BUDGET ESTIMATES

FISCAL YEAR 2015

FEDERAL RAILROAD ADMINISTRATION

SUBMITTED FOR THE USE OF
THE COMMITTEES ON APPROPRIATIONS

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DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FY 2015 BUDGET JUSTIFICATION

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DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

ADMINISTRATOR'S OVERVIEW

Agency Mission

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 transportation of people and goods for a strong America, now and in the future. FRA advances this mission through development and enforcement of safety regulations, selective investment in passenger and freight rail services and infrastructure, and research and technology development.

FRA's activities, and those of its rail industry partners, have resulted in **one of the safest decades ever**—the number of train accidents dropped by 47 percent since fiscal year (FY)2004; casualties (deaths and injuries) dropped 9 percent; and highway-rail grade crossing incidents decreased by 35 percent. Although these statistics show significant success, we owe it to the public to drive continuous safety improvement now and in the future.

FRA also works to improve existing intercity passenger rail services, primarily by awarding and overseeing grants to Amtrak. With enactment of the *Passenger Rail Investment and Improvement Act* (PRIIA) in 2008, the *American Recovery and Reinvestment Act* (Recovery Act) in 2009, and subsequent appropriations, FRA's mission dramatically expanded to include managing market-driven investments in regional networks of **high-performance rail** corridors. Moreover, since the Recovery Act, communities across the United States have been planning new and expanded rail services. These communities are now poised to implement the capital projects that will turn plans into real world transportation improvements. Their success depends on continued strong Federal leadership and support.

FRA's two core authorizations – the *Railroad Safety Improvement Act of 2008* (RSIA) and PRIIA – expired at the end of FY 2013. The FY 2015 Budget presents the Administration's ambitious rail reauthorization plan.

Overview of FRA's Reauthorization Priorities

The rail industry has changed dramatically since 2008 when Congress enacted RSIA and PRIIA. After decades of decline due to underinvestment, rail transportation has become safer and more reliable, efficient, and responsive to the traveling public. Accidents and incidents are falling, while train ridership and reliability are at record highs. The public and private sectors have invested substantially in passenger rail equipment, corridor upgrades, freight capacity, and safety. However, significant work remains to improve the national rail network. For example, the number of trespassing deaths is rising, freight congestion remains a serious issue, and intercity passenger rail is not practical or available for travelers in many parts of the country.

The FY 2015 Budget lays out a comprehensive reauthorization blueprint for moving forward. It presents an integrated strategy for safety and service improvements. This approach reflects the

complex reality of rail transportation in the United States – most track is privately-owned by freight railroads; rail passenger services operate over the same lines and must coordinate schedules with freight movements; safety is driven by regulation and inspection, as well as capital investment; and chokepoints hinder the reliable and efficient movement of intercity, commuter, and freight trains.

FRA's reauthorization priorities are:

- **Enhancing world-class safety**. Rail is already among the safest modes of transportation, and its record has improved in recent years. Nevertheless, continuous safety improvement is imperative, and with innovative practices and new technologies, the railroad industry can achieve this goal. FRA is leading several related initiatives, such as the system safety and risk reduction programs that influence safety outcomes proactively and preemptively; expanding the successful Close Call Confidential Reporting System program; and supporting implementation of positive train control (PTC) technology. *The budget makes investments in advancing FRA's safety mission by supporting PTC implementation on Amtrak and commuter rail routes.*

- **Meeting growing market demand**. With the United States expected to gain 100 million people by 2050, the national transportation system must prepare for substantial increases in the movement of people and goods. Rail transportation will be critical to meeting this growing demand. FRA's budget makes strategic investments that reflect the needs of multiple stakeholders – passenger and freight rail operators, the traveling public and shippers, governments and private interests. *The budget will fund projects based on specific market needs and rigorous analysis of costs and benefits. The budget makes investments in both new and improved passenger rail services with varying frequencies and speeds and provides financial assistance to eliminate rail chokepoints, add freight capacity, and conduct comprehensive planning.*

- **Modernizing our rail infrastructure**. Past generations of Americans invested heavily to build the infrastructure we rely on today. For example, most segments of the Northeast Corridor were initially built over a century ago. Maintaining and modernizing these assets will reduce long-term costs and result in safer, more reliable, and more efficient rail transportation. *In support of the Secretary's Fix-it-First Initiative, the budget makes investments to reduce the backlog of rail maintenance needs, replace obsolete equipment, and modernize stations to comply with Americans with Disabilities Act requirements.*

- **Promoting innovation**. FRA's budget invests in research, development, and workforce to enable America's global leadership in rail safety, productivity, and technological innovation. FRA's vision is a domestic rail industry that leads the world again – we want U.S. companies to patent state-of-the-art rail technology, supply rail operators throughout the world, and employ the best engineers and railway workers. The United States should export intellectual capital and rail products, not import them. *The budget makes investments in America's workforce, manufacturing, and critical research and development activities.*

- **Ensuring transparency and accountability**. Accomplishing the priorities described above can occur only if these programs are managed through a process that makes expected public benefits and service improvements transparent to the American people. The roles and responsibilities of the Federal government, States, Amtrak, freight railroads, and other stakeholders must be clear and based on sound public policy. *The budget provides a transparent structure that will ensure delivery of public benefits and a high level of accountability for public resources.*

Budget Request Summary

FRA requests $4.995 billion for FY 2015 to make strategic investments in high-performance rail. FY 2015 is the first year of a proposed four-year $19 billion rail reauthorization, and it is a critical part of the Administration's $302 billion surface transportation legislative package. The Budget also proposes a dedicated and predictable source of rail funding and supports the Administration's rail reauthorization priorities to improve rail safety and invest in a National High-Performance Rail System. This investment will increase access to opportunities for American workers and companies and will provide a strong foundation to support our 21st century economy. Moreover, it will ensure that rail is the most cost-effective, environmentally friendly, and safest mode to move people and freight.

National High-Performance Rail System (NHPRS): The Budget requests $4.775 billion to maintain and strengthen the Nation's rail system. It includes:

- Current Passenger Rail Service: $2.45 billion to maintain existing rail services and infrastructure so they continue producing public benefits. For the first time, FRA will provide grant support for passenger service by lines of business: (1) Northeast Corridor, (2) State Corridors, (3) Long-Distance Routes, and (4) National Assets. All funds in this account will be directed to Amtrak, except the State Corridors program.

- Rail Service Improvement Program: $2.325 billion to grow and improve the existing rail network to accommodate future population growth. These funds will be used to: (1) invest in infrastructure, stations, and equipment for new high-performance passenger rail corridors, substantially improved existing corridors; (2) support implementation of positive train control systems on commuter railroads; (3) invest in local rail facilities and safety projects to mitigate the impacts of rail operations in local communities; (4) develop comprehensive plans that will guide future investments in the Nation's rail system and develop the workforce and technology necessary to advance the Nation's rail industry.

Safety and Operations: FRA requests $185.3 million and 915 full-time equivalents (FTE) for FRA's safety programs and the organizational infrastructure—payroll, rent, telecommunications, information technology, and contract support—that enables the safety and development programs to accomplish their goals.

Safe Transportation of Energy Products Fund: The Department of Transportation is requesting the creation of a new fund to support the multimodal prevention and response

activities associated with the increased safety issues currently surrounding the transport of crude oil. The funds would be available for initiatives within the Federal Railroad Administration, the Pipeline and Hazardous Materials Safety Administration, and the Federal Motor Carrier Safety Administration. The Administrators of those Operating Administrations along with representatives of designated offices within the Office of the Secretary would jointly serve as a decision-making board for the use of the funds and would be responsible for their effective administration.

Railroad Research and Development: The President's Budget requests $35.1 million to continue core safety-related research and development activities. This request will advance technology with railroad operators for system integration, interoperability standards, and prototypes for PTC communications

Administrative Savings

Responding to Office of Management and Budget guidance and the need to absorb sequestration cuts, FRA has reduced costs in the following ways. Examples of recent efficiency actions FRA has taken include:

- Increasing value to the government by nearly doubling the percentage of competitive procurements, from 37 percent in FY 2009 to 71 percent in FY 2013.

- Limiting reimbursements to employees for job relocation costs, saving several hundred thousand dollars in FY 2013 and FY 2014.

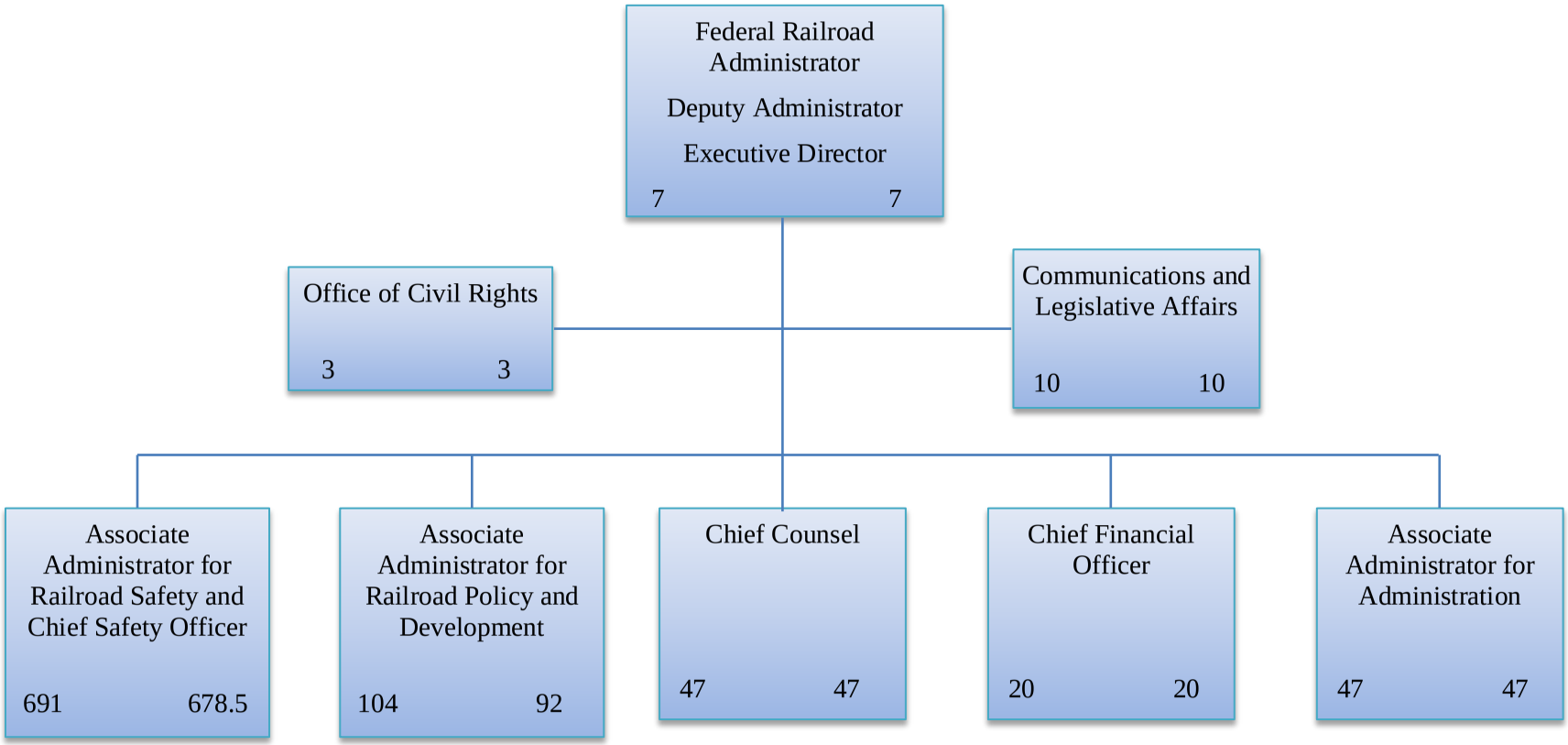
- Eliminating most landline telephones for field employees, lowering costs by $180,000, and ending reimbursement of employees' DSL internet service, lowering costs by $25,000.

- Replacing costly wireless air cards issued to employees with Hot Spot capability on smart telephones, which lowered costs by $55,000 in FY 2013.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FY 2014 Organization Chart

929 Full-Time Positions (FTP); 903.5 Full-Time Equivalents (FTE) *

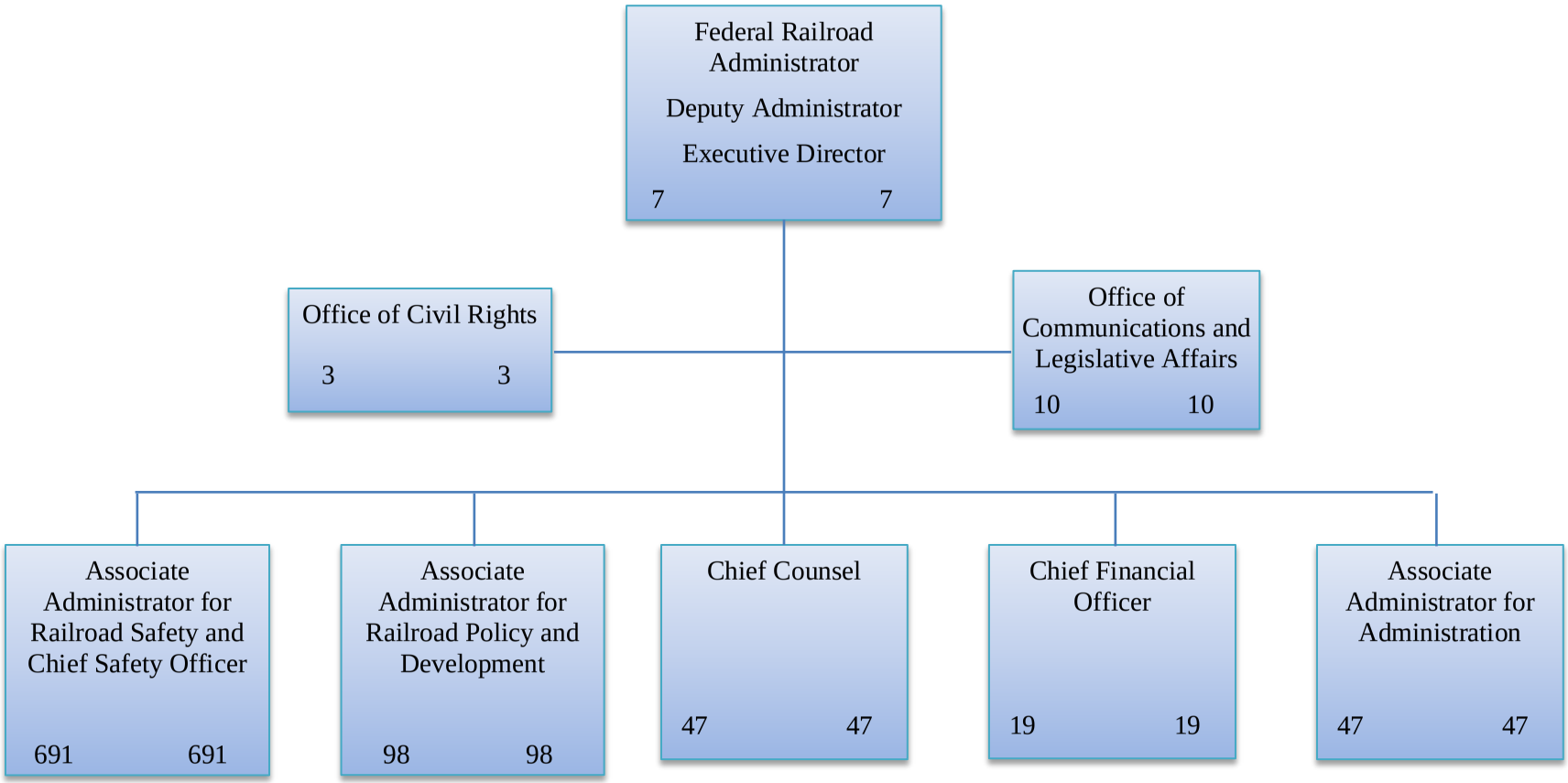


* Includes personnel funded from the Safety and Operations account, Capital and Debt Grants to Amtrak, and prior year balances in the High-Speed Corridors and Intercity Passenger Rail Service account. The number of positions listed is the estimated number of employees that will be on board at the end of the fiscal year.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FY 2015 Organization Chart

922 Full-time Positions (FTP); 922 Full-time Equivalents (FTE) *



* Includes personnel funded from the Safety and Operations account and prior year balances in the High-Speed Corridors and Intercity Passenger Rail Service account. The number of positions listed is the estimated number of employees that will be on board at the end of the fiscal year.

EXHIBIT II-1
FY 2015 COMPARATIVE STATEMENT OF NEW BUDGET AUTHORITY
FEDERAL RAILROAD ADMINISTRATION
($000)

ACCOUNT NAME	FY 2013 Actual	FY 2014 Enacted	FY 2015 Request
Safety and Operations	178,596	184,500	185,250
Rescission	(357)	-	-
Sequestration	(8,985)	-	-
Subtotal	**169,254**	**184,500**	**185,250**
Railroad Research and Development	35,000	35,250	35,100
Rescission	(70)	-	-
Sequestration	(1,761)	-	-
Subtotal	**33,169**	**35,250**	**35,100**
Current Passenger Rail Service (TF, Oblim.)	-	-	2,450,000
Subtotal	**-**	**-**	**2,450,000**
Rail Service Improvement Program (TF, Oblim.)	-	-	2,325,000
Subtotal	**-**	**-**	**2,325,000**
Grants to the National Railroad Passenger Corporation [1/]	303,000	-	-
Rescission	-	-	-
Sequestration	(5,900)	-	-
Subtotal	**297,100**	**-**	**-**
Operating Subsidy Grants to National Railroad Passenger Corporation (Rebased)	466,000	340,000	-
Rescission	(932)	-	-
Sequestration	(23,443)	-	-
Subtotal	**441,625**	**340,000**	**-**
Capital and Debt Service Grants to National Railroad Passenger Corporation (Rebased)	952,000	1,050,000	-
Rescission	(1,904)	-	-
Sequestration	(47,891)	-	-
Subtotal	**902,205**	**1,050,000**	**-**
Next Generation High-Speed Rail (Rebased)	**-**	**-**	**-**
Rescission	-	(1,973)	-
Subtotal	**-**	**(1,973)**	**-**
Northeast Corridor Improvement Program (Rebased)	**-**	**-**	**-**
Rescission	-	(4,419)	-
Subtotal	**-**	**(4,419)**	**-**
TOTAL GROSS BUDGET REQUEST	**1,843,353**	**1,603,358**	**4,995,350**
Appropriations	1,934,596	1,609,750	4,995,350
Rescission	(3,263)	(6,392)	-
Sequestration	(87,980)	-	-

1/ Includes $185 million transfer from FTA

EXHIBIT II-2
FY 2015 BUDGETARY RESOURCES
FEDERAL RAILROAD ADMINISTRATION
Appropriation, Obligation Limitation, and Exempt Obligations
($000)

ACCOUNT NAME	FY 2013 Actual	FY 2014 Enacted	FY 2015 Request
Safety and Operations	169,254	184,500	185,250
Railroad Research and Development	33,169	35,250	35,100
Current Passenger Rail Service (TF, Oblim)	-	-	2,450,000
Rail Service Improvement Program (TF, Oblim)	-	-	2,325,000
Grants to the National Railroad Passenger Corporation [1/]	297,100	-	-
Operating Subsidy Grants to the National Railroad Passenger Corporation (Rebased)	441,625	340,000	-
Capital and Debt Service Grants to the National Railroad Passenger Corporation (Rebased)	902,205	1,050,000	-
Next Generation High-Speed Rail (Rebased)	-	(1,973)	-
Northeast Corridor Improvement Program (Rebased)	-	(4,419)	-
TOTAL BUDGETARY RESOURCES	**1,843,353**	**1,603,358**	**4,995,350**

1/ Includes $185 million transfer from FTA

EXHIBIT II-3
FY 2015 BUDGETARY RESOURCES BY DOT STRATEGIC GOALS AND OUTCOMES
FEDERAL RAILROAD ADMINISTRATION
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

STRATEGIC GOALS AND OUTCOMES	FY 2013 Actual	FY 2014 Enacted	FY 2015 Request
SAFETY			
Reduce transportation fatalities and injuries	162,412	175,124	1,077,504
STATE OF GOOD REPAIR			
Maintain or improve the availability, reliability, and performance of the Nation's transportation infrastructure, equipment, and facilities.	-	-	312,065
Reduce the costs of sustaining the Nation's transportation infrastructure, equipment.	705,102	729,992	500,458
ECONOMIC COMPETITIVENESS			
Improve the contribution of the transportation system to the Nation's productivity and economic growth.	101,455	105,421	989,695
QUALITY OF LIFE IN COMMUNITIES			
Expand convenient, safe, and affordable transportation choices for all users.	313,342	327,083	1,086,755
Ensure federal transportation investments benefit all users.	92,729	93,297	351,674
ENVIRONMENTAL SUSTAINABILITY			
Avoid and mitigate transportation-related impacts to climate, ecosystems, and communities.	436,348	145,121	655,664
ORGANIZATIONAL EXCELLENCE	31,964	33,711	21,535
TOTAL BUDGETARY RESOURCES	**1,843,353**	**1,609,750**	**4,995,350**

Note: 2014 Enacted does not include rescissions of unobligated balances since appropriations were made before the latest strategic plan.

