strategic job analysis of the assessor role, a critical role within the proposed Institute, and identifies and describes characteristics of that role. Additionally, the job analysis provides insight into how ASLRRA should define, recruit, select, and train assessors for the Institute.

Safety Culture

In recent years, FRA R&D's safety culture program has evolved from pilot site-specific demonstration projects to systemwide and industrywide interventions. At present, FRA R&D is supporting the development, implementation and evaluation of several major safety culture interventions in the U.S. rail industry: 1) a BNSF systemwide safety culture intervention, 2) the Amtrak Safe-2-Safer program, 3) development and pilot testing of the ASLRRA Safety Institute, and 4) FRA R&D Passenger CSA Training & Software Materials Project, and C^3RS. One example of these system and industry-wide interventions is detailed below. Similar technical and evaluation support are being provided to the other safety culture initiatives.

CSA is FRA's proactive safety culture program for improving safety and safety culture, which integrates peer-to-peer feedback, continuous improvement, and safety leadership development. The goal of the Passenger CSA project is to provide no-cost customizable CSA software and

training materials and low-cost implementation support for passenger rail. The award for the Passenger CSA occurred in 2014. One of the contractor's first tasks is to conduct a passenger rail needs assessment to understand the unique characteristics of the passenger industry. The contractor will compile this information in an Implementation Guidance Document that will include a summary of good practices for implementing CSA in passenger rail.

FRA, with support from the Volpe Center, created an Industry Stakeholder Review Panel (SRP) as a component of the CSA Training & Software Materials Project. The purpose of the SRP is to review and provide feedback on the contractor's Implementation Guidance Document. The SRP will also provide feedback on items such as selection for the materials usability and demonstration pilot sites, as well as participate in conference calls to build knowledge regarding CSA-like programs in the railroad industry.

In FY 2014, there were four SRP conference calls, during which FRA received lessons learned from Amtrak, Union Pacific, and Toronto Transit about implementation best practices for running successful CSA programs. A series of four to five face-to-face Implementation Guidance Document review sessions are underway and will run through 2015.

The formal SRP group is supported by APTA, and consists of 17 stakeholders, including management, safety and training experts, and labor representatives from passenger railroads across the United States (e.g. Metra, Coaster, New Jersey Transit, SEPTA, Tri-Met, Long Island Railroad). It also includes subject matter experts from freight (e.g., Union Pacific) and large passenger railroads (e.g., Amtrak) who have experience implementing CSA-like programs. Representatives from FRA's Offices of R&D and Railroad Safety, FRA Technical Training Standards Division, and Volpe's Human Factors Division also participate on the SRP. FRA's Administrator signed and mailed formal invitations to join the SRP.

Fatigue

The DOT Safety Council is developing requirements and specifications for the next generation of fatigue modeling, criteria for evaluating the effectiveness of fatigue models, and guidelines for their use. FRA's R&D published additional information in 2014 on the use of fatigue models to establish a link between work schedule variability and fatigue in support of an FRA rulemaking on Fatigue Management (Start Time Variability and Predictability in Railroad Train and Engine Freight and Passenger Service Employees. DOT/FRA/ORD-14/05). This work also supports the DOT Safety Council's efforts.

The Railroaders' Guide to Healthy Sleep, a multimedia sleep education Web site developed in collaboration with Harvard Medical School Division of Sleep Medicine (HMS DSM) and the Volpe Center, has tallied over 150,000 visits since its June 2012 launch. FY 2014 efforts have focused on continued promotion of the site to the industry, as well as plans for transitioning to Federal ownership upon expiration of Volpe's contract with HMS DSM. Over the course of three meetings this FY, the Volpe team has continued to work closely with the Web site's stakeholder panel comprised of FRA R&D, OS, and key industry labor and management stakeholders to plan a redesign of the site that will better meet user needs. Plans are to

reorganize and add site content to improve user access to important information, as well as to update scientific content as necessary (http://www.RailroaderSleep.org).