EXHIBIT II-3a

FY 2015 PRESIDENT'S BUDGET BY DOT STRATEGIC GOALS AND OUTCOMES
FEDERAL RAILROAD ADMINISTRATION
($000)

DOT STRATEGIC GOAL AND OUTCOME	Account	FY 2015 Request
SAFETY		**1,077,504**
Reduce transportation fatalities and injuries		
	Safety and Operations	150,632
	Current Passenger Rail Service	547,621
	Rail Service Improvement Program	354,150
	Research and Development	25,101
STATE OF GOOD REPAIR		**812,522**
Eliminate Amtrak's state of good repair backlog on the Northeast Corridor		
	Rail Service Improvement Program	312,065
Ensure the U.S. proactively maintains critical transportation infrastructure in a state of good repair		
	Safety and Operations	2,196
	Current Passenger Rail Service	493,630
	Research and Development	4,632
ECONOMIC COMPETITIVENESS		**989,695**
Maximize economic returns from high-speed and intercity passenger rail		
	Safety and Operations	4,293
	Current Passenger Rail Service	679,421
	Rail Service Improvement Program	303,648
	Research and Development	2,334

EXHIBIT II-3a (Cont'd)

FY 2015 PRESIDENT'S BUDGET BY DOT STRATEGIC GOALS AND OUTCOMES
FEDERAL RAILROAD ADMINISTRATION
($000)

DOT STRATEGIC GOAL AND OUTCOME	Account	FY 2015 Request
QUALITY OF LIFE IN COMMUNITIES		**1,438,429**
Increase access to convenient and affordable transportation choices		
	Safety and Operations	1,674
	Current Passenger Rail Service	545,579
	Rail Service Improvement Program	539,503
Improve access for people with disabilities and older adults		
	Safety and Operations	1,674
	Rail Service Improvement Program	350,000
ENVIRONMENTAL SUSTAINABILITY		**655,664**
policies and investments that reduce carbon and other harmful emissions from transportation sources		
	Safety and Operations	3,246
	Current Passenger Rail Service	183,750
	Rail Service Improvement Program	465,635
	Research and Development	3,033
ORGANIZATIONAL EXCELLENCE		**21,535**
Develop a diverse and collaborative workforce		
	Safety and Operations	21,535
TOTAL, FY 2014 PRESIDENT'S BUDGET		**$ 4,995,350**

EXHIBIT II-4
FY 2015 TOTAL BUDGET AUTHORITY
FEDERAL RAILROAD ADMINISTRATION
($000)

ACCOUNT NAME	M/D	FY 2013 Actual	FY 2014 Enacted	FY 2015 Request
Safety and Operations	D	**169,254**	**184,500**	**185,250**
Railroad Research and Development	D	**33,169**	**35,250**	**35,100**
Track Research Program		10,209	11,429	11,279
Rolling Stock Program		8,076	8,322	8,322
Signals, Train Control & Communications		8,800	8,086	8,086
Human Factors Program		2,886	3,542	3,542
Railroad System Issues		3,198	3,871	3,871
Current Passenger Rail Service (TF, Oblim)	M	**-**	**-**	**2,450,000**
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 (TF, Oblim)	M	**-**	**-**	**2,325,000**
Passenger Corridor		-	-	1,300,000
Commuter Railroads - PTC Compliance		-	-	825,000
Local Rail Facilities and Safety		-	-	125,000
Planning and Workforce		-	-	75,000
Grants to the National Railroad Passenger Corporation [1/]	D	**297,100**	**-**	**-**
Operating Subsidy Grants to Amtrak (Rebased) [2/]	M	**441,625**	**340,000**	**-**
Capital and Debt Service Grants to Amtrak (Rebased) [2/]	M	**902,205**	**1,050,000**	**-**
Next Generation High-Speed Rail (Rebased) [2/]	M	**-**	**(1,973)**	**-**
Northeast Corridor Improvement Program (Rebased) [2/]	M	**-**	**(4,419)**	**-**
Railroad Rehabilitation and Improvement Financing Program Account--Upward Reestimates	M	**33,445**	**43,845**	**-**
Railroad Rehabilitation and Improvement Financing Liquidating Account	M	**(74)**	**(77)**	**-**
TOTALBUDGETARY RESOURCES		**1,876,724**	**1,647,126**	**4,995,350**
Mandatory	M	1,377,201	1,427,376	4,775,000
Discretionary	D	499,523	219,750	220,350

Notes:

1/ Includes $185 million transfer from FTA.

2/ These accounts were funded with discretionary authority. The FY 2015 Budget reclassifies this baseline spending as mandatory contract authority, to properly account for existing spending when comparing our FY 2015 reauthorization proposal to FY 2014 enacted spending levels.

EXHIBIT II-5
FY 2015 OUTLAYS
FEDERAL RAILROAD ADMINISTRATION
($000)

	M/D	FY 2013 Actual	FY 2014 Enacted	FY 2015 Request
Safety and Operations	D	233,894	202,410	188,469
Railroad Research and Development	D	37,176	24,283	41,827
Grants to the National Railroad Passenger Corporation	D	20,303	200,993	76,652
Operating Grants to the National Railroad Passenger Corporation [1/]	M	441,625	340,000	-
Capital and Debt Service Grants to the National Railroad Passenger Corporation [1/]	M	899,606	1,084,778	-
Intercity Passenger Rail Grant Program	D	4,350	16,824	18,378
Northeast Corridor Improvement Program [1/]	M	-	1,000	-
Pennsylvania Station Redevelopment Project	D	6,744	11,136	11,136
Capital Grants to the National Railroad Passenger Corporation (ARRA)	D	1,646	7	-
Capital Assistance for High Speed Rail Corridors and Intercity Passenger Rail Service (ARRA) [1/]	M	546,872	1,114,278	1,917,927
Capital Assistance for High Speed Rail Corridors and Intercity Passenger Rail Service [1/]	M	221,374	129,036	230,423
Railroad Rehabilitation and Improvement Program - Liquidating Account (Offsetting collections)	M	(74)	(77)	-
Railroad Rehabilitation and Improvement Program - Program Account (Upward Reestimates)	M	33,445	43,845	-
Next Generation High-Speed Rail [1/]	M	521	3,000	3,000
Emergency Railroad Rehabilitation and Repair	D	2,031	3,059	-
Rail Line Relocation and Improvement Program	D	11,005	17,202	17,202
Railroad Safety Technology Program	D	6,271	6,851	11,895
Current Passenger Rail Service	M	-	-	1,378,499
Rail Service Improvement Program	M	-	-	443,119
Total		**2,466,789**	**3,198,625**	**4,338,527**
Mandatory	M	*2,143,369*	*2,715,860*	*3,972,968*
Discretionary	D	*323,420*	*482,765*	*365,559*

Note:
1/ These accounts were funded with discretionary authority. The FY 2015 Budget reclassifies this baseline spending as mandatory contract authority, to properly account for existing spending when comparing our FY 2015 reauthorization proposal to FY 2014 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 2014 Enacted	**Annualization of 2014 Pay Raises**	**Annualization of 2014 FTE**	**2015 Pay Raises**	**GSA Rent**	**WCF Increase/ Decrease**	**Inflation/ Deflation**	**FY 2015 Baseline Estimate**	**Program Increases/ Decreases**	**FY 2015 Request**
DIRECT:										
PERSONNEL RESOURCES										
Direct FTE	892.5	-	22.5	-	-	-	-	915.0	0.0	915.0
FINANCIAL RESOURCES										
Salaries and Benefits	120,551	300	2,821	867	-	-	-	124,539	-	124,539
Travel	10,951	-	-	-	-	-	-	10,951	-	10,951
Transportation of things	60	-	-	-	-	-	-	60	-	60
GSA Rent	6,929	-	-	-	4	-	-	6,933	-	6,933
Communications, Rent & Utilities	1,722	-	-	-	-	-	8	1,730	-	1,730
Printing	302	-	-	-	-	-	2	304	-	304
Contract Services	32,136	-	-	-	-	-	282	32,418	(3,066)	29,352
WCF	8,054	-	-	-	-	(485)	-	7,569	-	7,569
Supplies and Materials	402	-	-	-	-	-	1	403	-	403
Equipment	1,987	-	-	-	-	-	9	1,996	-	1,996
Grants, subsidies, contributions	1,386	-	-	-	-	-	7	1,393	-	1,393
Insurance Claims	20	-	-	-	-	-	-	20	-	20
TOTAL	**184,500**	**300**	**2,821**	**867**	**4**	**(485)**	**309**	**188,316**	**(3,066)**	**185,250**

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

RAILROAD RESEARCH AND DEVELOPMENT
$0

		Baseline Changes								
	FY 2014 Enacted	**Annualization of 2014 Pay Raises**	**Annualization of 2014 FTE**	**2015 Pay Raises**	**GSA Rent**	**WCF Increase/ Decrease**	**Inflation/ Deflation**	**FY 2015 Baseline Estimate**	**Program Increases/ Decreases**	**FY 2015 Request**
PERSONNEL RESOURCES										
Direct FTE	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES										
ADMINISTRATIVE EXPENSES										
Travel	100	-	-	-	-	-	-	100	-	100
Advisory and assistance services	4,758	-	-	-	-	-	-	4,758	-	4,758
Operation and Maintenance of Facilities	3,001	-	-	-	-	-	-	3,001	(150)	2,851
Research and Development Contracts	17,983	-	-	-	-	-	-	17,983	-	17,983
Grants, Subsidies and Contributions	9,408	-	-	-	-	-	-	9,408	-	9,408
Admin Subtotal	**35,250**	**-**	**-**	**-**	**-**	**-**	**-**	**35,250**	**(150)**	**35,100**
PROGRAMS										
Research and Development (R&D)										
Track Research Program	11,429	-	-	-	-	-	-	11,429	(150)	11,279
Rolling Stock Program	8,322	-	-	-	-	-	-	8,322	-	8,322
Signals, Train Control & Communications	8,086	-	-	-	-	-	-	8,086	-	8,086
Human Factors Program	3,542	-	-	-	-	-	-	3,542	-	3,542
Railroad System Issues	3,871	-	-	-	-	-	-	3,871	-	3,871
TOTAL	**35,250**	**-**	**-**	**-**	**-**	**-**	**-**	**35,250**	**(150)**	**35,100**

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

CURRENT PASSENGER RAIL SYSTEM (TF, Oblim)
($000)

		Baseline Changes								
	FY 2014 Enacted	Annualization of 2014 Pay Raises	Annualization of 2014 FTE	2015 Pay Raises	GSA Rent	WCF Increase/ Decrease	Inflation/ Deflation	FY 2015 Baseline Estimate	Program Increases/ Decreases	FY 2015 Request
PERSONNEL RESOURCES										
Direct FTE	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES										
ADMINISTRATIVE EXPENSES										
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-
Travel	-	-	-	-	-	-	-	-	214	214
Advisory and assistance services Contracts	-	-	-	-	-	-	-	-	12,036	12,036
Grants, Subsidies and Contributions	-	-	-	-	-	-	-	-	2,437,750	2,437,750
Admin Subtotal	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2,450,000**	**2,450,000**
PROGRAMS										
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
TOTAL	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2,450,000**	**2,450,000**

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

RAIL SERVICE IMPROVEMENT PROGRAM (TF, Oblim)
($000)

	Baseline Changes									
	FY 2014 Enacted	**Annualization of 2014 Pay Raises**	**Annualization of 2014 FTE**	**2015 Pay Raises**	**GSA Rent**	**WCF Increase/ Decrease**	**Inflation/ Deflation**	**FY 2015 Baseline Estimate**	**Program Increases/ Decreases**	**FY 2015 Request**
PERSONNEL RESOURCES										
Direct FTE	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES										
ADMINISTRATIVE EXPENSES										
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-
Travel	-	-	-	-	-	-	-	-	203	203
Advisory and assistance services Contracts	-	-	-	-	-	-	-	-	11,422	11,422
Research and Development Contracts	-	-	-	-	-	-	-	-	15,000	15,000
Grants, Subsidies and Contributions	-	-	-	-	-	-	-	-	2,298,375	2,298,375
Admin Subtotal	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2,325,000**	**2,325,000**
PROGRAMS										
Rail Service Improvement Program										
Passenger Corridor	-	-	-	-	-	-	-	-	1,300,000	1,300,000
Commuter Railroads - PTC Compliance	-	-	-	-	-	-	-	-	825,000	825,000
Local Rail Facilities and Safety	-	-	-	-	-	-	-	-	125,000	125,000
Planning and Workforce	-	-	-	-	-	-	-	-	75,000	75,000
TOTAL	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2,325,000**	**2,325,000**

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

OPERATING SUBSIDY GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION
($000)

		Baseline Changes								
	FY 2014 Enacted	**Annualization of 2014 Pay Raises**	**Annualization of 2014 FTE**	**2015 Pay Raises**	**GSA Rent**	**WCF Increase/ Decrease**	**Inflation/ Deflation**	**FY 2015 Baseline Estimate**	**Program Increases/ Decreases**	**FY 2015 Request**
PERSONNEL RESOURCES										
Direct FTE	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES										
ADMINISTRATIVE EXPENSES										
Grants, Subsidies and Contributions	340,000	-	-	-	-	-	-	340,000	(340,000)	-
Admin Subtotal	**340,000**	**-**	**-**	**-**	**-**	**-**	**-**	**340,000**	**(340,000)**	**-**
PROGRAMS										
Operating Grants to Amtrak										
Operating Subsidy Grants to Amtrak	340,000	-	-	-	-	-	-	340,000	(340,000)	-
TOTAL	**340,000**	**-**	**-**	**-**	**-**	**-**	**-**	**340,000**	**(340,000)**	**-**

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

CAPITAL AND DEBT SERVICE GRANTS TO NATIONAL RAILROAD PASSENGER CORPORATION
($000)

		Baseline Changes								
	FY 2014 Enacted	**Annualization of 2014 Pay Raises**	**Annualization of 2014 FTE**	**2015 Pay Raises**	**GSA Rent**	**WCF Increase/ Decrease**	**Inflation/ Deflation**	**FY 2015 Baseline Estimate**	**Program Increases/ Decreases**	**FY 2015 Request**
PERSONNEL RESOURCES										
Direct FTE	5	-	-	-	-	-	-	-	(5)	-
FINANCIAL RESOURCES										
Salaries and Benefits	390	-	-	-	-	-	-	390	(390)	-
Travel	200	-	-	-	-	-	-	200	(200)	-
Advisory and Assistance Services	4,848	-	-	-	-	-	-	4,848	(4,848)	-
Grants, Subsidies and Contributions	1,044,562	-	-	-	-	-	-	1,044,562	(1,044,562)	-
Total	**1,050,000**	**-**	**-**	**-**	**-**	**-**	**-**	**1,050,000**	**(1,050,000)**	**-**
PROGRAMS										
Operating Grants to Amtrak										
Capital and Debt Service Grants	989,750	-	-	-	-	-	-	989,750	(989,750)	-
Oversight	5,250	-	-	-	-	-	-	5,250	(5,250)	-
Commission Northeast Corridor	5,000	-	-	-	-	-	-	5,000	(5,000)	-
American Disability Act (ADA) (Not less than)	50,000	-	-	-	-	-	-	50,000	(50,000)	-
TOTAL	**1,050,000**	**-**	**-**	**-**	**-**	**-**	**-**	**1,050,000**	**(1,050,000)**	**-**

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

	FY 2013 Actual	FY 2014 Enacted	FY 2015 Request	Change
DIRECT:				
Safety and Operations	7,004	8,054	7,569	(485)
SUBTOTAL, DIRECT	**7,004**	**8,054**	**7,569**	**(485)**
REIMBURSABLE:				
	-	-	-	-
SUBTOTAL, REIMBURSABLE	**-**	**-**	**-**	**-**
TOTAL	**7,004**	**8,054**	**7,569**	**(485)**

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

	FY 2013 Actual	FY 2014 Enacted	FY 2015 Request [3/]
DIRECT FUNDED BY APPROPRIATION			
Safety and Operations	881.0	892.5	915.0
Amtrak [1/]	-	5.0	-
High-Speed Rail [2/]	3.0	6.0	7.0
SUBTOTAL, DIRECT FUNDED	884.0	903.5	922.0
TOTAL FTEs	**884.0**	**903.5**	**922.0**

Notes:

1/ FRA plans to fund a limited number employees from the oversight take down in the Capital and Debt Service Grants to Amtrak account in FY 2014.

2/ Funded from balances from the Capital Assistance for High Speed Rail Corridors and Intercity Passenger Rail Service account.

3/ Includes "annualization" of 22.5 FTE for FY 2014 new hires

EXHIBIT II-9
FEDERAL RAILROAD ADMINISTRATION
RESOURCE SUMMARY - STAFFING
FULL-TIME PERMANENT POSITIONS (FTP) [1/]

	FY 2013 Actual	FY 2014 Enacted	FY 2015 Request
DIRECT FUNDED BY APPROPRIATION			
Safety and Operations	881	915	915
Amtrak [2/]	-	7	-
High-Speed Rail [3/]	4	7	7
SUBTOTAL, DIRECT FUNDED	885	929	922
TOTAL POSITIONS	**885**	**929**	**922**

Notes:

1/ Positions represent the number of employees on board at end of the fiscal year.

2/ FRA plans to fund a limited number employees from the oversight take down in the Capital and Debt Service Grants to Amtrak account in FY 2014.

3/ Funded from balances from the Capital Assistance for High Speed Rail Corridors and Intercity Passenger Rail Service account.

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, **[**$184,500,000**]** *$185,250,000* of which $12,400,000 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)

Account	FY 2013 Actual	FY 2014 Enacted	FY 2015 Request	Change FY 2014-2015
Safety and Operations	**169,254**	**184,500**	**185,250**	**750**
Full-time Equivalents (FTE)				
Direct Funded	881.0	892.5	915.0	22.5
Reimbursable, Allocated, Other	-	-	-	-
Total FTE	**881.0**	**892.5**	**915.0**	**22.5**

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.

EXHIBIT III-1a

SAFETY AND OPERATIONS
SUMMARY ANALYSIS OF CHANGE FROM FY 2013 TO FY 2014
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

Item	Change from FY 2014 to FY 2015 $000	FTE
DIRECT:		
FY 2014 BASE ENACTED	**184,500**	**892.5**
BASELINE CHANGES:		
Annualization of FY 2014 New FTE	2,821	22.5
FY 2014 Pay Increase (1.0%)	300	-
FY 2015 Pay Increase (1.0%)	867	-
Non-Pay Inflation (0.5%)	309	-
GSA Rent	4	-
Working Capital Fund	(485)	-
SUBTOTAL, ADJUSTMENTS TO BASE	**3,816**	**22.5**
PROGRAM CHANGES:		
Contract Efficiencies	(3,066)	-
SUBTOTAL, PROGRAM CHANGES	**(3,066)**	**0**
TOTAL FY 2015 REQUEST	**185,250**	**915.0**

EXHIBIT III-2

ANNUAL PERFORMANCE RESULTS AND TARGETS
FEDERAL RAILROAD ADMINISTRATION

FRA integrates performance results into its budget request in alignment with DOT'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 15.900 by the end of FY 2015.*

	2011	2012	2013	2014	2015
Target	16.400	16.300	16.300	16.150	15.900
Actual	15.063	15.167	14.852	---	---

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

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 THE SAFETY AND OPERATIONS

What do I Need to Know Before Reading this Justification?

FRA employs nearly 900 professionals who work to improve the safety of the railroad industry, administer rail assistance programs, and conduct research and development.

The Nation's railroad industry consists of more than 780 railroads (including about 30 passenger, eight switching and terminal yard railroads, approximately 130 tourist/excursion/historical railroads, and 620 freight railroads). It serves as a major U.S. economic driving force. In 2013 rail:

- Hauled the Nation's freight over 741 million train-miles.
- Carried more than 655 million passengers over 21 billion miles.
- Employed approximately 233,000 workers who logged more than 463 million employee-hours.

FRA's most recent authorization acts, the *Railroad Safety Improvement Act* (RSIA) and the *Passenger Rail Investment and Improvement Act* (PRIIA) expired at the end of FY 2013. For 2015, the Administration proposes to reauthorize FRA's programs and authorities as part of a comprehensive $302 billion surface transportation legislative package.

What is the Request and What Will We Get for the Funds?

FY 2015 - Safety and Operations - Budget Request
($000)

Account	FY 2013 Actual	FY 2014 Enacted	FY 2015 Request	Difference from FY 2014 Enacted
Safety and Operations	169,254	184,500	185,250	750

FRA requests $185.25 million and 915.0 FTE in FY 2015 for the Safety and Operations (S&O) account—an increase of $750,000 compared to FY 2014 enacted. The request supports FRA's continuing execution of its mission as authorized under the *Railroad Safety Improvement Act* (RSIA) and the *Passenger Rail Investment and Improvement Act* (PRIIA), as well proposed new programs and safety oversight responsibilities.

For FY 2014, FRA requested and received a larger appropriation so FRA can respond to evolving safety issues and carry out its rail development function. With this increase, FRA aims to hire 45 new staff -- 22.5 FTE -- in FY 2014. For FY 2015, the requested additional $750,000 will fund the agency's higher baseline costs, primarily the on-going costs associated with the 45 staff added in FY 2014.

What is the Program?

The S&O account funds nearly all FRA personnel costs.[1] Employees are the backbone of the organization and are vital to accomplishing the agency's safety and investment mission. FRA staff also provides sound stewardship over a thriving portfolio of rail safety and development programs.

The S&O account funds operational and program activities as well, including the Automated Track Inspection Program, the Confidential Close Call Reporting System (C^3RS), and contract services that support new and existing regulatory enforcement and data collection efforts. For an in-depth description of FRA's rail safety activities, see FRA's Safety Strategy and Safety Implementation updates in sections 5 and 6 of this document.

The S&O account also funds FRA's organizational infrastructure (e.g., rent, telecommunications, information technology, and contract support), plus the cost of Department of Labor compensation payments to former Federal employees of the Alaska Railroad.

[1] In FY 2015, FRA projects to fund 7.0 FTE from prior year balances in the High-Speed Corridors and Intercity Passenger Rail Service account. Additionally, FRA plans to fund a limited number of staff from the Amtrak Capital and Debt Service Grants oversight take down in FY 2014.

Anticipated FY 2014 Accomplishments

A Consistent Record of Improving Safety Performance:

Overall rail safety statistics have improved dramatically over the last decade. Since FY 2004,

- Total train accidents have declined 47 percent
- Total derailments have declined by 47 percent
- Total highway rail grade crossing accidents have declined by 35 percent

For FY 2014, FRA aims to reduce the rate of rail-related accidents and incidents per million train-miles from 16.30 to 16.15 by reducing the:

- Grade crossing incident rate from 3.100 to 2.975;
- Human factor-caused train accident rate from 1.100 to 1.045;
- Track-caused train accident rate from 1.060 to 1.015;
- Equipment-caused train accident rate from 0.420 to 0.379;
- Signal and miscellaneous train accident rate from 0.530 to 0.510; and
- Non-accident hazardous materials releases rate from 1.218 to 1.200 per 200 million hazmat ton-miles.

FRA approaches rail safety comprehensively. FRA's safety program builds on research and development, continues to establish minimum safety requirements, conducts outreach and collaborating with stakeholders, performs compliance inspections and audits, and implements and administers enforcement policies in an effort to drive railroad accident/incident rates to further record lows. FRA will take the following actions to achieve the targets listed above.

To reduce **human factors-caused accidents**, the leading type of train accidents:

- Work with affected railroads to help them meet the December 31, 2015 statutory deadline to implement **positive train control (PTC)** systems. 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.
    - Revise FRA's PTC regulations to make exceptions for freight-only track segments with de minimis risk, en route failures, and yard movements on main lines.
    - Complete system certification of the Interoperable Electronic Train Management PTC system.
    - Provide technical and regulatory oversight of the design and implementation of PTC projects nationwide.
    - Provide engineering and other support to facilitate compliance with RSIA deployment mandates.

- Issue a final rule to extend drug and alcohol regulations to maintenance-of-way employees.

- Expand C3RS nationwide by adding railroads and locations and support implementation of the Clear Signal for Action peer-to-peer coaching program to reduce human error and identify best safety practices in passenger rail operations.

To address **track safety**, the second leading cause of train accidents:

- Establish minimum rail integrity standards and evaluate inspection requirements in higher risk areas.

- Propose rules to address the safe transportation of crude oil and ethanol.

- FRA is collaborating with the Pipeline and Hazardous Materials Administration on a rulemaking that addresses DOT 111 tank cars, which are designed to carry liquids and are commonly used in North America. FRA asked the Railroad Safety Advisory Committee (RSAC) to provide by April 1, 2014, recommendations regarding hazardous materials transportation by rail, appropriate train crew sizes, and train securement procedures by April 1, 2014.

To address **trespass prevention and grade crossing safety**, the leading types of rail-related fatalities:

- Issue a final rule requiring periodic updating of the National Crossing Inventory to inform safety investment decisions.

- Complete a study of the impact of the Rails-to-Trails program on trespasser and pedestrian safety.

- Review and update trespass and vandalism prevention strategies.