Grade Crossing Safety

Research results from the SBIR Topic 13.1-FR1 "Low Ground Clearance Vehicle Detection and Warning System" were provided by two vendors in February 2014 and are currently under review and will be published soon. One of the two vendors, ATR Corp., was granted a contract to conduct Phase-II of the SBIR (starting June 2014, for 18 months). Research results from SBIR-Phase2 research contract "Smart Grade Crossing Monitor using Multispectral Imaging System," by IEM Corp., were finished and provided in August 2013. Research results for "Effect of Gate Skirts on Pedestrian Behavior at a Highway-Rail Grade Crossing" were published in December 2013. Research results for "Effect of an Active Another-Train-Coming Warning System on Pedestrian Behavior at a Highway-Rail Grade Crossing" were provided in February 2014. Research results for "Effect of Dynamic Envelope Pavement Markings on Vehicle Driver Behavior at a Highway-Rail Grade Crossing" were published in April 2014. As noted above, research results for "Trespass Prevention Research Study – West Palm Beach, FL" were published in FY 2014. Research results for "Driver Performance on Approach to Crossbuck and STOP Sign Equipped Crossings" were developed in FY 2014.

Locomotive Cab Displays and Controls

- **FRA's Cab Technology Integration Laboratory (CTIL).** During FY 2014, CTIL's simulation and modeling system was updated or converted to the CORYS Training and Engineering Support System, Inc. Designed as a research simulator-laboratory, the Cab Technology Integration Lab (CTIL) needs simulation and modeling software consistent with most industry locomotive training simulators, in the United States, with respect to fidelity and representation of current locomotive systems, displays and controls and developed track profiles. Most Class I railroads use the CORYS system. The simulation and modeling software contains the mathematical models of train physical behavior as a result of manipulation of the controls and use of displays by locomotive crew. Having an industry matching simulation and modeling system gives the CTIL the capability to run real-world track profiles of thousands of miles of track developed by the railroads for training purposes. With permission of U.S. railroads, these proprietary profiles can be used in research scenarios and contain GPS and elevation data to accurately depict track routes. Use of programmed track profiles for research projects saves thousands of dollars in scenario software development costs and makes entering into research agreements with industry much easier and the results more valid.

- **High-Speed Rail Locomotive Planning and Scheduling (Operator's) Display.** During FY 2014, following installation of new simulation and modeling software in CTIL, the FRA's locomotive simulator lab, the routing/scheduling moving-map display study in particular has completed definition of display requirements and has prototyped a display for test. The display was installed in CTIL and data with test subjects was collected in CTIL as part of an interactive study of the design and usefulness of the display. The analysis of the data and a final report with findings will be accomplished in FY 2014. Moving-map displays are useful for training, trip planning, and route preview. Moving-

map displays can be used as a primary device for track navigation and should aid train operations during inclement weather, when mileposts and other signage may be difficult to read. Research results may indicate whether these displays enhance operator situational awareness, reduce operator workload, and improve human performance—potentially reducing train collisions. Design of a demonstration Heads-Up Display or HUD was advanced in 2014.

- **A Sustained Attention Training Course.** Also following the new simulation and modeling software installation in CTIL, the sustained attention project, with research partner Veolia Transportation, was able to complete data collection. (This project is included because of its relation to human-automation interaction, controls/displays and associated crew behaviors). In FY 2014, FRA conducted analysis of the data and developed a final report. FRA and Veolia are interested in this area of study because of the potential for train collisions due to loss of attention and the distraction by crew to primary operating tasks.

- **Investigation of New Roles for Humans and Automation in Next-Generation Rail Operations.** In FY 2014, a new cost-sharing agreement with General Electric Global Research (GEGR) and the Massachusetts Institute of Technology (MIT), FRA and GEGR/MIT have initiated a study entitled "Investigation of New Roles for Humans and Automation in Next-Generation Rail Operations." The proposed work would demonstrate a methodology to design and evaluate a range of novel operational (control/display) configurations, in which work functions would be allocated between operators and automated systems. Total systems performance would be weighed against the changing role of the operator with the automation and measured in the FRA's CTIL lab.