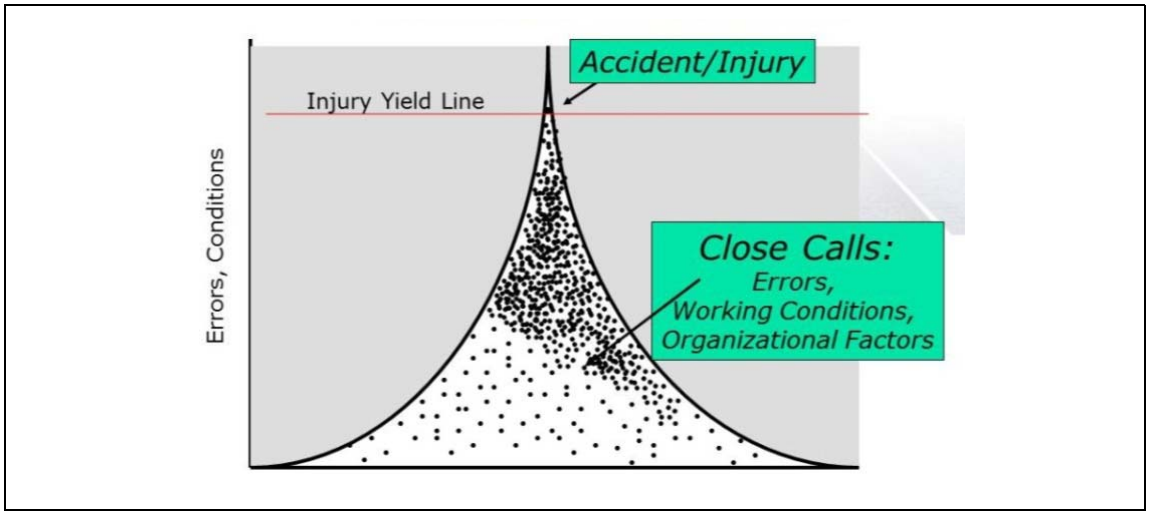
Emphasis on Reducing Risks:

Continuous safety improvement requires a multi-faceted strategy. 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.

FRA has created **Risk Reduction** and **System Safety Programs** to identify accident precursors so corrective actions can be taken in advance. FRA plans to publish a proposed rule requiring each Class I freight railroad and certain other freight railroads to establish risk reduction programs and a final rule requiring commuter and intercity passenger railroads to implement system safety programs.

This year using additional funds provided in the FY 2014 appropriation FRA is expanding the implementation of C^{3}RS across Amtrak's entire system nationwide and adding new railroads. FRA is expanding the program based on railroad industry support and positive evaluations of pilot projects to date. C^{3}RS allows FRA and the railroads to develop safety strategies before accidents occur. Results from one C3RS pilot site indicate a nearly 70 percent reduction in certain accidents. FRA plans to spend $5.5 million on C^{3}RS—$4.5 million in base programs and $1 million to support nationwide implementation.

SCHEMATIC COMPARISON OF INFORMATION AVAILABLE FROM CLOSE CALL ANALYSIS AND POST ACCIDENT DATA COLLECTION



Responding to Changes In The Industry:

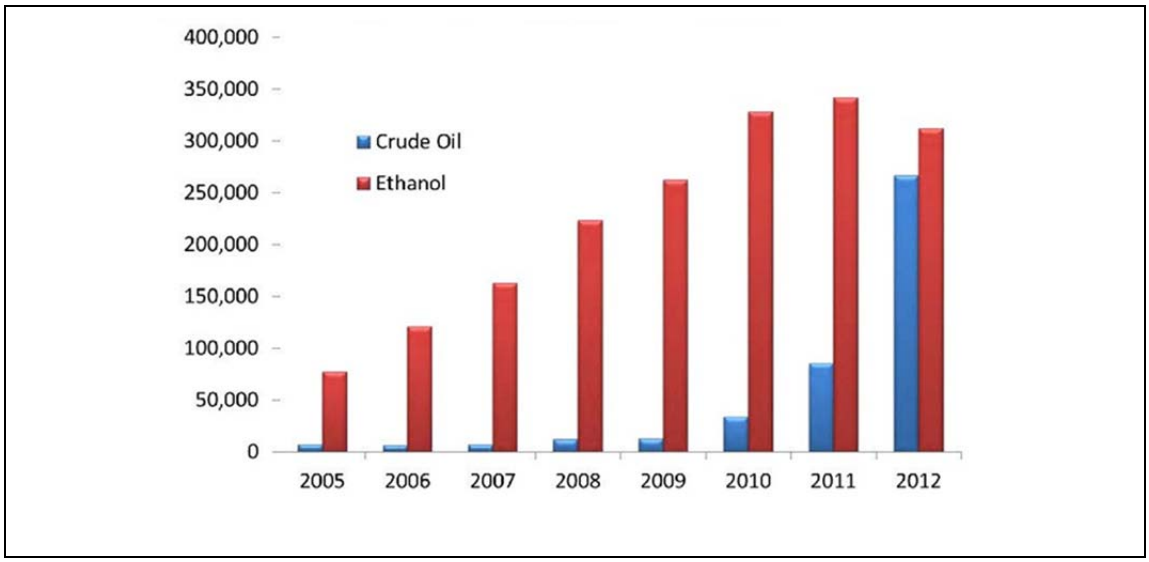
Today, FRA is working to further improve rail safety, including responding to recent accidents and evolving trends in the rail industry.

- *Metro-North Commuter Railroad.* After several accidents on Metro-North commuter railroad, FRA commenced Operation Deep Dive—a comprehensive, multi-disciplinary safety assessment in which technical and human factor experts are reviewing Metro-North's safety-critical procedures and processes. The experts will present their findings and recommend remedial actions.

- *Rail Accidents Involving Crude Oil.* As the shipment of crude oil and ethanol by rail has increased (see chart below), FRA has augmented its safety efforts accordingly to ensure the safe transportation of hazardous materials from origin to destination, including the safe transfer of crude oil, ethanol, and other hazardous materials from train to train. FRA has taken a multi-pronged approach, issuing an emergency order and jointly several safety advisories with the Pipeline and Hazardous Materials Safety Administration to address accidents involving oil and ethanol with aggressive action. FRA is also

considering regulatory action to address the issue, including seeking RSAC recommendations on hazardous materials transportation by rail, appropriate train crew sizes, and train securement procedures. Additionally, FRA is prioritizing its FY 2014 railroad safety inspector hiring to respond to increased oil and ethanol shipments.

CRUDE OIL AND ETHANOL ORIGINATIONS, 2005 TO 2012



Source: FRA

Continuing Core Activities:

In FY 2014, FRA will continue core responsibilities, including:

- Supporting implementation of new data collection and management requirements.
- Enforcing compliance with recently issued RSIA mandated safety regulations.
- Supporting capital investments:
  - Issue a proposed rule on engineering standards for the design and construction of new high-speed trainsets.
  - Continue monitoring and oversight of High-Speed and Intercity Passenger Rail program projects through what is likely to be the busiest construction year of the program.
  - Complete nine rail research efforts with the Transportation Research Board National Cooperative Rail Research Program.

Advancing Rail Development

In FY 2014, FRA plans to add 15 positions to support implementation of PRIIA, including:

- Establishing a robust program to advance national rail planning, support or manage multi-state planning, and provide tools and guidance for state and corridor-level rail planning; developing policies, procedures, and tools to guide and assist stakeholders with capital project delivery.
- Managing related responsibilities, including environmental documentation review and technical support, Northeast Corridor Planning, and equipment standardization and procurement technical support and coordination.
- Implementing remaining PRIIA requirements, including technical assistance on cost allocations for State-supported intercity passenger rail routes.

Anticipated FY 2015 Accomplishments

Continuing to Drive Safety Performance Gains:

In FY 2015, FRA aims to reduce the rate of rail-related accidents and incidents per million train-miles from 16.15 to 15.90 by reducing the

- Grade crossing incident rate from 2.975 to 2.800.
- Human factor-caused train accident rate from 1.045 to 0.985.
- Track-caused train accident rate from 1.015 to 0.975.
- Equipment-caused train accident rate from 0.379 to 0.360.
- Signal and miscellaneous train accident rate from 0.510 to 0.480.
- Non-accident hazardous materials releases rate from 1.200 to 1.100 per 200 million hazmat ton miles.

FRA will take the following actions achieve the targets listed above.

To reduce **human factors-caused** accidents:

- Support implementation of PTC systems nationwide.
  - Complete system certification of the Interoperable Electronic Train Management positive train control system.
  - Provide technical and regulatory oversight of the design and implementation of several other Positive Train Control (PTC) projects nationwide.
  - Provide engineering and other support to facilitate resolution of issues adversely affecting railroads' abilities to comply with RSIA deployment mandates.
- Issue a final rule to extend drug and alcohol regulations to maintenance-of-way employees.
- As part of the proactive approach to safety, further expand the C^3RS program implementation nationwide through addition of new railroads and expansion of existing

programs and support implementation of the Clear Signal for Action peer-to-peer coaching program to reduce human error and identify best safety practices in passenger rail operations.

- To respond to safety issues surrounding increased crude oil traffic by rail, FRA will be a key player in decisions on the use of resources from the new Safe Transportation of Energy Products Fund proposed by the Office of Secretary for FY 2015.

To reduce **track-caused** accidents:

- Expand implementation of autonomous track geometry measurement and implement advanced technologies inspection system for cost-effective inspection.

To address **trespass and grade crossing** safety:

- Assess the impact of quiet zones on grade crossing safety and a demographic study of trespasser profiles.

To support **capital investments**:

- Issue engineering standards for the design and construction of new high-speed trainsets.

Pursuing New Reauthorization Safety Mandates:

In FY 2015, FRA will begin implementing new provisions of its reauthorization proposal for both its rail safety and rail development programs. For safety, new authorities include:

Establishing science-based regulations for hours of service. In 2011, FRA issued fatigue-science-based hours of service regulations for passenger train employees under new authority granted by RSIA. FRA would like to evaluate the benefits and costs of continuing on this course and focus on addressing other fatigue issues with possible expanded authority to regulate the hours of service of other train employees, signal employees, and dispatching service employees based on sound science. Other modal administrations within the U.S. Department of Transportation already have broad safety regulatory authority over hours of service. It may not be necessary to regulate in these areas.

Harmonizing railroad operating rules to create a safer working environment. Each railroad has its own set of operating rules that may differ significantly from one division to another and from one railroad to another. Many operating crew employees are required to learn multiple different operating rules to operate safely in a single tour of duty. Harmonizing these rules will likely reduce confusion and create a safer working environment.

Encouraging use of noise mitigation technologies. Current Environmental Protection Agency rules for railroad noise emissions do not consider the use of noise mitigation technologies when applying the requirement. Alternative rules may allow higher train speeds

while encouraging railroads to reduce the impact of noise emissions on communities surrounding rail operations.

Why is this Particular Program Necessary?

FRA is organized into three major functional areas: railroad safety, railroad policy and development, and executive leadership and support. Each area is essential for fulfilling FRA's safety and rail development mission.

FULL-TIME EQUIVALENTS BY FRA MAJOR OFFICE *			
Office	**FY 2013 Actual**	**FY 2014 Enacted**	**FY 2015 Request ****
Railroad Safety	670.0	678.5	691.0
Railroad Policy and Development	78.0	83.0	92.0
Chief Counsel	47.0	48.0	47.0
Administration	47.0	47.0	47.0
Office of the Administrator	23.0	20.0	23.0
Financial Management	17.0	17.0	17.0
TOTAL FULL-TIME EQUIVALENTS	**881.0**	**892.5**	**915.0**

* Safety and Operations account only

** Includes annualization of 22.5 FTE included in the FY 2014 appropriation

Office of Railroad Safety: (691 FTE proposed for FY 2015) Supports DOT's strategic goal of reducing transportation-related fatalities and injuries and promotes and regulates safety throughout the Nation's railroad industry. The Associate Administrator for Railroad Safety and Chief Safety Officer serves as the principal advisor to the Administrator and FRA officials and oversees, regulates, and enforces railroad safety practices. The office actively supports the development of high-speed and intercity passenger rail, commuter rail, shared-use operations and proposed passenger rail operations, including line extensions and shared use operations. The Passenger Rail Division provides training and information on safety regulations and system safety to new commuter and intercity passenger railroads. In addition, the safety program supports implementation of new safety technologies, including PTC systems.

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: (1) hazardous materials, (2) motive power and equipment, (3) operating practices, (4) signal and train control, and (5) track. In addition, FRA's field components include program managers for highway-rail grade crossing safety, trespass prevention, rail and infrastructure integrity experts, PTC specialists, and industrial hygienists.

FRA SAFETY INSPECTORS BY REGION AND DISCIPLINE *									
	FRA Region								
Discipline	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Hazardous Material	4	5	11	5	9	4	4	4	46
Motive Power and Equipment	7	13	13	11	11	9	7	7	78
Operating Practices	7	10	10	11	12	6	4	8	68
Signal and Train Control	7	8	8	6	6	6	6	6	53
Track	8	11	12	8	12	9	8	8	76
TOTAL INSPECTORS	**33**	**47**	**54**	**41**	**50**	**34**	**29**	**33**	**321**

* Onboard as of January 24, 2014

The Office of Safety Analysis develops rail safety program goals and requirements. The Risk Reduction Program is an important initiative of this office, which also manages C^3RS and outreach programs to prevent distraction from portable electronic devices. This office also trains, certifies, and delegates authority to enforce Federal railroad safety laws to qualifying State agencies. Other responsibilities include accident and incident data analysis, technical training, promoting grade crossing safety and preventing trespasser accidents, and developing cost-benefit analyses and rulemakings.

Office of Railroad Policy and Development: (92 FTE proposed for FY 2015) Leads development of U.S. high-performance and intercity passenger rail policy and programs. Administers Federal financial assistance to State governments and the rail industry, including the National Railroad Passenger Corporation (Amtrak), and provides credit-based financial assistance for passenger and freight projects through the Railroad Rehabilitation and Improvement Financing (RRIF) program. The office also includes FRA's research and development program to improve railroad safety and technology.

Since 2009, the office has championed the Administration's vision to expand high-performance rail across the United States as the driving force behind the $10.1 billion High-Speed and Intercity Passenger Rail program, initially funded in the *American Recovery and Reinvestment Act*. The office continues to build the policies, processes, and programs necessary to improve and expand America's rail network.

Executive Leadership and Support: Five offices within FRA provide the leadership and organizational infrastructure that enables FRA to accomplish its mission.

- **Office of the Administrator:** The Office of Communication and Legislative Affairs, and the Office of Civil Rights. The Office of the Administrator develops, implements, and coordinates crosscutting issues; ensures accountability for management actions, fiscal stewardship, accountability, and transparency; recommends business process improvements; and assists the Administrator and Deputy Administrator in promoting strategic goals and

objectives, organizational performance, and Administration priorities. The Office of Communication and Legislative Affairs promotes and enhances the public's understanding of rail transportation and FRA's mission. The office also manages FRA's outreach to State and regional governments, rail stakeholders, and Congress. The Office of Civil Rights leads and develops policy to ensure effective and consistent diversity and civil rights programs both within FRA and across the rail industry, processes internal and external complaints, and works to ensure nondiscriminatory transportation in support of our strategic goal to enhance the social and economic quality of life for the people of the United States.

- **Office of the Chief Counsel:** Includes the immediate office of the Chief Counsel and two operating divisions (General Law and Safety Law), and provides legal assistance to FRA's program and regional offices. The attorneys in each division are cross-trained to help balance workloads and priorities. The Safety Law Division drafts safety regulations, safety orders, agency interpretations, legislative proposals, and decisions of the FRA Safety Board and Locomotive Engineer and Conductor Review Boards. The division also manages the enforcement and settlement of criminal and civil penalties and individual liability actions and administrative and judicial litigation related to rail safety. The General Law Division advises agency managers and staff on non-safety legal matters, including human resources, civil rights, environmental and historic preservation law, legislation, litigation, non-safety regulations, the *Privacy* and *Freedom of Information Acts*, and financial assistance programs, including grants, loans and procurement contracts. General Law Division attorneys support the High-Speed and Intercity Passenger Rail program and RRIF, including program development and implementation, loan and loan guarantee application reviews, applicant and project eligibility determinations, financial assistance agreement development and execution, ongoing program implementation and oversight, and environmental and historic preservation impact assessments. In addition, the division provides legal services to State and local governments through financial assistance program guidance, joint FRA and State conducted environmental reviews, and to the general public, typically in connection with environmental reviews, difficulties citizens encounter with railroads, safety concerns, and loans and loan guarantees under the RRIF program.

- **Office of Administration:** Provides comprehensive mission support by directing and coordinating the agency's acquisition, human resources, and information technology (IT) functions and services. The Office of Human Resources manages workforce planning, classification, compensation, and benefits; employee recruitment, placement, performance, career development, training, and drug testing; and employee relations, labor relations, and personnel security. The Office of Information Technology is responsible for planning, developing, and administering FRA's IT program, including capital planning, enterprise architecture, security, records management, continuity of operations, and consistency with applicable statutes and policies. The Office of Acquisition leads FRA's overall acquisition planning and execution activities.

- **Office of Financial Management:** Conducts the agency's budget and accounting activities, and ensures that financial management systems and policies are proactively responsive to FRA, departmental, and government-wide requirements.

How Do You Know the Program Works?

FRA measures progress and achievements according to (1) safety performance data; (2) reports and investigations by the DOT Inspector General, Government Accountability Office, and National Transportation Safety Board; (3) safety-related activities based on statutory requirements, Congressional interest, statistical and other analyses, and research and development; and (4) evaluations of FRA management and staff. At an operational level, FRA continuously uses safety performance data to manage its inspector workforce and guide its regulatory work. FRA uses analysis and professional judgment to deploy inspector resources effectively and efficiently. As FRA's safety program has grown in size and sophistication, the rail industry has steadily improved its safety metrics.

Steady Reductions in Rail-Related Accidents: Due in large part to FRA activities, the railroad industry has improved safety considerably over the past decade and remains one of the safest modes of transportation. In the 10 years from FY 2004 through FY 2013, the number of rail-related accidents and incidents declined 24 percent and train accidents dropped by 47 percent. Additionally, the number of fatalities dropped 13 percent, injuries dropped 9 percent and highway-rail grade crossing incidents decreased 35 percent. Safety levels have improved because of a strengthened inspector force, broadened regulatory and enforcement efforts, and initiatives implemented under both the Secretary's Action Plan for Highway-Rail Grade Crossing Safety and Trespasser Prevention and the National Rail Safety Action Plan.

Organizational Excellence: FRA also supports DOT's organizational excellence strategic goal 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.

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

FY 2015 represents a critical juncture for FRA. With its safety and passenger rail authorizations having expired at the end of FY 2013, FRA is proposing major changes to its programs in FY 2015 and beyond. This includes greatly expanding rail grant assistance programs, while maintaining funding for the Safety and Operations account at approximately the FY 2014 enacted level. Successful implementation will require FRA to target staffing and resources to manage and oversee grant assistance. Moreover, FRA will be implementing several safety regulations during the next two years.

Baseline changes from FY 2014 Enacted: $3.816 million to sustain FRA's workforce and current operations. Baseline changes include:

Annualization of FY 2014 FTE ..... $2.821 million
FRA plans to hire 45 new staff in FY 2014, equivalent to approximately 22.5 FTE. For FY 2015, FRA estimates it needs $2.821 million for the full-year ("annualization") salaries and benefits costs for these 45 staff.

FY 2014 Pay Increase (1.0%) ..... $0.300 million
This funding covers cost of the 2014 1.0% pay raise, that also covers the first quarter of FY 2015.

FY 2015 Pay Increase (1.0%) ..... $0.867 million
This increase funds the proposed pay raise effective January 2015.

Non-pay Inflation..... $0.309 million
FRA relies upon contract support when it is cost-effective for certain goods and services. To accommodate price escalation for goods and services compared to FY 2014, FRA requests funding at the non-pay inflation rate of 0.5 percent to maintain essential services and activities in FY 2015.

GSA Rent ..... $0.004 million
This request funds the proposed increase in rent for FRA's use of GSA-leased space. GSA rent account reflects occupancy agreements to meet specific facility requirements.

Working Capital Fund (WCF) ..... -$0.485 million
The Working Capital Fund is a fully reimbursable, centrally managed account that funds department-wide expenses, such as information technology, facilities, operational support, and personnel administration. This structure enables DOT to achieve economies of scale, reduce costs, and increase operational efficiencies, while relieving the operating administrations, such as FRA, from the overhead burden. The budget request is based on WCF estimates of usage and inflation, and shows a reduction from the FY 2014 Enacted.

Programmatic decreases from the FY 2014 President's Budget: **-$**3.066 million

Contract Efficiencies ..... -$3.066 million
FRA plans to reduce contract cost in FY 2015, continuing the efficiencies it realized under the sequestration by driving down contract costs through improved management, competition, and strategic decisions. For example, FRA reduced contracting costs through consolidation of contracting efforts across the administration. FRA has implemented a budget execution and acquisition planning internal process to evaluate all new contracts and their Statements of Work. This process ensures FRA's budget is properly executed and accounted for through sound stewardship. FRA will also continue to promote and increase its use of fixed price contracting, reducing the possibilities of additional unforeseen overhead and close outs.