- **Human-Automation Interaction Lessons Learned.** FY 2014 also includes a start of a project to identify and review lessons learned in the aviation domain about automation from empirical research on human-automation interaction, accident investigations, and other sources. Decades of operational experiences in the aviation industry, and empirical research on human-automation interaction, offer insights for implementing and integrating automated systems (including the associated controls and displays). Problems experienced during the implementation of automation in aviation are very similar to problems that may exist for human-automation interaction with systems in the rail industry, thus safety is a concern. The one-year project with Alion Science and Technology Corporation will:
    - Provide guidance to human performance specialists for evaluating locomotive cab automation
    - Help identify factors that affect engineer performance
    - Provide a technical bases for evaluating and comparing potential systems
    - Improve safety by helping ensure more usable systems in the locomotive cab
    - Can provide a basis for proposed new federal regulation related to cab technologies

The acquisition of the FRA's CTIL (simulation-lab) provides the functional research capability and enables this kind of research activity at a time when the rail industry is introducing more digital technology into the locomotive cab.

PTC Systems

Under the FRA Railroad Safety Technology Grant Program, FRA funded and provided technical oversight of the testing of the primary PTC data communication will be provided using 220 MHz radio technology implementing specialized PTC specific protocols. Prototype radios have been completed and satisfactorily tested at the Transportation Technology Center, Inc. (TTCI). The final radio design is available for procurement from Meteorcomm Communications, the radio's developer, and other third-party manufacturers.

FRA is funding and providing oversight of the PTC-compatible Employee-In-Charge Portable Terminal (EICPT) development to enhance wayside worker safety. The project has completed the final critical design review, and final field testing in partnership with BNSF is underway.

Rail Integrity

FRA is continuing to support research and development of three complementary rail integrity related projects currently in progress at the University of California-San Diego (UCSD.) They are as follows:

> **Rail Defect Detection System Development**: This project's three-fold objectives are as follows: (a) better rail flaw detection reliability (including internal head defects under shelling and vertical split heads), (b) higher inspection speed than achievable by current rail inspection systems, and (c) the ability to characterize surface defects to optimize grinding operations and rail service life. The goal of improving rail flaw detection is responsive to NTSB recommendations addressing the disastrous train derailments in Superior, Wisconsin, in 1992 (BNSF) and Oneida, New York, in 2007 (CSX), which were caused by undetected internal head defects under shelling. Regarding inspection efficiency, with further development, the target is speeds of more than 40 mph. UCSD filed three provisional patent applications on this work with the U.S. Patent and Trademark Office. The first application protects the use of wheel-based transducers for ultrasonic guided wave inspection of rails. The second application extends the intellectual property to air-coupled transducer inspections of rails. The third application protects the surface crack characterization by measuring attenuation of Rayleigh Waves. (Provisional Patent Application Numbers 61567071 filed December 5, 2011; 61621342 filed April 6, 2012; and 61/595,574 filed February 6, 2012).The feedback from rail inspection providers (Sperry, Nordco and Herzog) indicated reluctance concerning the use of a laser for ultrasonic generation. Based on this feedback, the UCSD rail defect detection system is being modified to replace the laser generator with an air-coupled generator. This change will significantly simplify the system, and is expected to facilitate its acceptance by the industry. In addition, an air-coupled system has the potential to reach higher testing speeds compared to a laser-based system, which is limited by the laser repetition rate. A paper presented on this technology at the International Workshop

on Structural health Monitoring held at Stanford University in September 2013 won the Best Paper Award for the conference. The fully developed and optimized air-coupled system is expected to be comparable, with respect to reliability, to the current laser-based defect detection system, which was successfully tested at the Herzog Rail Defect Detection Facility in St. Joseph, MO in June 2012. Progress has already been made recently to sufficiently de-noise the air-coupled signals to levels comparable to the laser-based system. This result suggests that the defect detection reliability of the final system will also be satisfactory. This testing is being conducted using a new mounting mechanism capable of hosting the air-coupled transmitter so that it is isolated from vibrations. Engineers from BNSF toured the test facilities at UCSD again in February of 2014 and were given an update on the project's progress. They expressed their satisfaction with the progress, and willingness to support and participate in the planned field testing in fall 2014. Sperry Rail also visited UCSD in May 2014. BNSF has expressed strong interest in the air-coupled rail flaw detection system and a willingness to help during future field testing, following a demonstration at the UCSD's Rail Defect Testbed. A field test of the air-coupled rail flaw detection system is planned for the fall of 2014. Both BNSF and UP have expressed interest in participating in this test. Depending on the outcome of the field tests, it is possible that the railroads will be willing to participate in further development and commercialization of the air-coupled rail flaw detection technology.