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

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

Line	Line Title	FY2013 ACT	FY2014 EST	FY2015 EST
	Obligations by program activity:			
0001	Salaries and expenses	177,713	190,608	184,425
0006	Alaska Railroad Liabilities	823	892	825
0100	**Total direct program**	**178,536**	**191,500**	**185,250**
0799	Total direct obligations	178,536	191,500	185,250
0809	Reimbursable program activities, subtotal		6,000	6,000
0900	**Total new obligations**	**178,536**	**197,500**	**191,250**
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	16,845	11,318	5,000
1021	Recoveries of prior year unpaid obligations	3,514	1,000	1,000
1050	**Unobligated balance (total)**	**20,359**	**12,318**	**6,000**
	Budget authority:			
	Appropriations, discretionary:			
1100	Appropriation	178,596	184,500	185,250
1130	Appropriations permanently reduced	-9,342		
1160	**Appropriation, disc (total)**	**169,254**	**184,500**	**185,250**
	Spending authority from offsetting collections, discretionary:			
1700	Collected	1,971	6,100	6,100
1750	**Spending auth from offsetting collections, disc (total)**	**1,971**	**6,100**	**6,100**
1900	**Budget authority (total)**	**171,045**	**190,600**	**191,350**
1930	**Total budgetary resources available**	**191,404**	**202,918**	**197,350**
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	138,612	89,303	85,293
3010	Obligations incurred, unexpired accounts	179,490	197,500	191,250
3011	Obligations incurred, expired accounts	10,000		
3020	Outlays (gross)	-235,876	-209,510	-194,769

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	FY2013 ACT	FY2014 EST	FY2015 EST
3031	Unpaid obligations transferred from other accts [70-0560]	9,490	10,000	-
3040	Recoveries of prior year unpaid obligations, unexpired	-3,514	-1,000	-1,000
3041	Recoveries of prior year unpaid obligations, expired	-8,899	-1,000	-1,000
	Obligated balance, end of year (net):	89,303	85,293	79,773
3050	Unpaid obligations, end of year (gross)	89,303	85,293	79,773
3100	**Obligated balance, start of year (net)**	**138,612**	**89,303**	**85,293**
3200	**Obligated balance, end of year**	**89,303**	**85,293**	**79,773**
	Budget authority and outlays, net:			
	Discretionary:			
4000	Budget authority, gross	171,236	190,600	191,350
	Outlays, gross:			
4010	Outlays from new discretionary authority	146,915	142,250	142,425
4011	Outlays from discretionary balances	88,961	66,260	52,144
4020	**Outlays, gross (total)**	**235,876**	**208,510**	**194,569**
	Offsets against gross budget authority and outlays:			
	Offsetting collections (collected) from:			
4030	Federal sources	-1,576	-2,100	-2,100
4033	Non-Federal sources	-406	-4,000	-4,000
4040	**Offsets against gross budget authority and outlays, disc (total)**	**-1,982**	**-6,100**	**-6,100**
4070	**Budget authority, net (discretionary)**	**169,254**	**184,500**	**185,250**
4080	**Outlays, net (discretionary)**	**233,894**	**202,410**	**188,469**
4180	**Budget authority, net (total)**	**169,254**	**184,500**	**185,250**
4190	**Outlays, net (total)**	**233,894**	**202,410**	**188,469**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
SAFETY AND OPERATIONS

Object Classification Schedule
($000)

Identification Code 69-0700-0-1-401		FY 2013 ACT	FY 2014 EST	FY 2015 EST
	Direct Obligations:			
11.1	Full-time permanent	85,679	88,110	90,800
11.3	Other than full-time permanent	784	575	585
11.5	Other Personnel Compensation	735	2,592	2,601
12.1	Civilian personnel benefits	27,907	29,274	30,553
21.0	Travel	8,769	10,951	10,951
22.0	Transportation of things	66	60	60
23.1	Rental payments to GSA	6,200	6,929	6,933
23.3	Communications, utilities, and misc.	1,435	1,722	1,730
24.0	Printing and reproduction	301	302	304
25.1	Advisory & assistance service	14,939	16,278	16,460
25.2	Other services from non-Federal	814	3,088	3,092
25.3	Other goods and services from Gov.	14,971	21,628	11,166
25.4	O&M of facilities	288	570	572
25.7	O&M of equipment	9,161	5,626	5,631
26.0	Supplies	456	402	403
31.0	Equipment	935	1,987	1,996
41.0	Grants, subsidies, and contributions	1,337	1,386	1,393
42.0	Insurance claims and indemnities	82	20	20
99.0	Subtotal, Direct Obligations	174,859	191,500	185,250
	Reimbursable Obligations:			
25.3	Other goods and services from Federal sources	1,384	6,100	6,100
99.9	Total new obligations	176,243	197,600	191,350

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

RAILROAD RESEARCH AND DEVELOPMENT APPROPRIATIONS LANGUAGE

RAILROAD RESEARCH AND DEVELOPMENT

For necessary expenses for railroad research and development, **[**35,250,000**]** *$35,100,000*, 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 2013 Actual	FY 2014 Enacted	FY 2015 Request	Change FY 2014-2015
Track Program	10,209	11,429	11,279	(150)
Rolling Stock Program	8,076	8,322	8,322	-
Train Control and Communication	8,800	8,086	8,086	-
Human Factors Program	2,886	3,542	3,542	-
Railroad Systems Issues Program	3,198	3,871	3,871	-
TOTAL	**33,169**	**35,250**	**35,100**	**(150)**
Full-time Equivalents				
Direct Funded	-	-	-	-
Reimbursable, Allocated, Other	-	-	-	-
TOTAL FULL-TIME EQUIVALENTS	-	-	-	-

Program and Performance Statement

FRA's Research and Development Program provides science and technology support for the agency's rail safety rulemaking and enforcement efforts. It also identifies and develops emerging technologies for the rail industry to adopt voluntarily. In addition to improving safety, the program contributes significantly towards achieving the Department of Transportation's other strategic goals, e.g., state of good repair. The program focuses on 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 2014 to FY 2015
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

ITEM	Change from FY 2014 to FY 2015 $000	FTE
FY 2014 BASE	**35,250**	**-**
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 2015 REQUEST	**35,100**	**-**

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 tracks the following performance measures to demonstrate program results:

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 15.300 by the end of FY 2018.*					
	2011	**2012**	**2013**	**2014**	**2015**
Target	16.400	16.300	16.300	16.150	15.900
Actual	16.063	15.167	14.852	---	---

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

DETAILED JUSTIFICATION FOR RAILROAD RESEARCH AND DEVELOPMENT

What Do I Need To Know Before Reading This Justification?

- FRA's Research and Development (R&D) program provides the scientific and engineering basis for safety rulemaking and conducts research and development that leads to reduced railroad accidents and incidents in the medium and long-term.

- Through the program, FRA collaborates with the railroad industry to develop and implement new technology to improve overall system safety.

- The program also supports FRA's implementation of the *Passenger Rail Investment and Improvement Act* (PRIIA) by technical assistance, equipment specifications, proposal evaluation, and Buy America compliance.

- FRA is following an R&D program evaluation plan that measures industry adoption of practices and technologies based on FRA R&D, such as gage restraint measurement systems, vehicle and track interaction monitors, portable track loading fixtures, portable ride quality meters, vision-based joint bar inspection systems, and safety culture improvements.

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

FY 2015 - Railroad Research and Development - Budget Request
($000)

Program Activity	FY 2013 Actual	FY 2014 Enacted	FY 2015 Request	Difference from FY 2014 Enacted
Track Program	10,209	11,429	11,279	(150)
Rolling Stock Program	8,076	8,322	8,322	-
Train Control and Communication	8,800	8,086	8,086	-
Human Factors Program	2,886	3,542	3,542	-
Railroad Systems Issues Program	3,198	3,871	3,871	-
TOTAL	**33,169**	**35,250**	**35,100**	**(150)**

What Is This Program?

FRA requests $35.1 million for Research and Development (R&D) in FY 2015, which is $150,000 less than the FY 2014 enacted budget. In FY 2015, FRA plans to invest $150,000 less than FY 2014 improvements at the Transportation Technology Center (TTC) that are designed to reduce the facility's energy costs.

FRA's R&D program provides the scientific and engineering basis for safety rulemaking and performs research and development that can lead to reductions in railroad accidents and incidents in the medium and long-term. It also identifies and develops emerging technologies for the rail industry to adopt voluntarily.

The program is organized around rail disciplines, as follows:

- **Track Program:** Track and structure inspection techniques, material and component reliability, design and performance; track and train interaction, derailment mechanisms and vehicle-track performance; 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, and material and design improvements; hazardous materials transportation risk analysis, tank car damage assessment, inspection and integrity; 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 technology and pilot studies; trespass prevention.

- **Human Factors Program:** Safety culture pilot programs; research into fatigue and ergonomics; job and cognitive task analyses.
- **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; Project and other policy areas, contractor oversight and witnessing tests at contractor facilities.

These program areas focus on the **four major safety-related risk factors**: derailments, grade crossings, train collisions, and trespassing.

Recent examples of successful rail safety R&D include crashworthiness research that led to improved passenger rail car safety; analysis of vehicle-track interaction that led to revised track safety and vehicle qualification standards; development of a freight train braking algorithm that enables achievement of positive train control safety benefits without adversely affecting operations; and safety culture pilot programs that have reduced the number of human factors caused accidents and incidents.

The program complements the proposed Rail Service Improvement Program that will focus on technological issues and problems associated with implementation of high-performance passenger and freight rail, whereas the Research and Development program will continue to address rail safety performance in general.

Anticipated FY 2014 Accomplishments

- Track Program: An Autonomous Track Geometry Measurement System will be installed on a revenue service passenger car for long-distance data analysis as part of an Amtrak assessment. This research effort is an essential step towards including autonomous technology in track safety enforcement.

- Rolling Stock Program: The Wayside Pilot Demonstration project will explore the potential of advanced wayside technology systems to enhance the safety inspection process. The project will also solicit guidance from the Rail Safety Board to ensure that sufficient testing is conducted to enable objective decisions on waiver applications.

- Train Control and Communication: Phase 4 development of the employee-in-charge portable terminal--a safety-critical device to protect roadway workers from train intrusion into work zones in a positive train control (PTC) operating environment will be completed.

- Human Factors Program: The Confidential Close Call Reporting System and Peer-to-Peer Safety Programs, which have been successfully demonstrated to improve safety in pilot projects involving labor and management on several railroads, will be expanded to include other railroads.

- Railroad Systems Issues Program: 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.

Anticipated FY 2015 Accomplishments

- Track Program:

    - 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.
    - 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.

- Rolling Stock Program:

    - Based on PHMSA performance standards, 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 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.

- Train Control and Communication:

    - FY 2015 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.

- Human Factors Program:

    - 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-designs 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 test training materials for the Clear Signal for Action safety culture program for passenger railroads program, and FRA will pilot intervention projects.
    - To reduce the effects of locomotive crew exposure to traumatic incidents, FRA will develop and publish an implementation guide and evaluation plan to monitor and track program effectiveness at a pilot site.

- Railroad Systems Issues Program:

    - FRA will update its safety risk model for directing future R&D efforts.
    - FRA will implement evaluations in each of the four R&D Divisions, covering projects spanning the R&D lifecycle and types of evaluations (context, input, implementation, impact).

Why Is This Particular Program Necessary?

FRA's R&D program is essential to achieving DOT's goal of improving safety and contributes to the state of good repair, environmental sustainability, economic competitiveness, and Quality of life in Communities goals. The R&D Program supports FRA's safety performance targets:

1. **Reducing the grade crossing incident rate to 3.10 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 projects include the evaluation of acoustic warnings, causal analysis of driver behavior, and development of grade crossing to highway vehicle communications.

2. **Reducing the human factors-caused train accident rate to 1.10 per million train-miles.**
   The Human Factors 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 PTC 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.

3. **Reducing the track-caused train accident rate to 1.06 per million train-miles.**
The Track 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.

4. **Reducing the equipment-caused train accident rate to 0.420 per million train-miles.**
The Rolling Stock 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.

5. **Reducing the other (signal and miscellaneous) train accident rate to 0.530 per million train-miles.** The Train Control and Communication 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 wrong track switch 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 and products. This effort promotes gains for safety and operating efficiency for freight and passenger railroads.

6. **Reducing the non-accident release of hazardous materials to 1.218 per 200-million hazardous materials ton-miles.** The hazardous materials research activities focus on identifying the various causes of non-accident releases and developing 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.

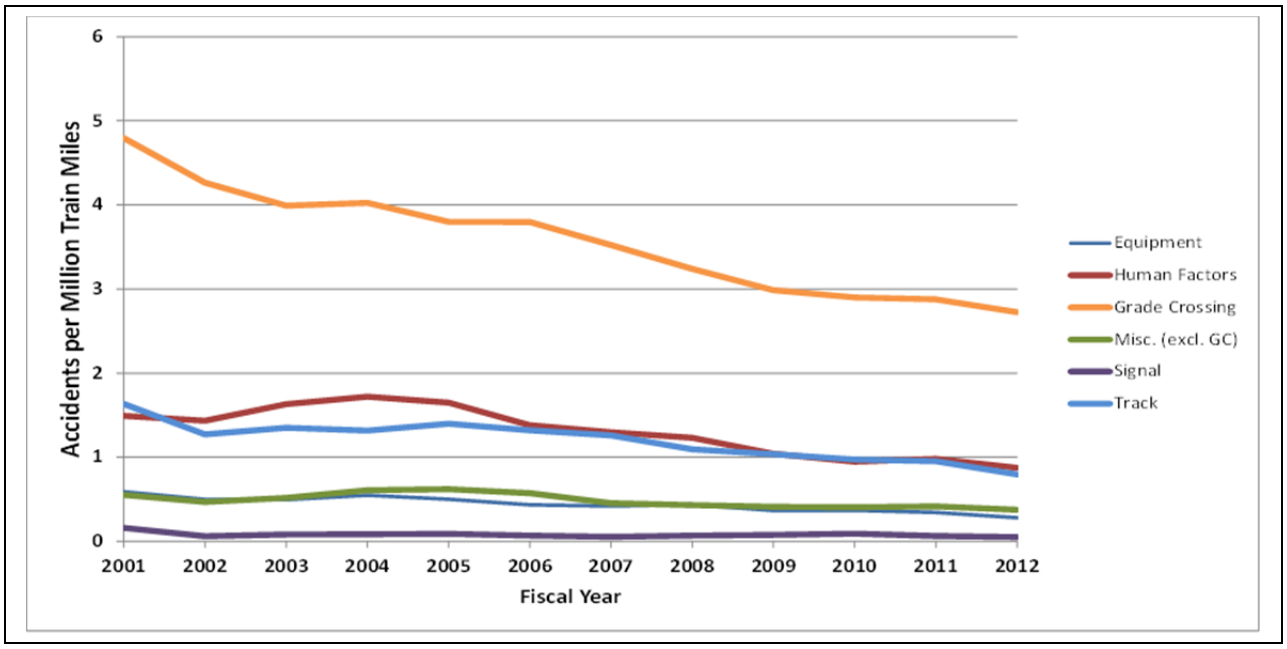
Railroad System Issues Program: While the activities described above focus on particular types of rail issues, this activity considers the railroad system as a whole, and analyzes railroad safety risk exposure to ensure FRA's research addresses the highest safety risks.

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.

How Do You Know The Program Works?

FRA's R&D program produces long-term benefits. As with many agency research programs, the work that undertaken in the past -- five to ten years ago -- contributes to today's results. The following chart shows recent safety improvements that can be attributed, in part, to FRA's previous R&D activities.

Accidents per Million Train-Miles by Cause Group, 2001 to 2012



Note: Data are subject to change and might differ from prior year budget materials to reflect subsequently provided information.

Source: FRA data.

Specific contributions to safety improvements by the R&D program include:

Track Research: The number of accidents due to track-related causes has decreased by 51 percent from 2001 to 2012. 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 joint bars effectively and efficiently.

Rolling Stock Research: The number of accidents due to equipment related causes has decreased by 53 percent from 2001 to 2012. 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.

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.

Train Control, and Communication Research: Between 2001 and 2012, there was a 69 percent decrease in signal-related train accidents. Further reduction is expected 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.
- 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 number of accidents at grade crossings fell by 43 percent from 2001 to 2012. 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 identifying several of these factors, including commercial driver safety, locomotive conspicuity, crossing closure and grade separation, sight line clearance, warning device upgrades, and Operation Lifesaver.

- 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.

Human Factors Research: There was a 41 percent reduction in human factors-caused accidents from 2001 to 2012. 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 has provided 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.

Railroad Systems Issues: 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.[1]

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.

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

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

In FY 2015, FRA requests $35.1 million for railroad research and development. This level will support continued core research and development in critical areas facing the rail industry.

In FY 2015, FRA requests $11.279 million, $150,000 less than FY 2014, for its Track Research Program. The funding reduction will support a lower level investment compared to FY 2014 in TTC facilities aimed at increasing their energy efficiency.

Also, note that in support of its proposed new National High-Performance Rail System program, FRA requests funding under to upgrade track at TTC, provide grants to rail based Transportation Research Board University Centers, to expand FRA's cooperative research program with the National Academy of Sciences. See the National High-Performance Rail System section.

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 2013 ACT	FY 2014 EST	FY 2015 EST
	Obligations by program activity:			
0001	Railroad System Issues	4,028	3,000	3,871
0002	Human Factors	3,734	3,600	3,542
0003	Rolling Stock and Components	4,039	4,000	-
0004	Track and Structures	6,142	6,500	-
0005	Tack and Train Interaction	3,068	4,000	-
0006	Train Control	8,743	8,000	-
0007	Grade Crossings	1,775	2,700	-
0008	Hazardous Materials	2,161	1,800	-
0009	Train Occupant Protection	4,265	4,000	-
0010	R&D Facilities and Test Equipment	2,315	2,650	-
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	Track Program	-	-	11,279
0016	Rolling Stock Program	-	-	8,322
0017	Train Control and Communication	-	-	8,086
0100	Total direct program	40,270	45,992	35,100
0799	Total direct obligations	40,270	45,992	35,100
0801	Reimbursable services	259	4,000	4,000
0900	Total new obligations	40,529	49,992	39,100

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 2013 ACT	FY 2014 EST	FY 2015 EST
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	11,724	9,507	7,765
1021	Recoveries of prior year unpaid obligations	4,803	7,000	-
1050	Unobligated balance (total)	16,527	16,507	7,765
	Budget authority:			
	Appropriations, discretionary:			
1100	Appropriation	35,000	35,250	35,100
1130	Appropriations permanently reduced	-1,831	-	-
1160	Appropriation, disc (total)	33,169	35,250	35,100
	Spending authority from offsetting collections, discretionary:			
1700	Collected	379	6,000	6,000
1701	Change in uncollected payments, Federal sources	-38	0	0
1750	Spending auth from offsetting collections, disc (total)	341	6,000	6,000
1900	Budget authority (total)	33,510	41,250	41,100
1930	Total budgetary resources available	50,037	57,757	48,865
	Memorandum (non-add) entries:			
1941	Unexpired unobligated balance, end of year	9,507	7,765	9,765
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	47,886	46,057	58,766
3010	Obligations incurred, unexpired accounts	40,529	49,992	39,100
3020	Outlays (gross)	(37,555)	(30,283)	(41,827)
3040	Recoveries of prior year unpaid obligations, unexpired	(4,803)	(7,000)	-
3050	Unpaid obligations, end of year (gross)	46,057	58,766	56,038
3060	Uncollected pymts, Brought Forward	(733)	(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 2013 ACT	FY 2014 EST	FY 2015 EST
3070	Change Uncollected pymts	38	-	-
3090	Uncollected pymts, Fed sources, end of year	(695)	(695)	(695)
3100	Obligated balance, start of year (net)	47,153	45,362	58,071
3200	Obligated balance, end of year (net)	45,362	58,071	49,343
	Budget authority and outlays, net:			
	Discretionary:			
4000	Budget authority, gross	33,510	41,250	41,100
	Outlays, gross:			
4010	Outlays from new discretionary authority	10,444	7,050	7,030
4011	Outlays from discretionary balances	27,111	23,233	34,797
4020	Outlays, gross (total)	37,555	30,283	41,827
	Offsets against gross budget authority and outlays:			
	Offsetting collections (collected) from:			
4030	Federal sources	(379)	(6,000)	(6,000)
	Additional offsets against gross budget authority only:			
4050	Change in uncollected pymts, Fed sources, unexpired	38	-	-
4070	Budget authority, net (discretionary)	33,169	35,250	35,100
4080	Outlays, net (discretionary)	37,176	24,283	41,827
4180	**Budget authority, net (total)**	**33,169**	**35,250**	**35,100**
4190	**Outlays, net (total)**	**37,176**	**24,283**	**41,827**

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 2013 ACT	FY 2014 EST	FY 2015 EST
	Direct Obligations:			
21.0	Travel and Transportation of persons	99	100	100
25.1	Advisory and assistance services	856	5,758	8,758
25.3	Other purchases of goods and services from Government	4,095	-	-
25.4	Operation and maintenance of facilities	1,359	5,001	4,851
25.5	Research and development contracts	32,403	23,983	17,983
25.7	Operation and Maintenance of equipment	103	-	-
31.1	Equipment	300	-	-
41.0	Grants, subsidies, and contributions	1,314	11,408	3,408
	Subtotal, obligations, Direct obligations	40,529	46,250	35,100
	Reimbursable Obligations:			
25.3	Reimbursable Obligations: Other goods and services from Federal sources	220	4,000	4,000
-	Subtotal, Reimbursable obligations	220	4,000	4,000
99.9	**Total new obligations**	**40,749**	**50,250**	**39,100**

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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 2013 Actual	FY 2014 Enacted	FY 2015 Request	CHANGE FY 2014-2015
Current Passenger Rail Service			550,000	550,000
Northeast Corridor	-	-		
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			1,300,000	1,300,000
Passenger Corridors	-	-		
Commuter Railroads PTC Compliance	-	-	825,000	825,000
Local Rail Facilities and Safety	-	-	125,000	125,000
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	-	-	-	-
Reimbursable, Allocated, Other	-	-	-	-
TOTAL FTE	**0**	**0**	**0**	**0**

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 2015 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 2015 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 implement PTC systems on commuter railroads. [This is a temporary program that will be phased out.]

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

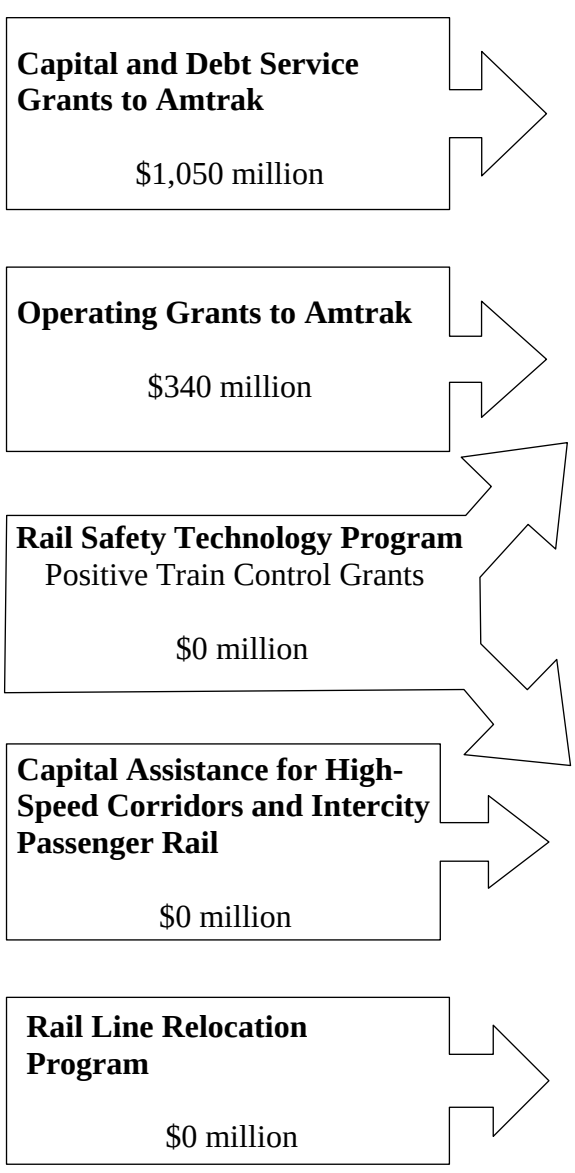
NATIONAL HIGH PERFORMANCE RAIL SYSTEM
SUMMARY ANALYSIS OF CHANGE FROM FY 2014 TO FY 2015
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

Item	Change from FY 2014 to FY 2015 $000	FTE
FY 2014 BASE ENACTED	**0**	**0**
NEW OR EXPANDED PROGRAMS:		
Current Passenger Rail Service	**2,450,000**	**0**
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**	**0**
Passenger Corridors	1,300,000	-
Commuter Railroads PTC Compliance	825,000	-
Local Rail Facilities and Safety	125,000	-
Planning and Workforce	75,000	-
SUBTOTAL, NEW OR EXPANDED PROGRAMS	**4,775,000**	**0**
FY 2015 REQUEST	**4,775,000**	**0**

FEDERAL RAILROAD ADMINISTRATION
RAIL GRANTS CROSSWALK FROM FY 2014 ENACTED TO FY 2015
NATIONAL HIGH-PERFORMANCE RAIL SYSTEM

FY 2014 Estimate
Rail Grants
$1.390 billion

FY 2015 Budget Request
National High-Performance Rail System
$4.775 billion



Current Passenger Rail Service

Northeast Corridor	$550 million
State Corridors	$225 million
Long-Distance Routes	$850 million
National Assets	$475 million
Stations ADA	$350 million
Total	$2,450 million

Rail Service Improvement Program

Passenger Corridors	$1,300 million
Commuter RRs PTC	$825 million
Local Rail Facilities	$125 million
Planning and Workforce	75 million
Total	$2,325 million

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 39 percent of funds needed for the Northeast Corridor State of Good Repair Plan* by 2018, subject to the availability of funds.					
	2011	**2012**	**2013**	**2014**	**2015**
Target	n.a.	0%	0%	0%	5%
Actual	n.a.	0%	0%	---	---

* Amtrak, April 15, 2009

n.a. Not applicable—FRA had not established and did not track this measure before 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.					
	2011	**2012**	**2013**	**2014**	**2015**
Target	8	22	36	60	65
Actual	8	27	---	---	---
Performance Goal: . . . substantially completing at least 74 planning, preliminary engineering, environmental analysis, and construction passenger rail projects.					
	2011	**2012**	**2013**	**2014**	**2015**
Target	n.a.	n.a.	n.a.	51	74
Actual	**---**	**---**	---	---	---

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 in infrastructure towards projects that more efficiently meet transportation, land use, and economic development goals developed through integrated planning approaches.

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

	2011	**2012**	**2013**	**2014**	**2015**
Target	6.45 billion	6.60 billion	6.75 billion	6.90 billion	7.05 billion
Actual	6.53 billion	6.80 billion	6.80 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 at least 34 percent of intercity passenger rail stations* comply with the requirements of ADA by the end of 2018, subject to the availability of funds.

	2011	2012	2013	2014	2015
Target	n.a.	2%	4%	8%	17%
Actual	n.a.	less than 1%	2.6%	---	---

* Where Amtrak is responsible for compliance.

EXHIBIT III-2 (Cont'd)

ANNUAL PERFORMANCE RESULTS AND TARGETS
FEDERAL RAILROAD ADMINISTRATION

DOT Strategic Goal: Environmental Sustainability—Advance environmentally sustainable policies and investments that reduce carbon and other harmful emissions from transportation sources.

Strategic Objective: Avoid and mitigate transportation-related impacts to climate, ecosystems, and communities by helping partners make informed project planning decisions through an analysis of acceptable alternatives, balancing the need to obtain sound environmental outcomes with demands to accelerate project delivery.

Performance Goal 1: Increase the number of completed or updated State rail plans that are consistent with DOT guidance to 24 by 2018.					
	2011	2012	2013	2014	2015
Target	n.a.	n.a.	n.a.	9	14
Actual	n.a.	n.a.	n.a.	---	---
Performance Goal 2: Increase the number of completed intercity passenger rail corridor investment plans and multi-use terminal area plans to 27 by 2018.					
	2011	2012	2013	2014	2015
Target	n.a.	n.a.	n.a.	4	10
Actual	n.a.	n.a.	n.a.	---	---

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

DETAILED JUSTIFICATION FOR THE NATIONAL HIGH-PERFORMANCE RAIL SYSTEM

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 in the country, 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. In FY 2008, 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 $10.1 billion for a new competitive high-speed and intercity passenger rail program and additional funding for continued investment in Amtrak.

- PRIIA included a series of important reforms, including requiring States to fund the operating and capital costs associated with State corridor services; requiring the establishment of performance measures and new management practices by Amtrak; and authorizing new multi-jurisdictional committees to advance issues related to next generation passenger rail equipment and Northeast Corridor operations and infrastructure management.

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

- The FY 2015 budget builds on the reforms from PRIIA and presents a reauthorization proposal for a modern and efficient rail transportation network. The Administration proposes that rail reauthorization as a part of a $302 billion legislative package to reauthorize all surface transportation programs.

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

FY 2015 – National High-Performance Rail System – Budget Request
($000)

Program Activity	FY 2013 Actual	FY 2014 Enacted	FY 2015 Request	Difference from FY 2014 Estimate
Current Passenger Rail Service	-	-	550,000	550,000
Northeast Corridor				
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	-	-	1,300,000	1,300,000
Commuter Railroads PTC Compliance	-	-	825,000	825,000
Local Rail Facilities and Safety	-	-	125,000	125,000
Planning and Workforce	-	-	75,000	75,000
Subtotal, Rail Service Improvement Program	**0**	**0**	**2,325,000**	**2,325,000**
TOTAL	**0**	**0**	**4,775,000**	**4,775,000**

FRA requests $4.775 billion for the National High-Performance Rail System (NHPRS) for FY 2015. FY 2015 is the first year of a $19 billion, four-year reauthorization proposal for FRA's rail programs.

NATIONAL HIGH-PERFORMANCE RAIL SYSTEM FY2015 through FY 2018 Funding (millions of dollars)					
Program Activity	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**TOTAL**
Current Passenger Rail Service					
Northeast Corridor	550	550	700	800	2,600
State Corridors	225	175	125	75	600
Long-Distance Routes	850	850	730	690	3,120
National Assets, Legacy Debt, and Amtrak PTC	475	475	445	385	1,780
Stations ADA Compliance	350	350	350	350	1,400
Subtotal, Current Passenger Rail Service	**2,450**	**2,400**	**2,350**	**2,300**	**9,500**
Rail Service Improvement Program					
Passenger Corridors	1,300	1,500	1,700	1,900	6,400
Commuter Railroads PTC Compliance	825	705	470	350	2,350
Local Rail Facilities and Safety	125	125	125	125	500
Planning and Workforce	75	75	75	75	300
Subtotal, Rail Service Improvement Program	**2,325**	**2,405**	**2,370**	**2,450**	**9,550**
TOTAL, NATIONAL HIGH-PERFORMANCE RAIL SYSTEM	**4,775**	**4,805**	**4,720**	**4,750**	**19,050**

What Is This Program?

The NHPRS is divided into two major programs: $2.450 billion for **Current Passenger Rail Service** focused on *maintaining* the current rail network; and $2.325 billion for the **Rail Service Improvement Program** focused on *expanding and improving* the U.S. rail network to accommodate growing travel demand.

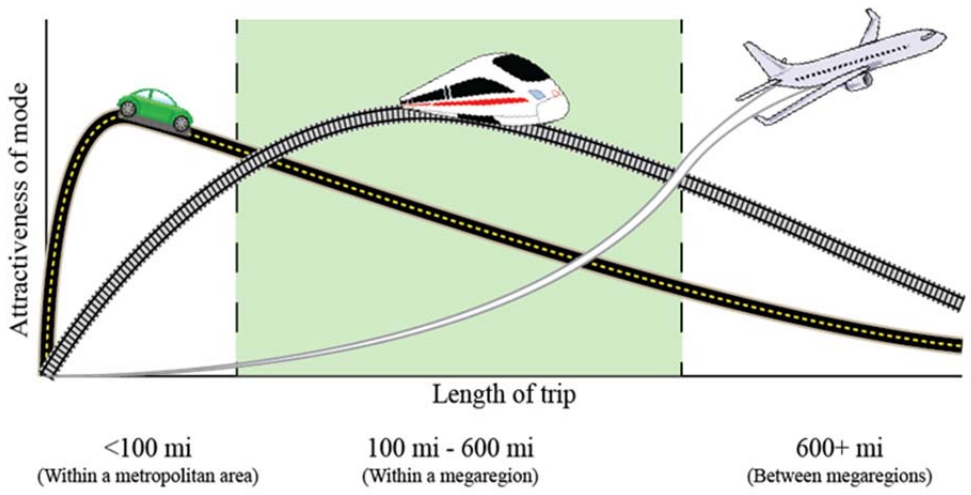
I. NATIONAL HIGH-PERFORMANCE RAIL SYSTEM OVERVIEW

The NHPRS program will substantially improve the Nation's rail system to accommodate a growing population (100 million more people and 4 billion more tons of freight by 2050) and provide a travel alternative to the Nation's increasingly congested airports and highways. In addition, this program will enhance the global economic competitiveness of America's metropolitan regions, support domestic manufacturing, reduce reliance on imported oil, and create a new economic base of highly-skilled, well-paying jobs in the rail industry.

Passenger Rail

The NHPRS will support the development of passenger rail networks concentrated in the Nation's megaregions, dense networks of metropolitan areas with interlocking economies and shared transportation, environmental, and cultural resources. Although megaregions encompass 26 percent of the total U.S. land area, approximately 75 percent of the Nation's population lives in these regions. This share is expected to grow even larger, as the vast majority of U.S. population growth will occur in these same places.[1] These megaregions are well-suited for intercity rail transportation, given the relatively short distances between large cities, generally less than 600 miles. Thus FRA's strategy is to advance rail networks in these regions.

DISTANCES BEST-SUITED FOR FOR HIGH-PERFORMANCE RAIL



Source: FRA analysis.

Each regional network will contain a range of corridor types, based on the specific market conditions and transportation needs of the region. These market needs are determined by analyzing current and projected travel patterns, demographic and economic changes, terrain and

[1] America 2050, Defining U.S. Megaregions, November 2009.

distances, and other factors. The level of service required to meet these needs varies—in some places, numerous trains per hour operating at speeds above 125 mph will best address these needs; in others, incremental upgrades to existing services are more 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.

CONCEPTUAL ILLUSTRATION OF A REGIONAL PASSENGER RAIL NETWORK

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.

TYPES OF HIGH-PERFORMANCE PASSENGER RAIL SERVICES

Service	**Top Speed** (miles-per-hour)	**Typical Number of Daily Round Trips**	**Power**	**Track**	**Percentage of U.S. Population Served**
Core Express	125 to 250 +	At least hourly	Electrified	Dedicated	60%
Regional	90 to 125	Hourly or bihourly	Electrified and Diesel	Dedicated and Shared	75%*
Feeder	Up to 90	3 or more	Diesel	Shared	80%*

* Cumulative with above; preliminary estimates pending outcome of more refined regional and state planning studies

Freight Rail

The Nation's 140,000-mile freight rail network is the most well-developed and cost-efficient in the world. Rail's share of total U.S. freight ton-miles is approximately 40 percent.[2] The $60 billion industry consists of seven Class I railroads[3] (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).[4] Currently, 91 percent of total freight rail tonnage on the Class I railroads are commodities such as coal, chemicals, and farm products, with the remainder transporting intermodal goods such as consumer products.[5] (Intermodal refers to transporting goods on trains before and/or after transfers from planes, ships, or trucks).

The continued strong performance of the Nation's freight rail network is critical to meeting the needs of a growing economy. Through discretionary grant programs in this budget, including TIGER and the $1.0 billion Federal Highway Administration freight program, the U.S. Department of Transportation will ensure that freight rail continues to play a pivotal role in moving commodities, while also growing rail's share of intermodal traffic. 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

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 varied interests of stakeholders, FRA recognizes that local and regional, public and private stakeholders must help guide the creation of rail plans. FRA's goal is that each region will plan and develop its plans, based on parameters and standards to ensure national consistency and compatibility. FRA is currently working with groups of States and other stakeholders in the Northeast and Southwest to develop tools and best practices for regional planning, and States in the Midwest, Northwest, Southeast, and South-Central U.S. have also engaged in regional planning and cooperation.

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.

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[2] American Association of Railroads, An Overview of America's Freight Railroads, July 2012.

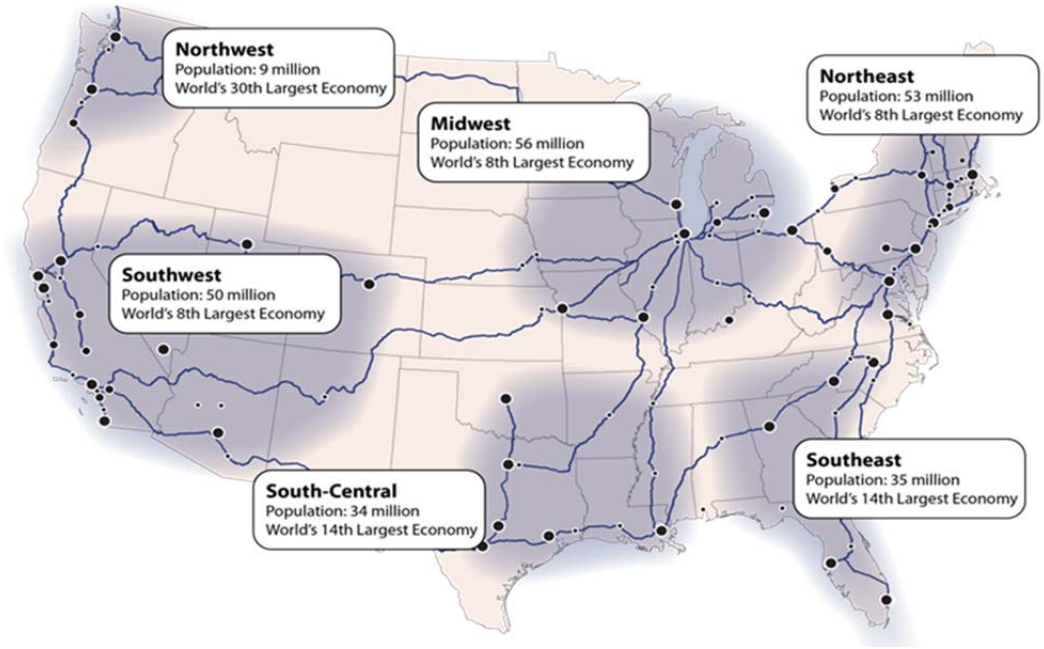
[3] The seven Class I freight railroads are: BNSF Railway, CSX Transportation, Grand Trunk Corporation, Kansas City Southern Railway, Norfolk Southern Combined Railroad Subsidiaries, Soo Line Railroad, and Union Pacific Railroad.

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

[5] American Association of Railroads, Class I Railroad Statistics, May 2012.

Recent appropriations, including in 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 (see details about this pipeline in Section III, below). Keeping the project pipeline moving and growing is a cornerstone of FRA's NHPRS proposal.

NATIONAL HIGH-PERFORMANCE RAIL SYSTEM REGIONS

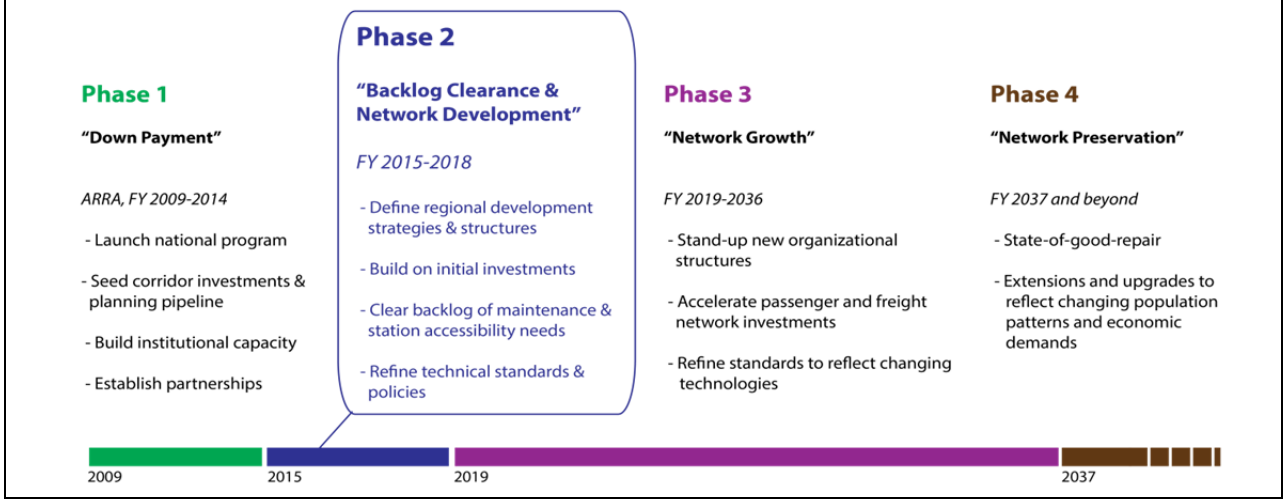


Source: FRA analysis.

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 (FY2009 to 2014) – 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).[6] 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-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 2015 to 2018) – Backlog Clearance and Network Development:** The second phase begins with the Administration's FY 2015 budget request and four-year rail investment and reauthorization proposal. In this phase, FRA would 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 clear the major backlog of capital needs in the Nation's rail infrastructure, equipment, and station accessibility.

- **Phase 3 (FY 2019 to 2036) – Network Growth:** Based on the regional plans as well as the numerous corridor-level planning, engineering, and environmental analyses that are currently underway, the NHPRS program will continue with a focus on implementation and project delivery, with investments and significant construction activity occurring in regions throughout the United States.

[6] $8 billion was provided for high-speed and intercity passenger rail development activities and $1.3 billion was provided to Amtrak for capital investments.

- **Phase 4 (FY 2037 and beyond) – Network Preservation:** Similar to the new role played by the Interstate Highway program upon completion of the core network in the 1990s, the NHPRS program's focus will turn to state of good repair activities, as well as extending and upgrading corridors to reflect changing growth patterns and transportation needs.

Backlog of Needs on the Nation's Rail Network

After several decades of underinvestment in the Nation's rail infrastructure, a significant backlog of infrastructure, stations, and equipment repair or replacement needs has accumulated. This 4-year plan will make significant progress towards addressing these backlog needs. Upon completion, temporary activities proposed in this plan will be phased-out or operate with reduced funding. The table below details temporary activities in this plan.

ESTIMATED PHASE-OUT FOR NATIONAL HIGH-PERFORMANCE RAIL SYSTEM TEMPORARY ACTIVITIES			
Program Area	**Activity**	**Goal**	**Estimated Year of Final Federal Funding ***
Northeast Corridor	Backlog of state of good repair needs	Identified state of good repair backlog on NEC is eliminated	FY 2025 to 2028
Northeast Corridor	Replacement of legacy and obsolete equipment	All legacy/obsolete equipment replaced	FY 2018
State Corridors	Transitional capital support for State corridors	States are financially supporting State corridors	FY 2017
State Corridors	Replacement of legacy/obsolete equipment on State corridors	All legacy/obsolete equipment replaced	FY 2018
National Assets	Positive train control on Amtrak routes	Positive train control is implemented on Amtrak routes	FY 2015-2018**
National Assets	Legacy debt service	Amtrak's legacy debt is substantially retired	FY 2023***
Stations ADA Compliance	Upgrade Amtrak-served stations to comply with ADA requirements	All required stations are in compliance	FY 2018
Commuter Railroads PTC Compliance	Positive train control on commuter railroads	Positive train control is implemented on commuter railroads	FY 2015-2018**

* Assumes 4-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.

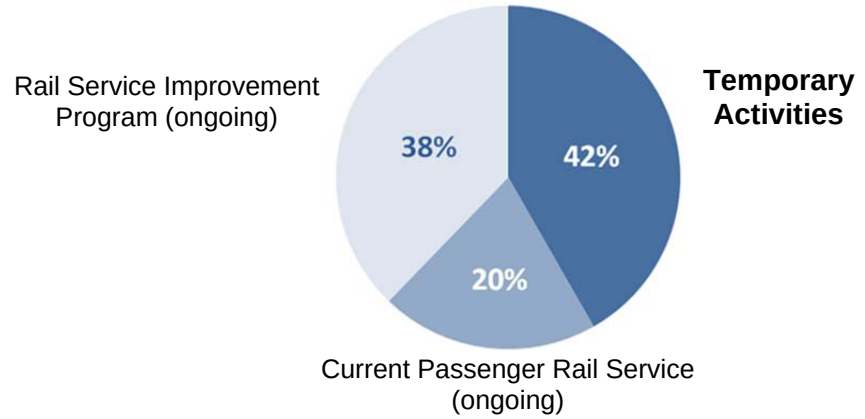
** U.S. DOT has proposed that Congress authorize the Secretary to provide case-by-case consideration for extending the current FY 2015 deadline, due to challenges faced by the rail industry in meeting this deadline.[7]

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

In total, more than 40 percent of the 4-year, $19 billion NHPRS proposal will be dedicated to these temporary activities.

[7] FRA Report to Congress, *Positive Train Control Implementation Status, Issues, and Impacts*, August 2012. Available at http://www.fra.dot.gov/eLib/details/L03718.

ONGOING AND TEMPORARY NATIONAL HIGH-PERFORMANCE RAIL SYSTEM ACTIVITIES, FY 2015 to FY 2018 ($19 billion)



II. 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 by business lines: (1) Northeast Corridor, (2) State Corridors, (3) Long-Distance Routes, and (4) National Assets. A fifth program area will focus on making all Amtrak-served stations compliant with ADA requirements. FRA will direct nearly all grants to Amtrak, with the exception of the State Corridors program area.

CURRENT PASSENGER RAIL SERVICE ($2.45 billion)
FY 2015 Request, Objectives, and Eligibility

Business Line and FY 2015 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 and 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 2015 Request, Objectives, and Eligibility			
Business Line and FY 2015 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 • PTC capital on Amtrak routes* • Legacy debt service and principal*	Amtrak
Stations ADA Compliance $350 million	Bring stations into compliance with ADA requirements of	• 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 rail, and an average of 50 freight trains per day. The FY 2015 budget will fund the following capital needs:

- Backlog state-of-good repair needs on Northeast Corridor infrastructure. Amtrak has identified a maintenance backlog exceeding $6 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.

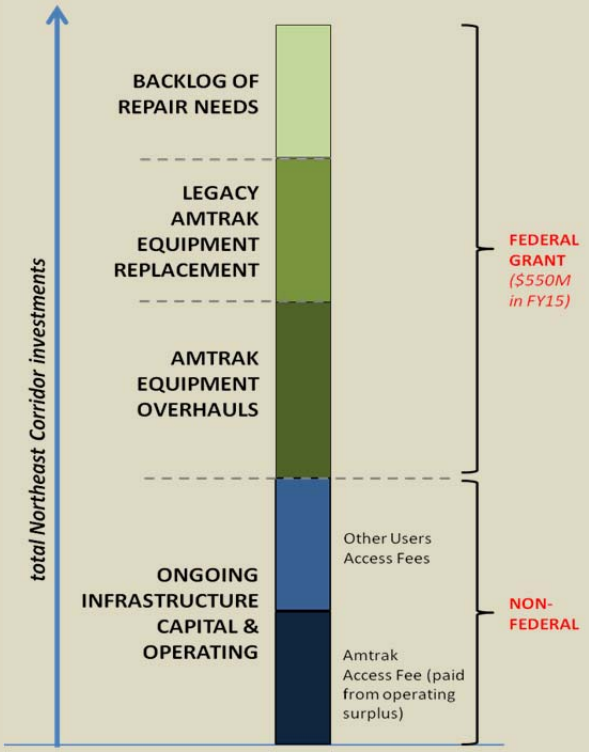
During this 4-year proposal, Federal funding increases to address more of the state-of-good repair backlog. Larger, more complex projects (such as bridge and tunnel replacements) generally require long lead times before construction begins. After the backlog is cleared, Federal support for ongoing Northeast 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 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 users. The cost allocation is scheduled to begin in FY 2015. As of February 2014, the Commission was still developing the methodology.

Under the framework emerging through this ongoing process, Amtrak and commuter railroads that operate over the Northeast Corridor will pay an "access fee" that reflects their share of the 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 requires States to be financially responsible for supporting their corridor services, beginning in FY 2014. In FY 2014, states will pay Amtrak approximately $250 million for operating costs associated with State-supported routes. This strong financial commitment demonstrates the importance of these routes to State transportation systems, economies, and quality of life.

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

- $200 million for 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 4-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 a maximum of 80 percent.
- $25 million for PRIIA 209 transition assistance. In FY 2015, FRA proposes providing up to $25 million to phase in the fixed-asset capital charge (which is in addition to the operating costs that states now pay for) as part of Section 209 implementation. 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. 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 them. This funding will support operating and capital needs, including the 130 single-level replacement passenger cars, currently being manufactured by CAF USA in Elmira, NY.

FRA's budget shows the full cost of supporting long distance routes, including operating losses and capital expenses. During the 4-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 PTC ($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.[8] FRA expects these costs to decline during the 4-year proposal period.
- Support the implementation of PTC on Amtrak routes, as required by RSIA.
- Principal and interest payments on Amtrak's legacy debt.