Ultrasonic Tomography Imaging of Rail Defects: The UCSD's rail defect detection project has also formed the basis for another project, namely the rail flaw 3-D imaging by ultrasonic tomography to accurately characterize the size and orientation of rail defects. This is important since remedial actions prescribed in the current regulations vary depending on the size of a defect. This complementary project is being funded under the FRA High Speed Broad Agency Announcement (BAA) program. Phase I of the imaging project, numerical simulations of tomography, was completed in April 2012. The current Phase II work, which started on February 1, 2013, is for the development of an experimental prototype for 3-D rail flaw imaging based on ultrasonic tomography. Bench testing of the software and hardware is currently underway. Experimental testing is expected to begin shortly with a demonstration to the FRA expected to be performed in the fall of 2014. A paper on this technology has been recently presented at the ASME Joint Rail Conference held in Colorado Springs, CO, in April 2014.

Rail Neutral Temperature Measurement: FRA is also supporting research and development of a wayside measurement system for the determination of the rail neutral temperature (*Rail-NT)* of CWR. Extensive laboratory work at a large-scale testbed, specifically constructed for this project, has been carried out. Following this lab work, three field tests in the summer of 2013 with BNSF, UP, and Amtrak were performed with encouraging overall results. For the summer of 2014, independent testing by BNSF and UP will continue. Also, a fourth railroad, the Norfolk Southern (NS) Railroad, has been involved. Engineers from UP visited the Large Scale Testbed in January of 2014, were given a tour of the test facility, and updated on the progress of the *Rail-NT* research. Interest by UP and NS in the Rail-NT system is expected to increase as it is expanded to

cover a wider range of rail sizes. While the system is currently working only for 136 and 141RE rail sizes, it is planned to modify the testbed for calibration of additional rail sizes, such as 132RE and 141NY, to expand the systems capabilities and to accommodate a wider customer base for ultimate commercialization viability on a wider variety of rail sizes used in the U.S. A paper on this technology was presented at the recent ASME Joint Rail Conference, held in Colorado Springs, CO, in April 2014.

Track Geometry

The Autonomous Track Geometry Measurement System (ATGMS) is a research and development program to adapt service-proven technology for track geometry measurement to operate independently. The ATGMS system reduces capital and operating costs of geometry inspection systems. It also provides data for safety assurance activities and track degradation analysis.

Research Goals for FY 2014 center on Stage 5 of the technology development plan – Freight Service Demonstration. This stage combines the carbody ATGMS unit with the power supply system developed in prior stages onto a freight car for demonstration testing. The plan is to target short line railroads for the demonstration to expose these lines to the new technology. Minor progress has been made towards this goal due to delays in acquiring a suitable freight car. Schedule will slip to FY 2015.

FRA ATIP program has incorporated the prototype ATGMS installed on DOTX221 into its normal inspection plan. This system works in concert with the remote editor desk to provide high quality geometry data to support ATIP objectives.

Railroads will see significant benefits from this technology. Continuous, unmanned geometry data collection provides critical track information in real time, with no impact on rail traffic operations. The system can be installed on normal revenue railcars or locomotives and run in consist. Track testing is automatically scheduled based on the normal operation of the vehicle. The ATGMS reduces the complexity, size, and cost of traditional geometry systems without compromising performance.

Improved Hazardous Material Tank Car Designs

FRA has three ongoing projects to improve the design of tank cars that carry hazardous materials. For one project, welded steel sandwich panels are being studied to improve their crashworthiness. The concept underlying this research is to treat the commodity-carrying tank as a protected entity. The welded steel sandwich structures are examined as a means to protect the entity against punctures from objects that may impact it in the event of an accident (e.g., a derailment or collision). A full-scale test was conducted to evaluate the performance of a tank car fitted with the protective panel, and to provide data for verifying and refining the computational models of the test. FRA R&D started a new project in FY 2013 to develop standardized testing procedures to evaluate current and future tank car designs. FRA initiated a 2-year project in May 2013 to test several tank car designs to aid at the development of these test procedures and to provide information to the development of a new performance standard for

new and innovative tank car designs. For Phase I of this project, FRA conducted two side impact tests (December 2013 and February 2014). The tests were performed on a DOT 11A 100w and DOT112J340 tank cars. The information and data obtained on these tests were provided to FRA and the Pipeline and Hazardous Materials Safety Administration (PHMSA) to aid them in the ongoing development of an NPRM for non-pressure tank cars. Phase II of this project started in July 2014 and two other tank car tests are scheduled.

The second project is researching different designs for the protection of top fittings on tank cars. Two designs were tested in a full-scale test and compared to the baseline tank car. Simulating a rollover scenario that can occur in a train accident, the tests demonstrated that the alternative designs protected the top fittings on tank cars. FRA R&D conducted a baseline rollover test for a tank car that was in chlorine service on November 7, 2012. The results of that test are being compiled and they will be used to update and validate the computer models.

The purpose of the third research project is to evaluate the puncture behavior of tank cars under a general range of impact conditions. Throughout FY 2012, research was conducted on the analysis of different impactors and impact conditions on tank cars. These analyses will increase understanding of the damage caused by a variety of impactors on different tank cars. The research should yield recommendations to improve the performance of the tank head and shell, and to develop testing procedures to evaluate new tank car designs. This research was completed in August 2012 and the report was published in April 2013.[1]

Improved Hazardous Material Car Inspection

In FY 2012, the Transportation Technology Center, Inc. (TTCI)—under contract with FRA—and industry partners conducted research to determine the probability of detection for various non-destructive evaluations (NDE) methods that are used to determine the structural integrity of tank cars. NDE methods are used to inspect tank car structural items such as circumferential butt welds (girth seam welds), fillet welds, and leak test samples. Using a damage tolerance approach to determine inspection intervals for an engineered structure—in this case, a railroad tank car—requires the quantification of the detectable flaw size for the NDE methods used during inspection. Damage tolerance techniques have initiated an evolution in understanding NDE methods and requirements. NDE quantification using the probability of detection approach is a key measure of NDE effectiveness, and is integral to damage tolerance requirements. A new phase started in March 2013 that is a continuation of the previous mentioned effort successfully completed by TTCI. In that effort several probability of detection (POD) curves were developed to reflect the capabilities of the industries that participated. The regulations require that the test methods used have been quantified to demonstrate the sensitivity and reliability of the inspection and test technique. The POD graphs developed are from a sample of four major tank car shops. This new effort will help FRA to update these POD curves methods by taking the samples to a two centralized locations and having several smaller tank car shops perform the evaluations. One centralized location was conducted in June 2014 in Longview, Texas with three companies.

[1] This report has been published and it is on the FRA R&D hazardous materials Web site: http://www.fra.dot.gov/eLib/details/L04420

The other location is scheduled for Pennsylvania in October 2014 with four companies participating.

Automated Wayside Vehicle Inspection

R&D seeks to improve the effectiveness of manual inspections by applying technologies for advanced wayside defect detection, thereby improving rail safety. Various wayside technologies offer a proactive approach to identifying potentially unsafe freight car and locomotive conditions. These technologies can potentially enhance existing manual inspection regimes. In late FY 2013, a waiver petition was submitted to FRA to allow a pilot trial to be conducted to demonstrate the effectiveness of using Wayside Temperature Detector data to ensure safe braking performance as well as the overall safety benefits of the new technology. FRA will continue to evaluate wayside detection technologies to determine their effectiveness in detecting common rolling stock equipment defects, in cooperation with the Class I railroads. FRA has supported research to determine the effectiveness of wheel temperature detector technology to provide an objective assessment of brake effectiveness and improve train braking through better testing methodology. The research was performed to determine the effectiveness of the wayside temperature detection technology in distinguishing between applied and non-applied brakes when a train passes a wheel temperature detector with train brakes applied. The research effort used controlled testing as well as data from revenue service operations to investigate the effectiveness of the technology and to compare its capabilities with the current manual inspection process. Further details on the study can be found in the FRA report titled, "Using Wheel Temperature Detector Technology to Monitor Railcar Brake System Effectiveness."