Federal funding for this program will decrease substantially in FY 2016 and beyond 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.

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.

[8] These offsetting ancillary activities only include those that are not directly associated with another business line.

Stations ADA Compliance ($350 million): This program will fund upgrades to Amtrak-served stations to comply with 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 ADA upgrades during the 4-year authorization. Project implementation will likely continue beyond this period.

Rail Service Improvement Program

DOT requests $2.325 billion to (1) invest in the infrastructure, stations, and equipment needed to build new high-performance passenger rail corridors, substantially improve existing corridors, and address critical rail chokepoints; (2) advance implementation of positive train control on commuter railroads; (3) mitigate the impacts of rail operations in local communities; and (4) develop comprehensive rail plans to identify and prioritize the Nation's rail investment needs, and to develop the workforce and technology needed to advance America's rail industry.

RAIL SERVICE IMPROVEMENT PROGRAM ($2.325 billion)
FY 2015 Request, Objectives, and Eligibility

Program Area and FY 2015 Request	Objective	Eligible Activities	Eligible Recipients
Passenger Corridors $1.3 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	• 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 $125 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 ** • Training and technical assistance for local governments	• States • Multi-state entities • Local governments

* Temporary activities that will phase out upon completion.

** Grants will be targeted at project types that are less suitable for loans through the Railroad Rehabilitation and Improvement Financing (RRIF) program.

RAIL SERVICE IMPROVEMENT PROGRAM ($2.325 billion) FY 2015 Request, Objectives, and Eligibility			
Program Area and FY 2015 Request	**Objective**	**Eligible Activities**	**Eligible Recipients**
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

* Temporary activities that will phase out upon completion.

Passenger Corridors ($1.3 billion): This program will fund 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 2015. The FY 2015 Accomplishments section provides information about specific corridors that will likely be ready for capital investments between FY 2015 and FY 2018.

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 area 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. Additionally, as described in FRA's 2012 report to Congress, significant technical and programmatic challenges make it unlikely that the rail industry will meet the statutory December 31, 2015, deadline for full PTC implementation. These challenges are particularly

acute for commuter railroads, which tend to have limited experience designing and implementing these technologies.[9] The Federal share of these capital costs will be capped at 80 percent.

Local Rail Facilities and Safety ($125 million): This program area 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.

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 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 and Technology ($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

[9] FRA Report to Congress, *Positive Train Control Implementation Status, Issues, and Impacts*, August 2012. Available at http://www.fra.dot.gov/eLib/details/L03718.

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.

III. ACCOMPLISHMENTS AND OUTCOMES

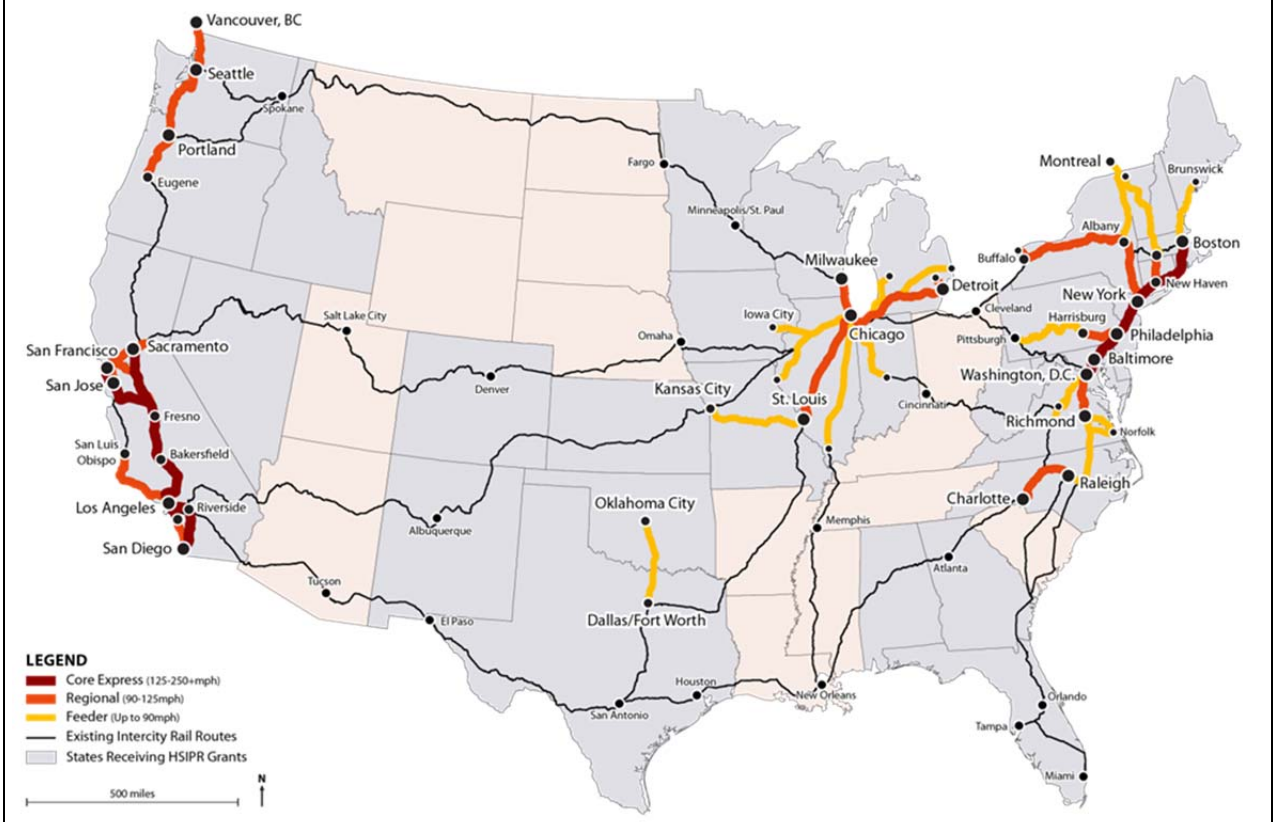
FY 2009 to FY 2014 Accomplishments

Major activities and accomplishments in Phase 1 of the NHPRS program include:

- **Initial Investment Decisions.** 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. The Government Accountability Office commended FRA's review and selection process, stating, "FRA established a fair and objective approach for distributing [Recovery Act] funds and substantially followed recommended discretionary grant award

practices used throughout the government."[10] The map and table below highlight the key corridors in which investments have been made to date.

HIGH-SPEED AND INTERCITY PASSENGER RAIL PROGRAM – CURRENT INVESTMENTS



[10] U.S. Government Accountability Office, Intercity Passenger Rail: Recording Clearer Reasons for Awards Decisions Would Improve Otherwise Good Grant Making Practices, GAO-11-283, March 10, 2011.

CURRENT HIGH-SPEED AND INTERCITY PASSENGER RAIL PROGRAM INVESTMENTS						
	Miles Under Development		**Federal Investment**		**Population Served**	
Type of Corridor	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 42 projects, resulting in upgraded stations, improved operational efficiency, and enhanced services.[11] 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 52 projects for nearly $3.1billion in Federal investments.[12] Several millions of dollars are also being invested by FRA's partners to match these investments; the freight rail industry invested $24.5 billion of private capital in the Nation's rail network in 2013 alone.[13]

  - *Illinois*: Nearly 1,000 people are at work improving the Chicago-St. Louis corridor, which initiated 110 mile-per-hour service in November 2012, and construction is set to resume on the corridor in April 2014.
  - *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:* Work is ongoing at Transbay Transit Center to build the platforms, concourse, and tracks for the intercity rail portion of this modern multimodal transit hub in downtown San Francisco.

[11] As of January 31, 2014.
[12] As of January 31, 2014.
[13] American Association of Railroads, "Freight Railroad Plan to Invest $24.5 Billion in Private Dollars in 2013," 6 February 2013.

- *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:* Station projects in Dearborn, Troy, and Battle Creek are underway or complete, and 135 miles of rail line between Kalamazoo and Dearborn has been purchased and transferred, clearing the way for track and signal rehabilitation work.
- In 2013, congestion mitigation projects started construction in several states including New York, Pennsylvania, and Indiana. The projects improve service reliability and reduce passenger trip times. FY 2014 will be one of the biggest construction years for the program, with major corridor construction planned in California, Michigan, and North Carolina.

- **Pipeline of New Projects.** Seventy three planning, environmental analysis, and engineering projects are underway or nearing completion across the country. The products that result from these efforts will lay the foundation for future construction projects and service improvements. See the related discussion on FY 2015 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 Nippon-Sharyo, with initial deliveries expected in late 2015; Siemens Rail Systems USA was selected in December 2013 to build 35 high-speed diesel locomotives through a second multi-state procurement. 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 NGEC 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.

- **Rail Research.** FRA, jointly with the Transportation Research Board, established the National Cooperative Rail Research Program to advance research on issues critical to rail policy development. The first set of research projects has been selected and is underway.

Anticipated FY 2015 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 support this critical groundwork necessary to support 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 FRA's proposed new grant assistance. Substantial private sector participation is also anticipated for several of these corridors, particularly those operating at a Core Express level of service.

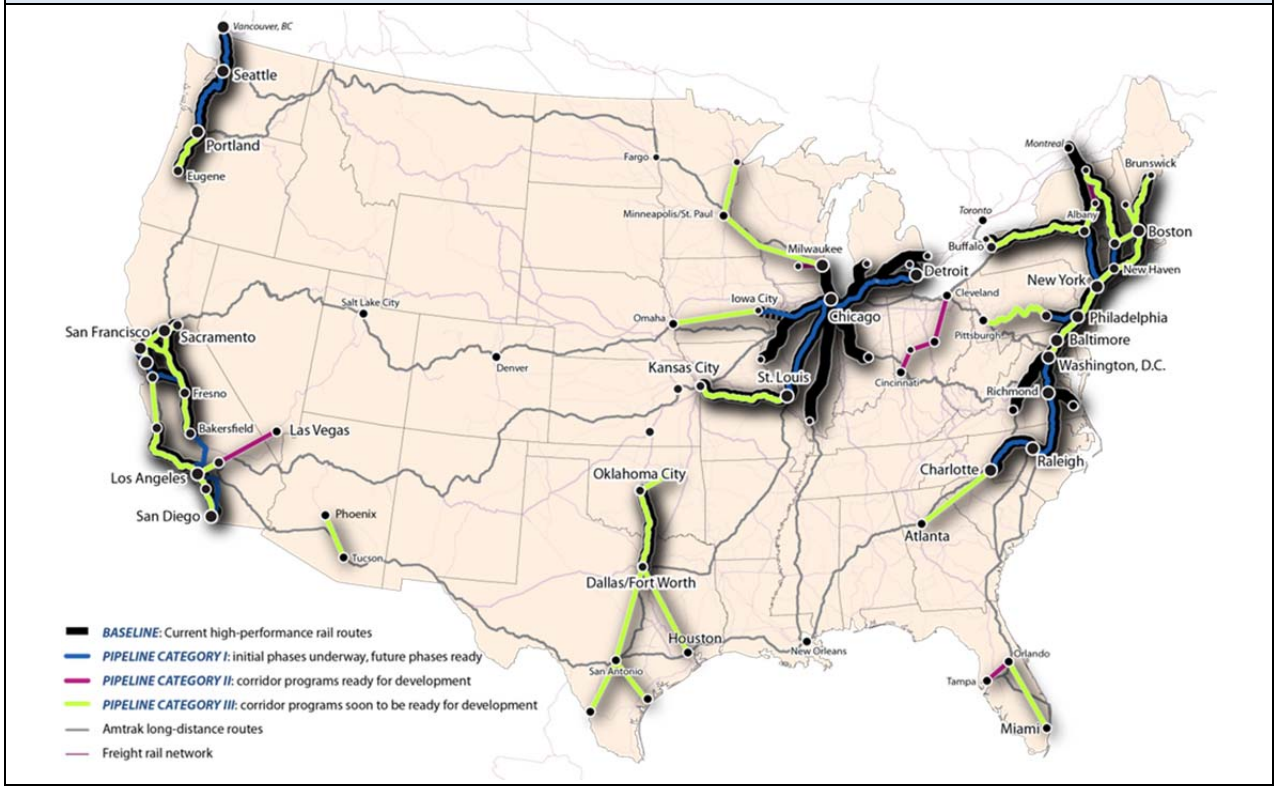
Corridor projects must have Service Development Plans and "Tier 1" environmental analyses complete prior to being ready for capital investments. Nearly 9,000 miles of corridors in 33 States plus the District of Columbia either already have these prerequisites in place (~3,000 miles), or will be completing them soon (~6,000 miles). More than 60% of these corridor miles are planned for either Regional or Core Express levels of service (multiple trains per day at speeds greater than 90 mph), with the balance either still under study or planned for Feeder levels of service.

The current high-performance passenger rail network reaches approximately 43% of the U.S. population (another ~26% have access to long-distance routes). The corridors in the development pipeline, when combined with the current network, would serve approximately 61% of the U.S. population contributing substantially to the President's vision of reaching 80% of Americans.

The map, table, and charts below describe this development pipeline according to three categories. **Category I** includes corridors that are currently under construction, but that have currently-unfunded phases that are ready for additional capital investments.[14] **Category II** includes projects that are not currently under construction, but that have the necessary prerequisites already completed. **Category III** includes the corridors for which planning and environmental analysis activities are currently underway to complete these prerequisites. Projects in this category will likely be ready for capital investments during this four-year proposal, most likely in the out-years. (Some corridors fall into more than one readiness category.)

[14] For this analysis, a project or phase is considered "ready" for capital investment when it has a completed Service Development Plan and corresponding Tier I environmental analysis.

CORRIDORS POTENTIALLY READY FOR CAPITAL INVESTMENT FY 2015 TO FY 2019



CORRIDORS POTENTIALLY READY FOR CAPITAL INVESTMENT
FY 2015 to FY2019

State(s)	Corridor	Anticipated Service Tier*	Appx. Route Miles	Population Served (*millions, excl. double-counting*)
I. Initial Phases of Construction Underway; Prerequisite Documents Complete for Additional Phases**				
CA	Los Angeles-San Francisco (High-Speed Train)***	Core Express	520	22
CT, MA	New Haven-Springfield	Regional	60	3
DC, VA, NC	Charlotte-Raleigh-Richmond-Washington, DC	Regional	480	10
IL, IN, MI	Chicago-Detroit-Pontiac	Regional	305	12
IL, MO	Chicago-St. Louis	Regional	285	10
NY	New York-Albany	Regional	140	16
PA	Harrisburg-Philadelphia	Regional	105	8
WA, OR	Portland-Seattle-Vancouver, BC	Regional	345	8
IL, IA	Chicago-Iowa City	Feeder	220	9
14 States + DC	**9 Corridors**	**n/a**	**2,460**	**98 M (31% of U.S.)**
II. No Current Construction, but Prerequisite Documents are Complete**				
FL	Tampa-Orlando***	Core Express	85	5
CA, NV	Victorville (L.A. Area)-Las Vegas***	Core Express	185	2
OH	Cleveland-Columbus-Cincinnati	Regional	260	7
WI	Milwaukee-Madison	Regional	80	3
NY, VT	Rutland-Burlington	Feeder	70	< 1
7 States	**5 Corridors**	**n/a**	**680**	**17 M (6% of U.S.)**
III. Activities Currently Underway To Complete Prerequisite Documents**				
DC, MD, DE, PA, NJ, NY, CT, RI, MA	Boston-New York-Philadelphia-Washington, DC***	Core Express	455	40
TX	Dallas-Houston***	Core Express	240	11
CA	California Existing Corridor Network	Regional	1310	31
FL	Orlando-Miami***	Regional	230	8
MN	Minneapolis/St. Paul-Duluth	Regional	150	3
NY	Albany-Buffalo-Niagara Falls	Regional	320	4
OR	Eugene-Portland	Regional	115	3
DE, MD	Delmarva Peninsula	Feeder	110	2
PA	Pittsburgh-Harrisburg	Feeder	250	3
WI, MN	Milwaukee-Minneapolis/St. Paul	Feeder	330	5
IA, NE	Iowa City-Des Moines-Omaha	Feeder	250	2
MA, NH	Boston-Concord	Feeder	80	5
MA, VT	Springfield-St. Albans	Feeder	250	2
MA, ME	Boston-Portland-Brunswick	Feeder	145	5
MO, KS	St. Louis-Kansas City	Feeder	285	5
MA	Boston-Springfield	*under study*	90	6
GA, SC, NC	Atlanta-Charlotte	*under study*	250	8
AZ	Phoenix-Tucson	*under study*	115	5
NY, VT	Albany-Rutland	*under study*	120	1
OK	Tulsa-Oklahoma City	*under study*	110	2
OK, TX	Oklahoma City-San Antonio-South Texas	*under study*	470	13
27 States + DC	**21 Corridors**	**n/a**	**5,675**	**138 M (44% of U.S.)**
34 States	**35 Corridors**	**n/a**	**8,815**	**184 M (59% of U.S.)**

* Subject to revision pending more detailed planning analyses.

** Prerequisites are a corridor-level Service Development Plan and corresponding Tier I environmental analysis.

*** Private entities have expressed interest in lead or supporting roles in financing, implementing, or operating these corridors, as of February 2014.

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.

Why Is This Particular Program Necessary?

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. 25th in quality of overall infrastructure, down from 7th in 1999 and below nearly all western European nations as well as several Asian and Middle Eastern countries.[15]

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 100 million people will reside in the United States. 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.[16]

[15] World Economic Forum, Global Competitiveness Report, 2013-2014, 2013.
[16] 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.[17]

- **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.[18]

- **Environmental protection**— The 2013 *Inventory of U.S. Greenhouse Gas Emissions and Sinks* found that the U.S. emitted 7.6 percent more greenhouse gases in 2010 than it did in 1990.[19] In addition, 27.3 percent of all greenhouse gas emissions are now from the transportation sector.

- **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.[20] In many places with the worst congestion, expanding airports and highways is difficult, as land is limited and environmental/community impacts are significant.
  - In addition to increasing congestion, air travel is becoming less accessible and convenient for many communities. Changes in airline economics have led to small and mid-size cities losing 15 percent or more of their nonstop domestic flights, and fares in some of these markets jumped 16 to 18 percent from 2010 to 2011, compared to the average nationwide increase of 6 percent.[21]

- **Changing Demographics**—Younger generations of Americans are choosing to drive both less often and for fewer miles than previous generations.[22] At the same time, a large number of Americans is entering their retirement years and are also 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.[23] The number of Americans in the 65-and-over age bracket is expected to double by 2040, to 81 million people, or more than 20% of the U.S. population in that year.[24]

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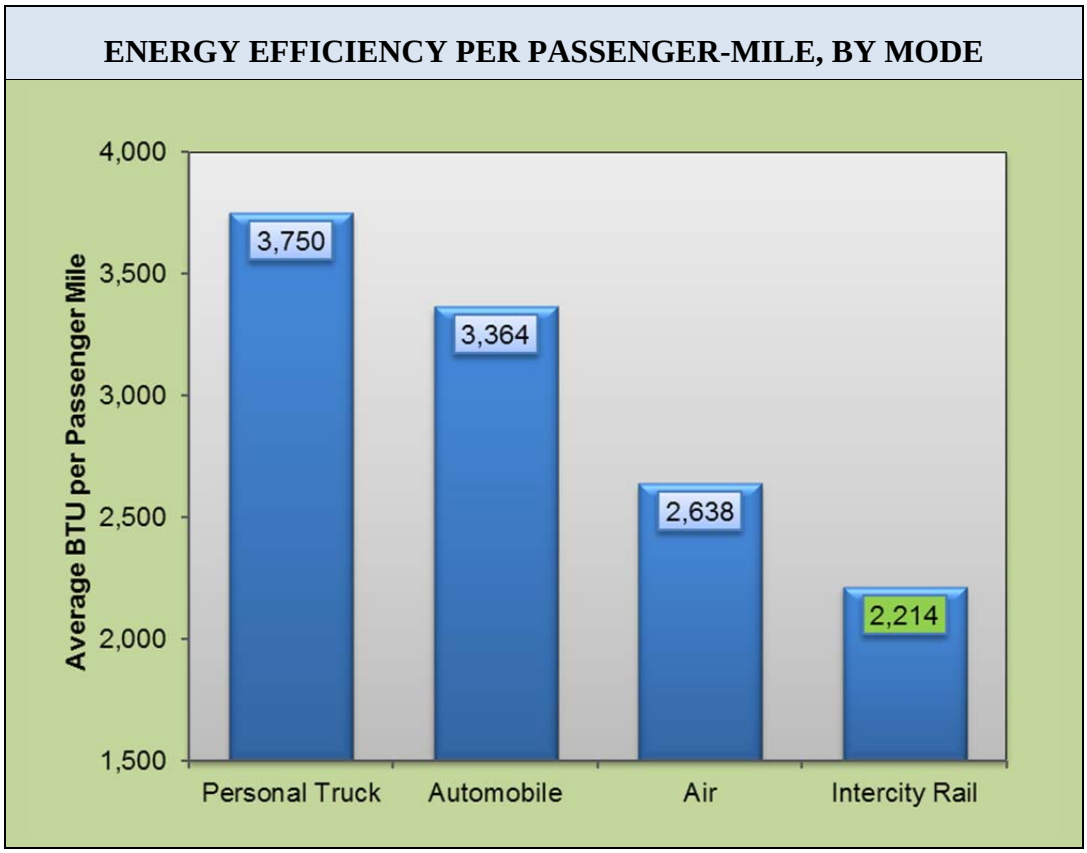
[17] U.S. Central Intelligence Agency, World Factbook: United States, August 1, 2012.
[18] U.S. Energy Information Administration, AEO2014 Early Release Overview, February 27, 2014.
[19] U.S. Environmental Protection Agency, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-201,1, April 2013.
[20] Texas Transportation Institute, 2012 Urban Mobility Report, December 2012.
[21] Mouawad, Jad, When Flying 720 Miles Takes 12 Hours, The New York Times, May 2, 2012.
[22] David, Benjamin; Dutzik, Tony; Baxandall, Phineas, Transportation and the New Generation, Frontier Group/U.S. PIRG Education Fund, April 2012
[23] AARP, "Travel Behavior by Age," 2009.
[24] Department of Health and Human Services, Administration on Aging, "Projected Future Growth of the Older Population."

Rail is uniquely well-suited to meeting these challenges. To accommodate population growth, rail provides very high capacity within a relatively limited geographic "footprint." Rail is among the most energy-efficient ways to travel, and also has lower pollution emission rates than other modes. As highway and airport congestion increases, rail can provide a more reliable and efficient travel options for many markets.



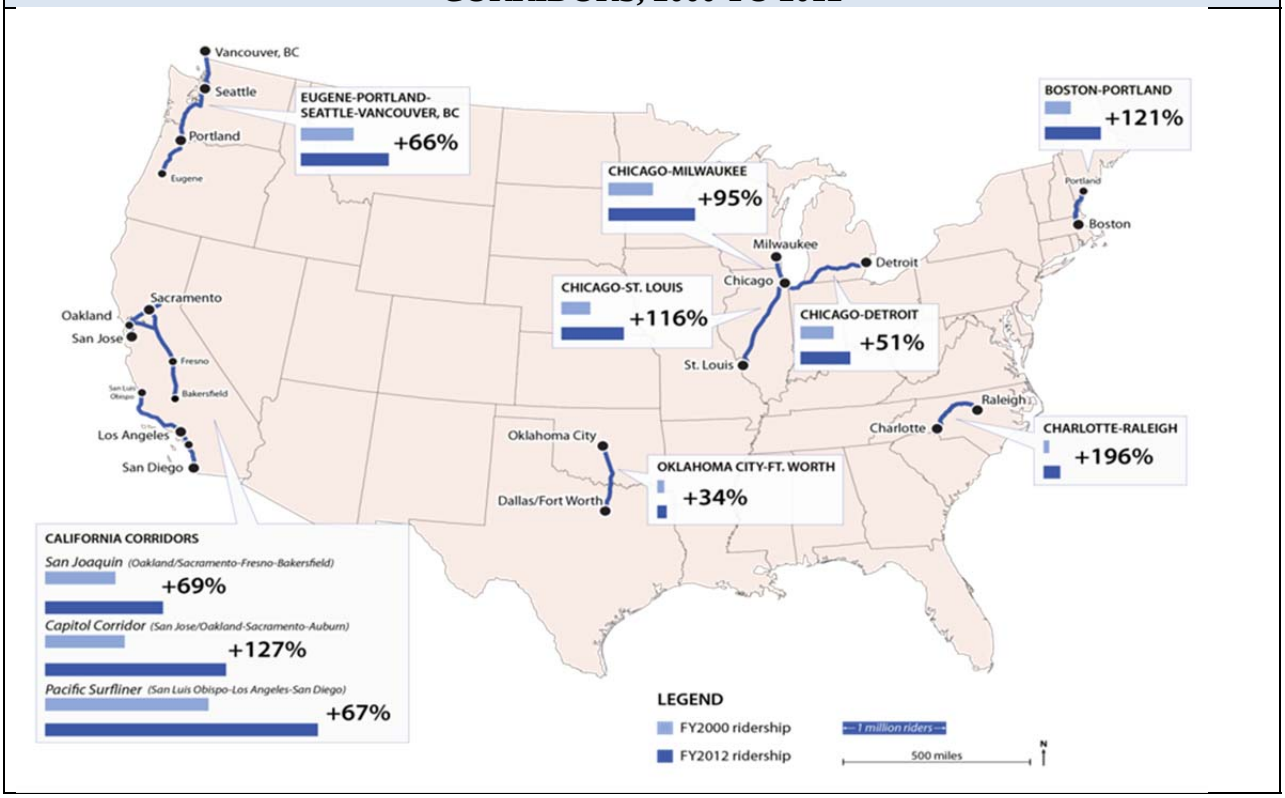
Source: U.S. Department of Energy, *Transportation Energy Data Book*, Edition 32, July 2013.

How Do You Know The Program Works?

Americans are choosing rail in record numbers—Demand for passenger rail is surging across the United States. Ridership levels have set new records in ten of the past eleven years. In FY 2013, Amtrak carried a record 31.6 million passengers and saw growth across the country, with state-supported corridors reaching record ridership and long distance services having their highest ridership in 20 years. Twenty different routes set new ridership records, and overall ticket revenues set a new record at $2.1 billion.[25] 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.

[25] Amtrak, Amtrak Sets Ridership Record and Moves the Nation's Economy Forward, October 14, 2013.

RIDERSHIP GROWTH ON SELECTED PASSENGER RAIL CORRIDORS, 2000 TO 2012



Source: Amtrak.

More goods are traveling by rail—The intermodal market has been the fastest growing segment of the freight rail industry since 1980. As of December 2013, intermodal freight is on pace to exceed the record volumes achieved in 2013.[26] 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. Over five rounds, the Transportation Investment Generating Economic Recovery (TIGER) program has received more than 110 applications requesting over $4 billion for intercity passenger rail projects, and more than $5 billion in funding has been requested for freight rail-related projects.

[26] American Association of Railroads, AAR Reports Increase in Weekly Rail Traffic, December 7, 2013

Public support for rail is increasing—Public opinion polls consistently reveal strong support for intercity passenger rail. A 2011 Harris Poll survey revealed that nearly two-thirds of Americans (62 percent) support using Federal funds to develop high-speed rail.[27]
Recent surveys of residents in Kansas, Colorado, Pennsylvania, Missouri and Illinois have consistently found substantial popular support for maintaining and expanding intercity services. For example, nearly 3 in 4 residents in a Pennsylvania poll supported expanding train service to places like Philadelphia, New York and Chicago. Similarly, 70 percent of residents from eight congressional districts in Colorado and Kansas supported federal funding for intercity rail.[28]

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.[29] These changing travel patterns can free airport capacity for more cost-efficient long-distance flights.

- Rail is also proven to be highly fuel efficient. One intermodal train between Chicago and Los Angeles can save 75,000 gallons of fuel by replacing 300 trucks.[30] 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.[31]

- 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.[32]

- 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.[33]

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[27] Harris Poll survey conducted between January 17, 2011, and January 24, 2011.
[28] Aust, Scott. "Amtrak Poll Supportive of Funding." *The Garden City Telegram*. Oct. 31, 2013.
[29] Nixon, Ron, Frustrations of Air Travel Push Passengers to Amtrak, The New York Times, August 15, 2012.
[30] Federal Railroad Administration, Comparative Evaluation of Rail and Truck Fuel Efficiency on Competitive Corridors, November 19, 2009.
[31] American Association of Railroads, Freight Railroads Help Reduce Greenhouse Gas Emissions, July 2012.
[32] Federal Highway Administration, Addendum to 1997 *Federal Highway Cost Allocation Study*, May 2000.
[33] Gabriel Ahlfeldt and Arne Feddersen, From Core To Periphery, London School of Economics and University of Hamburg, 2010.

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, as reflected in Amtrak's *FY 2014 Budget Request* and *Five-Year Financial Plan* (2013-2017), 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. Many States that support short-distance corridors will be required to begin paying this charge to Amtrak in FY 2015; FRA is proposing to cover a portion of these costs (approximately $25 million), with this Federal support declining in out-years and ending entirely by FY 2017. The remainder of the request (approximately $200 million) will be dedicated to the procurement of new rail cars and locomotives to replace aging and obsolete equipment, at a maximum 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, as reflected in Amtrak's *FY 2014 Budget Request* and *Five-Year Financial Plan* (2013-2017). 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 two temporary activities – (1) implementing positive train control systems on Amtrak corridors and (2), payments towards retiring Amtrak's legacy debt. Funding for positive train control will phase out over the four-year plan as the FRA satisfies its funding commitments.

Stations ADA Compliance ..... $350 million
This funding level is based on an analysis of the outstanding ADA investment needs at Amtrak-served stations. FRA is proposing to fully fund this need in this 4-year plan.

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

Passenger Corridors ..... $1,300 million
This funding level is based on an analysis of corridors that will be ready for new infrastructure investments in FY 2015, as well as the additional funding needs of corridor development projects currently underway. FRA estimates that roughly $10-15 billion worth of corridor projects will have the necessary planning and environmental analyses completed by FY 2015 to enter the final design and construction phases. FRA could fund roughly 8-10 percent of these projects chosen through a competitive selection process. 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
This program area includes $825 million for implementation of PTC on commuter railroads, at a maximum Federal share of 80 percent. This figure is based on FRA analysis of the outstanding PTC needs for the Nation's commuter railroads.

Local Rail Facilities and Safety ..... $125 million
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).

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 2013 ACT	FY 2014 EST	FY 2015 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)	-	-	-
3030	Obligations incurred, unexpired accounts	-	-	2,450,000
3040	Outlays (gross)	-	-	1,378,499
3090	Unpaid obligations, end of year (gross)	-	-	1,072,000
3100	**Obligated balance, end of year (net)**	**-**	**-**	**1,072,000**

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 2013 ACT	FY 2014 EST	FY 2015 EST
	Budget authority and outlays, net:			
	Mandatory:			
4090	Budget authority, gross	-	-	2,450,000
	Outlays, Gross			
4100	Outlays from new mandatory authority	-	-	1,378,499
4160	Budget authority, net (mandatory)	-	-	2,450,000
4170	Outlays, net (mandatory)	-	-	1,378,499
4180	**Budget authority, net (total)**	**-**	**-**	**2,450,000**
4190	**Outlays, net (total)**	**-**	**-**	**1,378,499**

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	-	-	1,300,000
0002	Commuter Railroads PTC Compliance	-	-	825,000
0003	Local Rail Facilities and Safety	-	-	125,000
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**
1900	**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)	-	-	-
3030	Obligations incurred, unexpired accounts	-	-	2,325,000
3040	Outlays (gross)	-	-	443,119
3090	Unpaid obligations, end of year (gross)	-	-	1,881,881
3100	**Obligated balance, end of year (net)**	**-**	**-**	**1,881,881**

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 2013 ACT	FY 2014 EST	FY 2015 EST
	Budget authority and outlays, net:			
	Mandatory:			
4090	Budget authority, gross	-	-	2,325,000
	Outlays, Gross			
4100	Outlays from new mandatory authority	-	-	443,119
4160	Budget authority, net (mandatory)	-	-	2,325,000
4170	Outlays, net (mandatory)	-	-	443,119
4180	**Budget authority, net (total)**	**-**	**-**	**2,325,000**
4190	**Outlays, net (total)**	**-**	**-**	**443,119**

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 2013 ACT	FY 2014 EST	FY 2015 EST
	Direct Obligations:			
21.0	Travel	-	-	214
25.1	Advisory and assistance service	-	-	12,036
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 2013 ACT	FY 2014 EST	FY 2015 EST
	Direct Obligations:			
21.0	Travel	-	-	203
25.1	Advisory and assistance service	-	-	11,422
25.5	Research and Development Contracts	-	-	15,000
41.0	Grants, subsidies, and contributions	-	-	2,298,375
99.9	Total new obligations	-	-	2,325,000

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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 2013 Actual	FY 2014 Enacted	FY 2015 Request	Change FY 2014-2015
Operating Grants to the National Railroad Passenger Corporation	441,625	340,000	-	(340,000)
TOTAL	**441,625**	**340,000**	**-**	**(340,000)**
Full-time Equivalents	-	-	-	-
Direct Funded	-	-	-	-

Program and Performance Statement

No funds are requested for this account in 2015. 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 2014 to FY 2015
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

	Change from FY 2014 to FY 2015	
ITEM	**$000**	**FTE**
FY 2013 BASE	**340,000**	**-**
PROGRAM CHANGES		
Operating Grants To The National Railroad Passenger Corporation	(340,000)	-
SUBTOTAL, PROGRAM CHANGES	**(340,000)**	**-**
TOTAL FY 2015 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-X-1-401

Line	Line Title	FY 2013 ACT	FY 2014 EST	FY 2015 EST
	Obligations by program activity:			
0001	Operating Subsidy Grants	441,625	340,000	
0091	Direct program activities, subtotal	441,625	340,000	-
0100	**Total direct program**	**441,625**	**340,000**	**-**
0900	**Total new obligations**	**441,625**	**340,000**	**-**
	Budgetary Resources:			
	Budget authority:			
	Appropriations, mandatory:			
1200	Appropriation	441,625	340,000	
1260	**Appropriation, mand (total)**	**441,625**	**340,000**	**-**
1900	**Budget authority (total)**	**441,625**	**340,000**	**-**
1930	**Total budgetary resources available**	**441,625**	**340,000**	**-**
	Change in obligated balance:			
3010	Obligations incurred, unexpired accounts	441,625	340,000	-
3020	Outlays (gross)	-441,625	-340,000	
3050	Unpaid obligations, end of year (gross)	-	-	-
	Budget authority and outlays, net:			
	Mandatory:			
4090	Budget authority, gross	441,625	340,000	
	Outlays, Gross			
4100	Outlays from new mandatory authority	441,625	340,000	
4101	Outlays from mandatory balances			
4110	**Outlays, gross (total)**	**441,625**	**340,000**	**-**
4190	**Outlays, net (total)**	**441,625**	**340,000**	**-**

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 2013 ACT	FY 2014 EST	FY 2015 EST
	Direct Obligations:			
41.0	Grants, subsidies, and contributions	441,625	340,000	-
99.9	**Total new obligations**	**441,625**	**340,000**	**-**

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 2013 Actual	FY 2014 Enacted	FY 2015 Request	Change FY 2014-2015
Capital and Debt Service Grants to the National Railroad Passenger Corporation	902,205	1,050,000	-	(1,050,000)
TOTAL	**902,205**	**1,050,000**	**-**	**(1,050,000)**
Full-time Equivalents				
Direct Funded	-	5	-	(5)
Reimbursable, Allocated, Other	-	-	-	-
Total FTE	-	5	-	**(5)**

Program and Performance Statement

No funds are requested in this account for 2015. 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 2014 to FY 2015
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

ITEM	Change from FY 2014 to FY 2015 $000	FTE
FY 2014 BASE	1,050,000	**5**
SUBTOTAL, BASELINE CHANGES	**-**	**-**
PROGRAM CHANGES		
Capital and Debt Service Grants to the National Railroad Passenger Corporation	(1,050,000)	(5)
SUBTOTAL, PROGRAM CHANGES	**(1,050,000)**	**(5)**
TOTAL FY 2015 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 -X-1-401

Line	Line Title	FY 2013 ACT	FY 2014 EST	FY 2015 EST
	Obligations by program activity:			
0001	Capital and Debt Service Grants	845,798	949,750	-
0003	Oversight	153	24,173	
0004	Northeast Corridor Infrastructure and Operations Improvement (PRIIA Sec. 212)	9,310	5,000	
0005	American Disability Act (ADA)	47,385	50,000	
0006	Operating Grants losses subsidy	-	40,000	
0091	Direct program activities, subtotal	902,646	1,068,923	-
0100	**Total direct program**	**902,646**	**1,068,923**	**-**
0799	Total direct obligations	902,646	1,068,923	-
0801	Reimbursable services	55,047	-	-
0809	Reimbursable program activities, subtotal	55,047	-	-
0900	**Total new obligations**	**957,693**	**1,068,923**	**-**
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	19,325	18,923	-
1021	Recoveries of prior year unpaid obligations	39	-	-
1022	Capital transfer of unobligated balances to general fund			
1050	**Unobligated balance (total)**	**19,364**	**18,923**	**-**
	Budget authority:			
	Appropriations, mandatory:			
1200	Appropriation	902,205	1,050,000	-

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 -X-1-401

Line	Line Title	FY 2013 ACT	FY 2014 EST	FY 2015 EST
1260	Appropriation, mand (total)	902,205	1,050,000	-
	Spending authority from offsetting collections, mandatory:			
1800	Collected	55,047	-	-
1801	Change in uncollected payments, Federal sources	-	-	
1850	Spending auth from offsetting collections, mand (total)	55,047	-	-
1900	Budget authority (total)	957,252	-	-
1930	Total budgetary resources available	976,616	1,068,923	-

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 -X-1-401

Line	Line Title	FY 2013 ACT	FY 2014 EST	FY 2015 EST
1941	Unexpired unobligated balance, end of year	18,923	-	-
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	14,513	15,414	-
3010	Obligations incurred, unexpired accounts	957,693	1,068,923	-
3011	Adjustments to uncollected pymts, Fed sources, brought forward, Oct 1	214		
3020	Outlays (gross)	-956,753	-1,084,337	-
3040	Recoveries of prior year unpaid obligations, unexpired	-39	-	-
3041	Recoveries, prior year unpaid obs. Expired account	-214		
3050	Unpaid obligations, end of year	15,414	-	-
3060	Uncollected pymts, Fed sources, brought forward, Oct 1	-2,101	-	
3071	Change in uncollected pymts, Fed sources, expired	2,101	-	
3200	**Obligated balance, end of year (net):**	**15,414**	**-**	**-**
	Budget authority and outlays, net:			
	Mandatory:			
4090	Budget authority, gross	957,252	-	-
	Outlays, Gross			
4100	Outlays from new mandatory authority	954,652	1,084,337	-
4101	Outlays from mandatory balances	2,101		
4110	**Outlays, gross (total)**	**956,753**	**1,084,337**	**-**
	Offsets against gross budget authority and outlays:			
	Offsetting collections (collected) from:			
4120	Federal sources	-55,047	-	-

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 -X-1-401

Line	Line Title	FY 2013 ACT	FY 2014 EST	FY 2015 EST
4130	**Offsets against gross budget authority and outlays (total), mandatory**	**-55,047**	**-**	**-**
	Additional offsets against gross budget authority only:			
4142	Offsetting collections credited to expired accounts	2,101		
4150	**Additional offsets against budget authority only (total)**	**2,101**	**-**	**-**
4180	**Budget authority, net (total)**	**956,753**	**1,084,337**	**-**
4190	**Outlays, net (total)**	**901,706**	**1,084,337**	**-**

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 2013 ACT	FY 2014 EST	FY 2015 EST
Direct Obligations:				
11.1	Full time permanent compensation		300	
11.5	Other Personnel Compensation		9	
12.1	Civilian Personnel Benefits		81	
21.0	Travel	10	200	
25.1	Advisory & assistance service	4,135	4,848	
25.3	Other purchases from government accounts	8		
41.0	Grants, subsidies, and contributions	898,493	1,063,485	
99.0	Subtotal Direct	902,646	1,068,923	-
41.0	Grants, subsidies, and contributions	55,047		
99.0	Subtotal Reimbursable	55,047	-	-
99.9	Total new obligations	957,693	1,068,923	-

DEPARTMENT OF TRANSPORTATION
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 2013 ACT	FY 2014 EST	FY 2015 EST
	Obligations by program activity:			
0001	Amtrak Asset Valuation	-	259	
0002	System Engineering / Program Management		268	
0003	Operating Grant - Sandy Recovery	30,248		
0004	New York Penn Station Project		320	
0005	Capital and Debt Grant - Sandy Mitigation		81,292	
0006	FTA Transfer - Hurricane Sandy Disaster Resiliency	185,000		
0007	Hurricane Sandy Oversight		560	
0091	Direct program activities, subtotal	215,248	82,699	-
0100	**Total direct program**	**215,248**	**82,699**	**-**
0900	**Total new obligations**	**215,248**	**82,699**	**-**
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	847	82,699	-
1050	**Unobligated balance (total)**	**847**	**82,699**	**-**
	Budget authority:			
	Appropriations, discretionary:			
1100	Appropriation	118,000		
1121	Appropriations transferred from other accounts	185,000		
1130	Appropriations permanently reduced	-5,900		
1160	**Appropriation, disc (total)**	**297,100**	**-**	**-**
1900	**Budget authority (total)**	**297,100**	**-**	**-**
1930	**Total budgetary resources available**	**297,947**	**82,699**	**-**
	Memorandum (non-add) entries:			
1940	Unobligated balance expiring			
1941	Unexpired unobligated balance, end of year	82,699	-	-
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	1,654	194,953	76,652

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 2013 ACT	FY 2014 EST	FY 2015 EST
3001	Adjustments to unpaid obligations, brought forward, Oct 1			
3010	Obligations incurred, unexpired accounts	215,248	82,699	-
3020	Outlays (gross)	-21,950	-201,000	-76,652
3040	Recoveries of prior year unpaid obligations, unexpired	-	-	-
3050	Unpaid obligations, end of year (gross)	194,953	76,652	-
3091	Uncollected pymts, Fed sources, end of year			
3100	**Obligated balance, start of year (net)**	**1,654**	**194,953**	**-**
3200	**Obligated balance, end of year**	**194,953**	**76,652**	**-**
	Budget authority and outlays, net:			
	Discretionary:			
4000	Budget authority, gross	297,100	-	-
	Outlays, gross:			
4010	Outlays from new discretionary authority	20,303		
4011	Outlays from discretionary balances	1,646	201,000	76,652
4020	**Outlays, gross (total)**	**21,950**	**201,000**	**76,652**
	Offsets against gross budget authority and outlays:			
	Offsetting collections (collected) from:			
4070	Budget authority, net (discretionary)	297,100	-	-
4080	**Outlays, net (discretionary)**	**21,950**	**201,000**	**76,652**
4190	**Outlays, net (total)**	**21,950**	**201,000**	**76,652**

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.

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 2013 ACT	FY 2014 EST	FY 2015 EST
	Direct Obligations:			
25.1	Advisory & assistance service		1,408	
41.0	Grants, subsidies, and contributions	215,248	81,292	
99.9	Total new obligations	215,248	82,699	-

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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. (Department of Transportation Appropriations Act, 2014)

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.

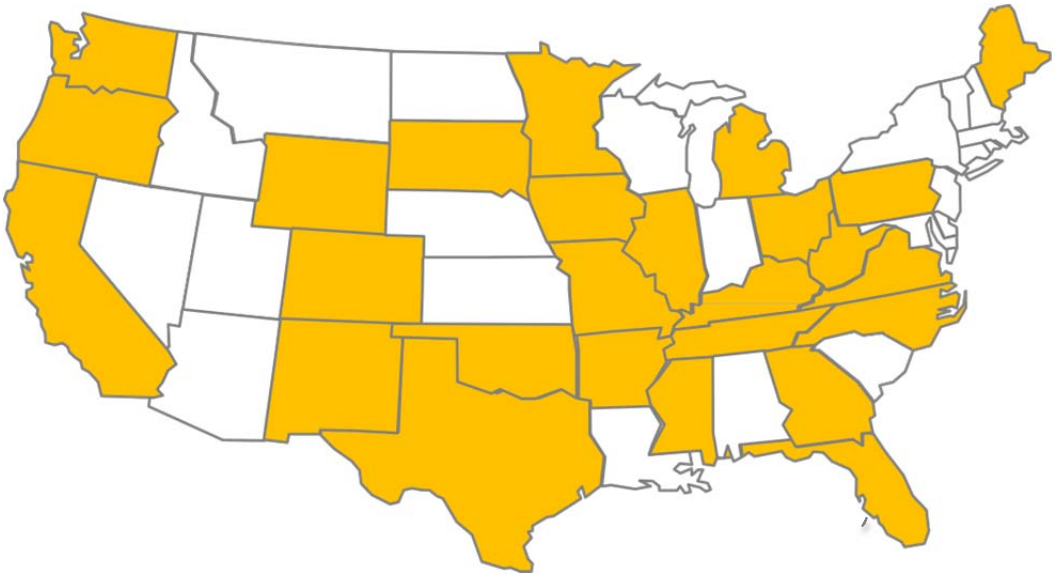
What Is This Program?

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. RRIF provides financial assistance to eligible recipients for the purpose of acquiring, improving, or rehabilitating intermodal or rail equipment or facilities, including track, components of track, bridges, yards, buildings or shops; to refinance outstanding debt incurred for these purposes; or to develop or establish new intermodal or railroad facilities. Operating expenses are not eligible for financial assistance under the RRIF program. Eligible applicants are State and local governments; interstate compacts consented to by Congress under section 410 (a) of Amtrak Reform and Accountability Act of 1997 (49 U.S.C. 24101); government sponsored authorities and corporations, railroads, joint ventures that include at least one railroad and, solely for the purpose of constructing a rail connection between a plant or facility and a second carrier, limited option freight shippers that own a plant or other facility that is served by no more than a single railroad.

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. Loan guarantees can be made at a rate the Secretary determines reasonable taking into account prevailing interest rates and customary fees incurred under similar obligations in the private capital market.