High Speed Rail

As noted in Goal #1, another important initiative for FRA is to manage the development and application of HSR standards. FRA is charged with implementing the HSR mandates required by the RSIA and the American Recovery and Reinvestment Act of 2009 (ARRA) for HSR corridors. Although FRA regulations for HSR generally support maximum train speeds of 150 mph, the RSIA and ARRA envision train speeds of up to 220 mph. In order to achieve these goals, FRA continues to proactively engage potential HSR operators, and collaboratively develop minimum safety standards through the RSAC rulemaking process in addition to conducting HSR research. FRA has several HSR research initiatives. Specific examples of new and forthcoming safety regulations supporting HSR operations include Vehicle Track Interaction, System Safety Program, and the Safety Standards for High-Speed Passenger Equipment.

In FY 2014, FRA worked with two HSR developers, California High Speed Rail Authority (CHSRA) and Texas Central High Speed Rail (TCR), to identify appropriate safety requirements for their proposed services. FRA's former work in FY 2013 with XpressWest continued until DOT suspended all consideration of their Railroad Relocation and Refinancing Financing program (RRIF) loan request, citing difficulty in complying with the Buy America requirements in their business plan. FRA's R&D and passenger rail divisions are working in an interdisciplinary effort to establish the framework for a world-class system, building on the success of service-proven technology in a manner that is appropriate for the U.S. operating

environment. During FY 2014, FRA has worked with CHSRA by providing comment on design criteria, developing its internal guidance document for regulatory approval, and attended planning sessions with state and local officials for emergency preparedness and security planning. In March of 2014, TCR requested the FRA's Office of Railroad Safety to collaborate on the development of a Rule of Particular Applicability (RPA) for the operation, similar to what was done with the Florida Rail Enterprise (FRE) and Florida Overland Express (FOX) high speed rail projects over recent years. FRA has agreed to support this effort, and meetings have commenced. FRA also continues to work with Amtrak on improving its existing Acela service as well as planning for the future of Northeast Corridor service.

Progress Assessment for RSIA Safety Goal #5: Preventing railroad trespasser accidents, incidents, injuries, and fatalities.

In FY 2011, FRA started collecting latitude and longitude coordinates for each trespassing casualty reported. FRA used this data to geo-locate each incident on a detailed map, which was posted at http://www.fra.dot.gov/Page/P0619 in November 2012. This information is useful to direct additional outreach, educational resources, and law enforcement activities to areas in need. In FY 2014, FRA tracked trespasser incidents to identify hotspots and continued to maintain the interactive map highlighting these hotspots. FRA identified an error rate of over 75% for latitude/longitude information reported by railroads and worked with them to correct errors to drive the accuracy rate to 90% by the end of FY 2014. FRA also issued a model State law on trespassing and vandalism several years ago. It is posted on FRA's Web site. In FY 2014, FRA worked to revise a model law pertaining to railroad trespassing and vandalism.

In partnership with FTA, FRA held the second Right-of-Way (ROW) Fatality and Trespass Prevention Workshop, on August 14–16, 2012, in St. Louis, Missouri. The goal of the workshop was to identify and share existing industry best practices and explore new strategies that the rail industry could pursue to reduce the number of ROW and trespasser incidents and fatalities. The conference focused on community outreach, enforcement, hazard management, design, technology and infrastructure, intentional deaths/acts, and pedestrian issues. FRA released the final report on the conference in April 2013. The report highlights the purpose, process, analyses, and results of the workshop. FRA has issued an Interagency Agreement with Volpe for a third ROW Fatality and Trespass Prevention Workshop to be held in FY 2015.

The FRA's sixth edition of the "Compilation of State Laws and Regulations Affecting Highway-Rail Grade Crossings" that was released in FY 2014 has several chapters on laws that affect railroad trespassing and vandalism. This update will enable legislatures and researchers to have ready access to the most recent State laws on railroad trespass and vandalism, which will aid in developing more effective laws. The current edition of this book reflects the law in the individual States up to February 2013.

FRA has partnered with the City of West Palm Beach, FL; the South Florida Regional Transportation Authority; CSX; and other stakeholders to participate in the Trespass Prevention Research Study. This program is designed to identify trespass problems and develop mitigation strategies. The goal is to successfully reduce trespassing incidents and fatalities using a

community-oriented approach. In FY 2014, FRA published a final report on this effort, which serves as a guide to reduce trespassing in other communities.

In FY 2013 and FY 2014, FRA conducted follow-on research to the trespass detection and warning system originally designed, installed, and evaluated by the Volpe Center in support of the FRA in 2001–2004 in Pittsford, NY. The research will identify, review, and evaluate advanced and innovative safety technologies that have potential to support the reduction of incidents and casualties related to trespassing along the rail right-of-way. This initiative focuses on assessing and demonstrating emerging technologies and pursuing technology transfer opportunities.

Progress Assessment for RSIA Safety Goal #6: Improving the safety of railroad bridges, tunnels, and related infrastructure to prevent accidents, incidents, injuries, and fatalities caused by catastrophic failures and other bridge and tunnel failures.

FRA issued Bridge Safety Standards in 2010. This new regulation (49 CFR Part 237) included a schedule, staggered by railroad class for the railroads to adopt Bridge Management Programs (BMP). Since issuance of the regulation, FRA bridge staff have met with many affected track owners and carefully reviewed their programs for compliance as follows:

- Class I Freight Railroads – FRA completed reviewing all Class I freight railroads' BMPs in FY 2011.
- Class II Freight Railroads – FRA completed reviewing all Class II freight railroads' BMPs in FY 2012.
- Passenger Railroads – FRA completed reviewing all major passenger railroads in FY 2012.
- Class III Freight and Other Small Railroads – During FY 2014, FRA completed reviewing BMPs for 62 (YTD) Class III freight and other small railroads.
- Small Railroad BMP Reviews – As of the end of FY 2014, FRA completed reviews of 22.1% of the BMPs adopted by the more than 700 Class III freight and other small railroads. (Note – this includes prior fiscal year reviews.)
- Bridge Inspection Audits – During FY 2014, FRA audited 276 bridge inspection reports on freight railroads of all classes, and passenger railroads.

Future evaluations of railroad bridge management practices will compare a railroad's adopted BMP against regulatory requirements for content. FRA will also compare a track owner's actual practice against that specified in its adopted BMP.

Federal Investments

In 2009, the Transportation Investment Generating Economic Recovery (TIGER) grant program was created under the American Recovery and Reinvestment Act of 2009. TIGER grants have been used for a variety of surface transportation projects and include funding for transit, highway, port and port landside access, maritime, and freight rail projects (including bridges). A key component of the grant applications is the inclusion of an analysis of how the funding will

advance long-term outcomes while providing public benefits associated with those outcomes. Long-term outcomes are: safety, state of good repair, economic competitiveness, environmental sustainability, and livability. Since 2009, the Department has awarded $3.6 billion over four offerings. Of this total, $770 million has gone toward freight rail projects, including port projects that have a rail component. The shortline segment of the rail industry has received slightly over $240 million, principally for capacity enhancements, track improvements and bridge repairs, which should assist in ensuring safety and state of good repair. The Department evaluated FY 2014 grant applications and made awards in September 2014.

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U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

RAILROAD SAFETY STRATEGY
FY 2016

Section 102 of RSIA directed FRA to develop a long-term strategy and annual plans for achieving certain railroad safety goals, such as reducing the number and rates of accidents, incidents, injuries, and fatalities. FRA submitted its strategy and annual plan with the President's FY 2011 and subsequent budgets. FRA is revamping its long-term strategy document and will submit its FY 2016 annual plan to Congress later this year.