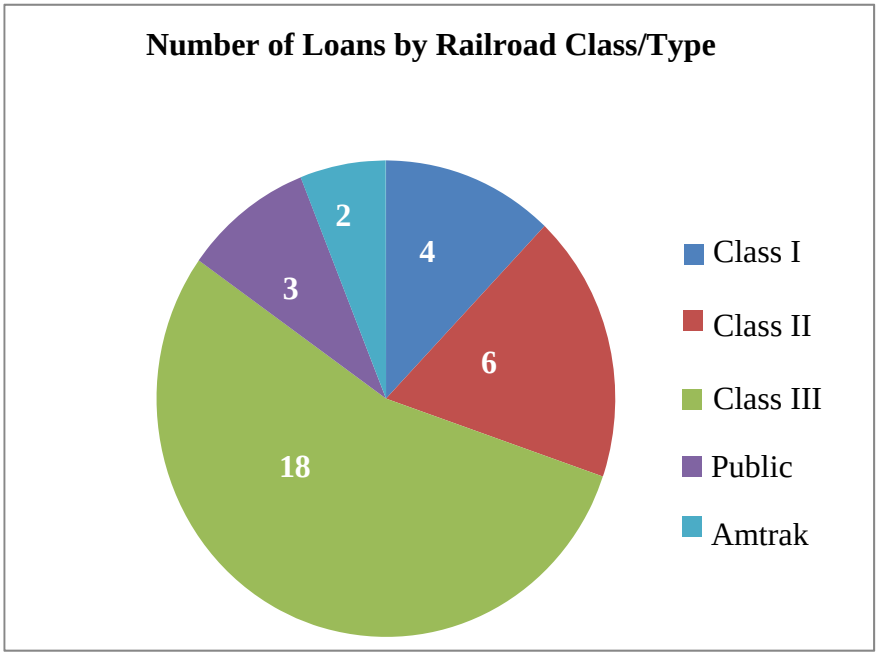
The program is considered “zero-subsidy” because it does not receive appropriations for the estimated credit subsidy cost to the government from issuing loans. The subsidy is paid by the applicant or other non-Federal infrastructure partner, in the form of a “credit risk premium,” and thus the ability of FRA to provide direct loans or loan guarantees does not require an appropriation.

RRIF Investment by State



Since the current RRIF program was created in 1998 through FY 2013, FRA has entered into 33 loans with 26 railroads in the total amount of $1.7 billion. All of these loans were direct loans between FRA and the railroads.

Of the amount of financial assistance provided to date, approximately 52 percent has been for infrastructure improvement, 37 percent for railroad acquisition, 4 percent for equipment acquisition and 7 percent for refinancing outstanding debt incurred for eligible purposes.



The Future

Since enactment of SAFETEA-LU, there has been a steady increase in inquiries about the program and railroads expressing their intent to apply in the near future. In FY 2012, FRA approved two loans worth $138.4 million dollars, taking on average 695 days to process each loan. No new loans were made in FY 2013. Currently, FRA is evaluating 13 RRIF applications seeking a total of $10 billion in financial assistance.

FRA is exploring program changes to improve project and program administration, as well as to better integrate the program with the goals and objectives of the National High-Performance Rail System. FRA is working to 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. Reviewing eligibility requirements, application processes, administrative provisions, technical assistance, or other program elements will ensure eligible borrowers can more readily take advantage of the RRIF program.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION AND IMPROVEMENT PROGRAM ACCOUNT

Program and Financing Schedule
($000)

Account Number: 69-0750-0-1-401

Line	Line Title	FY 2013 ACT	FY 2014 EST	FY 2015 EST
	Credit program obligations:			
0705	Reestimates of direct loan subsidy	12,285	15,461	-
0706	Interest on reestimates of direct loan subsidy	21,160	28,384	-
0900	**Total new obligations**	**33,445**	**43,845**	**-**
	Budgetary Resources:			
	Budget authority:			
	Appropriations, mandatory:			
1200	Appropriation	33,445	43,845	-
1260	**Appropriation, mand (total)**	**33,445**	**43,845**	**-**
1930	**Total budgetary resources available**	**33,445**	**43,845**	**-**
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	-	-	-
3001	Adjustments to unpaid obligations, brought forward, Oct 1			
3010	Obligations incurred, unexpired accounts	33,445	43,845	-
3011	Adjustments to uncollected pymts, Fed sources, brought forward, Oct 1			
3020	Outlays (gross)	-33,445	-43,845	-
3050	Unpaid obligations, end of year (gross)	-	-	-
3091	Uncollected pymts, Fed sources, end of year			
3100	**Obligated balance, start of year (net)**	**-**	**-**	**-**
3200	**Obligated balance, end of year**	**-**	**-**	**-**
	Budget authority and outlays, net:			
	Mandatory:			
4090	Budget authority, gross	33,445	43,845	-
	Outlays, Gross			
4100	Outlays from new discretionary authority	33,445	43,845	-
4160	Budget authority, net (mandatory)	33,445	43,845	-
4170	Outlays, net (mandatory)	33,445	43,485	-
4180	**Budget authority, net (total)**	**33,445**	**43,485**	**-**
4190	**Outlays, net (total)**	**33,445**	**43,485**	**-**

Program and Performance Statement

As required by the Federal Credit Reform Act of 1990, as amended, this non-budgetary account records all cash flows to and from the Government resulting from loan guarantees committed in 1992 and beyond (including modifications of loan guarantees that resulted from commitments in any year). The amounts in this account are a means of financing and are not included in the budget totals.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION AND IMPROVEMENT LIQUIDATING ACCOUNT
Program and Financing Schedule
($000)

Account Number: 69-4411-0-3-401

Line	Line Title	FY 2013 ACT	FY 2014 EST	FY 2015 EST
	Obligations by program activity:			
	Credit program obligations:			
0713	Payment of interest to Treasury	6	3	-
0900	**Total new obligations**	**6**	**3**	**-**
	Budgetary Resources:			
	Unobligated balance:			
	Unobligated balance brought			
1000	forward, Oct 1	-	-	-
1050	**Unobligated balance (total)**	**-**	**-**	**-**
	Spending authority from offsetting collections,mandatory:			
1800	Collected	80	80	-
1820	Spending authority: Capital transfer to general fund	-74	-77	-
1850	**Spending auth from offsetting collections, mand (total)**	**6**	**3**	**-**
1900	**Budget authority (total)**	**6**	**3**	**-**
1930	**Total budgetary resources available**	**6**	**3**	**-**
	Change in obligated balance:			
	Obligated balance, start of year (net):			

DEPARTMENT OF TRANSPORTATION (cont'd)
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION AND IMPROVEMENT LIQUIDATING ACCOUNT

Program and Financing Schedule
($000)

Account Number: 69-4411-0-3-401

Line	Line Title	FY 2013 ACT	FY 2014 EST	FY 2015 EST
	Obligations incurred, unexpired			
3010	accounts	6	3	-
3020	Outlays (gross)	-6	-3	-
	Budget authority and outlays, net:			
	Mandatory:			
4090	Budget authority, gross	6	3	-
	Outlays, Gross			
4120	Federal sources			
4121	Interest on Federal securities			
4122	Interest on uninvested funds			
4123	Non-Federal sources	-80	-80	-
	Offsetting governmental			
4124	collections			
4130	**Offsets against gross budget authority and outlays (total), mandatory**	**-80**	**-80**	**-**
4160	Budget authority, net (mandatory)	-74	-77	-
4170	Outlays, net (mandatory)	-74	-77	-
4180	**Budget authority, net (total)**	**-74**	**-77**	**-**
4190	**Outlays, net (total)**	**-74**	**-77**	**-**

Program and Performance Statement

As required by the Federal Credit Reform Act of 1990, this non-budgetary account records all cash flows to and from the Government resulting from direct loans obligated in 1992 and beyond. The amounts in this account are a means of financing and are not included in the budget totals.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION AND IMPROVEMENT LIQUIDATING ACCOUNT

Status of Direct Loans

Identification Code 69-4411-0-3-401		2013 ACT	2014 EST	2015 EST
	Cumulative balance of direct loans outstanding:			
1210	Outstanding, start of year	-	-74	-
1251	Repayments: Repayments and prepayments	-74	-77	-
1290	Outstanding, end of year	-74	-151	-

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

Account Number: 69-4420-0-3-401

Line	Line Title	2013 ACT	2014 EST	2015 EST
	Credit program obligations:			
0710	Direct loan obligations	-	600,000	600,000
0713	Payment of interest to Treasury	34,913	38,000	38,000
0742	Downward reestimate paid to receipt account	19,344	19,906	-
0743	Interest on downward reestimates	646	219	-
0799	Total direct obligations	54,903	658,125	638,000
0900	**Total new obligations**	**54,903**	**658,125**	**638,000**
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	5,070	4,993	-
	Borrowing authority, mandatory:			
1400	Borrowing authority	**14,532**	**620,125**	**600,000**
1440	**Borrowing authority, mand (total)**	**14,532**	**620,125**	**600,000**
	Spending authority from offsetting collections, mandatory:			
1800	Collected	93,561	143,000	100,000
1825	Spending authority from offsetting collections applied to repay debt	-53,268	-110,000	-62,000
1850	**Spending auth from offsetting collections, mand (total)**	**40,293**	**33,000**	**38,000**
1900	**Budget authority (total)**	**54,825**	**653,000**	**638,000**
1930	**Total budgetary resources available**	**59,896**	**658,125**	**638,000**
	Memorandum (non-add) entries:			
1940	Unobligated balance expiring			
1941	Unexpired unobligated balance, end of year	4,993	-	-

DEPARTMENT OF TRANSPORTATION (Cont'd)
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION AND IMPROVEMENT FINANCING ACCOUNT
Program and Financing Schedule
($000)

Account Number: 69-4420-0-3-401

Line	Line Title	2013 ACT	2014 EST	2015 EST
3011	Adjustments to uncollected pymts, Fed sources, brought forward, Oct 1			
3020	Outlays (gross)	-213,158	-636,000	-636,000
3050	Unpaid obligations, end of year (gross)	353,238	375,363	377,363
3091	Uncollected pymts, Fed sources, end of year			
3100	**Obligated balance, start of year (net)**	**511,493**	**353,238**	**375,363**
3200	**Obligated balance, end of year**	**353,238**	**375,363**	**377,363**
	Budget authority and outlays, net:			
	Mandatory:			
4090	Budget authority, gross	54,825	653,000	638,000
4110	**Outlays, gross (total)**	**213,158**	**636,000**	**636,000**
	Offsets against gross budget authority and outlays:			
	Offsetting collections (collected) from:			
4120	Federal sources	-33,445	-43,845	-
4122	Interest on uninvested funds	-5,211	-3,000	-3,000
4123	Non-Federal sources	-54,905	-97,000	-97,000
4130	**Offsets against gross budget authority and outlays (total), mandatory**	**-93,561**	**-143,845**	**-100,000**
4160	Budget authority, net (mandatory)	-38,736	509,155	538,000
4170	Outlays, net (mandatory)	119,597	492,155	536,000
4180	**Budget authority, net (total)**	**-38,736**	**509,155**	**538,000**
4190	**Outlays, net (total)**	**119,597**	**492,155**	**536,000**

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION AND IMPROVEMENT
DIRECT LOAN FINANCING ACCOUNT

Balance Sheet

Account Number: 69-4420-0-3-401		FY 2013 ACT
	Assets:	
	Net value of assets related to post-1991 direct loans receivable	
1401	Direct loans receivable, gross	847,119
1499	Net present value of assets related to direct loans	847,119
1999	Total assets	847,119
	Liabilities:	
2105	Federal liabilities: Other	847,119
2999	Total liabilities	847,119
4999	Total liabilities and net position	847,119

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION AND IMPROVEMENT
DIRECT LOAN FINANCING ACCOUNT

Receipts - Policy/Baseline

Account Number 69-276030-0-3-401		2013 ACT	2014 EST	2015 EST
	Receipts - Policy			
2004	All other offsetting receipts	19,990	20,125	. . .
2004	Mandatory, authorizing committee, regular.	19,990	20,125	. . .
	Receipts - Baseline			
2004	All other offsetting receipts	19,990	20,125	. . .
2004	Mandatory, authorizing committee, regular.	19,990	20,125	. . .

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-0719-0-1-401

Line	Line Title	FY 2013 ACT	FY 2014 EST	FY 2015 EST
	Obligations by program activity:			
0001	Capital Assistance High-Speed Rail Corridors and IPR Service Grants		76,071	
0002	Capital Assistance High-Speed Rail Corridors and IPR Service Oversight	9,026	5,124	3,822
0003	Capital Assistance High-Speed Rail Corridors and IPR Service Research and Demonstrating Technologies	8,155	633	
0004	Capital Assistance High-Speed Rail Corridors and IPR Service Planning Activities	8,297	976	
0091	Direct program activities, subtotal	25,479	82,804	3,822
0100	**Total direct program**	**25,479**	**82,804**	**3,822**
0900	**Total new obligations**	**25,479**	**82,804**	**3,822**
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	119,477	98,700	15,896
1021	Recoveries of prior year unpaid obligations	4,752	-	-
1050	**Unobligated balance (total)**	**124,229**	**98,700**	**15,896**
	Appropriations, discretionary:			
1130	Appropriations permanently reduced	-51		
1160	**Appropriation, disc (total)**	**-51**	**-**	**-**
1900	**Budget authority (total)**	**-51**	**-**	**-**
1930	**Total budgetary resources available**	**124,178**	**98,700**	**15,896**
	Memorandum (non-add) entries:			
1940	Unobligated balance expiring			
1941	Unexpired unobligated balance, end of year	98,700	15,896	12,074
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	9,144,947	8,397,428	7,236,918
3010	Obligations incurred, unexpired accounts	25,479	82,804	3,822

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-0719-0-1-401

Line	Line Title	FY 2013 ACT	FY 2014 EST	FY 2015 EST
3020	Outlays (gross)	-768,246	-1,243,314	-2,148,351
3040	Recoveries of prior year unpaid obligations, unexpired	-4,752	-	-
3041	Recoveries of prior year unpaid obligations, expired	-342		
3050	Unpaid obligations, end of year (gross)	8,397,086	7,236,918	5,092,389
3091	Uncollected pymts, Fed sources, end of year			
3100	**Obligated balance, start of year (net)**	**9,144,947**	**8,397,428**	**7,236,918**
3200	**Obligated balance, end of year**	**8,397,086**	**7,236,918**	**5,092,389**
	Budget authority and outlays, net:			
	Discretionary:			
4000	Budget authority, gross	**-51**	**-**	**-**
4100	Outlays from new mandatory authority			
4101	Outlays from mandatory balances	**768,246**	**1,243,314**	**2,148,351**
4110	**Outlays, gross (total)**	**768,246**	**1,243,314**	**2,148,351**
4170	**Outlays, net (mandatory)**	**768,246**	**1,243,314**	**2,148,351**
4180	**Budget authority, net (total)**	**-51**	**-**	**-**
4190	**Outlays, net (total)**	**768,246**	**1,243,314**	**2,148,351**

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 2015. 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 69-0719-0-1-401		FY 2013 ACT	FY 2014 EST	FY 2015 EST
	Direct Obligations:			
11.3	Personnel Compensation for other than full time permanent position	294	753	753
11.5	Other Personnel Compensation		10	10
12.1	Civilian Personnel Benefits	144	369	369
21.0	Travel	129	150	150
22.0	Transportation of Things	7		
25.1	Advisory & assistance service	16,448	5,950	2,550
25.3	Advisory & assistance service	2,386		
25.5	Research and Development Contracts	6,065	633	
25.7	Operations and maintenance of Equipment	5		
41.0	Grants, subsidies, and contributions		76,548	
99.9	**Total new obligations . . . .**	**24,905**	**84,413**	**3,832**

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 2013 ACT	FY 2014 EST	FY 2015 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, mandatory:			
	Unobligated balance of appropriations permanently			
1231	reduced	-	(4,419)	-
1260	**Appropriation, disc (total)**	**-**	**(4,419)**	**-**
1930	**Total budgetary resources available**	**5,419**	**1,000**	**-**
	Memorandum (non-add) entries:			
1940	Total Budgetary Resources Available	5,419	1,000	-
1941	Unexpired unobligated balance, end of year	5,419	-	-
	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:			
4100	Budget authority, gross	-	(4,419)	-
	Outlays, gross:			
4101	Outlays from mandatory balances	-	**1,000**	-
4110	**Outlays, net (mandatory)**	**-**	**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 2015. The Administration is proposing funding for this program 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 Current Passenger Rail Service account that would be funded from the Rail Account of the Transportation Trust Fund.

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

Identification Code 69-0123-0-1-401		FY 2013 ACT	FY 2014 EST	FY 2015 EST
	Direct Obligations:			
	Grants, subsidies, and			
41.0	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 2013 ACT	FY 2014 EST	FY 2015 EST
	Obligations by program activity:			
0001	Next Generation High Speed Rail	-	7,995	-
0900	**Total new obligations**	**-**	**7,995**	**-**
	Budgetary Resources:			
1000	Unobligated balance brought forward, Oct 1	8,434	9,868	-
1021	Recoveries of prior year unpaid obligations	1,434	100	-
1050	**Unobligated balance (total)**	**9,868**	**9,968**	**-**
	Appropriations, mandatory:			
1230	Appropriations and/or unobligated balance of appropriations permanently reduced		-1,973	
1260	**Appropriation, mand (total)**	**-**	**-1,973**	**-**
1900	**Budget authority (total)**	**-**	**-1,973**	**-**
1930	**Total budgetary resources available**	**9,868**	**7,995**	**-**
1941	Unexpired unobligated balance, end of year	9,868	-	-
	Change in obligated balance:			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	6,093	4,139	8,697
3010	Obligations incurred, unexpired accounts	-	7,995	-
3020	Outlays (gross)	-521	-3,337	-3,337
3040	Recoveries of prior year unpaid obligations, unexpired	-1,434	-100	-
3050	Unpaid obligations, end of year (gross)	4,139	8,697	5,360
3100	**Obligated balance, start of year (net)**	**6,093**	**4,139**	**8,697**
3200	**Obligated balance, end of year**	**4,139**	**8,697**	**5,360**
	Budget authority and outlays, net:			
	Mandatory:			
4090	Budget authority, gross		-1,973	
	Outlays, Gross			
4101	Outlays from mandatory balances	521	3,337	3,337
4110	**Outlays, gross (total)**	**521**	**3,337**	**3,337**
4160	Budget authority, net (mandatory)		-1,973	
4170	Outlays, net (mandatory)	521	3,337	3,337
4180	**Budget authority, net (total)**	**-**	**-1,973**	**-**
4190	**Outlays, net (total)**	**521**	**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 2015.

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

Identification Code 69-0722-0-1-401		FY 2013 ACT	FY 2014 EST	FY 2015 EST
	Direct Obligations:			
25.5	Research and Development Contracts		-	-
41.0	Grants, subsidies, and contributions		7,995	-
99.9	Total new obligations	-	7,995	-

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 2013 ACT	FY 2014 EST	FY 2015 EST
	Obligations by program activity:			
0001	Emergency Railroad Rehabilitation & Repair	-	1,870	-
0091	Direct program activities, subtotal	-	1,870	-
0100	**Total direct program**	**-**	**1,870**	**-**
0799	Total direct obligations	-	1,870	-
0900	**Total new obligations**	**-**	**1,870**	**-**
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	653	1,870	-
1021	Recoveries of prior year unpaid obligations	1,217	-	-
1050	**Unobligated balance (total)**	**1,870**	**1,870**	**-**
1930	**Total budgetary resources available**	**1,870**	**1,870**	**-**
1941	Unexpired unobligated balance, end of year	1,870	-	-
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	4,437	1,189	-
3001	Adjustments to unpaid obligations, brought forward, Oct 1			
3010	Obligations incurred, unexpired accounts	-	1,870	-
3020	Outlays (gross)	(2,031)	3,059	-
3040	Recoveries of prior year unpaid obligations, unexpired	(1,217)	-	-
3050	Unpaid obligations, end of year (gross)	1,189	-	-
3100	**Obligated balance, start of year (net)**	**4,437**	**-**	**-**
3200	**Obligated balance, end of year**	**1,189**	**-**	**-**
	Budget authority and outlays, net:			
	Discretionary:			
4000	Budget authority, gross	-	-	-
4011	Outlays from discretionary balances	2,031	3,059	-
4020	**Outlays, gross (total)**	**2,031**	**3,059**	**-**
4080	**Outlays, net (discretionary)**	**2,031**	**3,059**	**-**
4190	**Outlays, net (total)**	**2,031**	**3,059**	**-**

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 funding is requested in fiscal year 2015 for this program.

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

Identification Code 69-0124-0-1-401		FY 2013 ACT	FY 2014 EST	FY 2015 EST
	Direct Obligations:			
41.0	Grants, subsidies, and contributions	-	1,870	-
99.9	**Total new obligations**	**-**	**1,870**	**-**

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

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

Line	Line Title	FY 2013 ACT	FY 2014 EST	FY 2015 EST
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	87	585	585
1050	**Unobligated balance (total)**	**87**	**585**	**585**
	Memorandum (non-add) entries:			
1941	Unexpired unobligated balance, end of year	87	585	
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	25,215	18,446	11,677
3020	Outlays (gross)	-6,271	-6,769	-11,677
3040	Recovery of Prior year unpaid obligations	-498	-	-
3050	Change in uncollected pymts, Fed sources, unexpired	18,446	11,677	-
3100	**Obligated balance, start of year (net)**	**25,215**	**18,446**	**11,677**
3200	**Obligated balance, end of year (net)**	**18,446**	**11,677**	**-**
	Budget authority and outlays, net:			
	Discretionary:			
4000	Budget authority, gross	-	-	-
	Outlays, gross:			
4010	Outlays from new discretionary authority			
4011	**Outlays from discretionary balances**	**6,769**	**6,769**	**11,677**
4080	**Outlays, net (discretionary)**	**6,769**	**6,769**	**11,677**
4190	**Outlays, net (total)**	**6,769**	**6,769**	**11,677**

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 2015.

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

Identification Code 69-0723-0-1-401		FY 2013 ACT	FY 2014 EST	FY 2015 EST
	Direct Obligations:			
41.0	Grants, subsidies, and contributions	-	585	-
99.9	**Total new obligations**	**-**	**585**	**-**

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 2013 ACT	FY 2014 EST	FY 2015 EST
	Obligations by program activity:			
0001	Intercity Passenger Rail Grants	3,259	11,000	6,251
0002	Oversight	-	20	-
0900	**Total new obligations**	**3,259**	**11,020**	**6,251**
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	20,431	17,271	6,251
1021	Recoveries of prior year unpaid obligations	99	-	-
1930	**Total budgetary resources available**	**20,530**	**17,271**	**6,251**
	Memorandum (non-add) entries:			
1940	Unobligated balance expiring			
1941	Unexpired unobligated balance, end of year	17,271	6,251	-
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	71,274	70,085	53,304
3010	Obligations incurred, unexpired accounts	3,259	-	-
3020	Outlays (gross)	-4,350	-16,781	-18,330
3040	Recoveries of prior year unpaid obligations, unexpired	-99	-	-
3050	Unpaid obligations, end of year (gross)	70,085	53,304	34,975
3100	**Obligated balance, start of year (net)**	**71,274**	**70,085**	**53,304**
3200	**Obligated balance, end of year**	**70,085**	**53,304**	**34,975**
	Budget authority and outlays, net:			
	Discretionary:			
4011	Outlays from discretionary balances	4,350	16,781	18,330
4020	**Outlays, gross (total)**	**4,350**	**16,781**	**18,330**
	Offsets against gross budget authority and outlays:			
	Offsetting collections (collected) from:			
4080	**Outlays, net (discretionary)**	**4,350**	**16,781**	**18,330**
4190	**Outlays, net (total)**	**4,350**	**16,781**	**18,330**

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 2015.

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

Identification Code 69-0715-0-1-401		FY 2013 ACT	FY 2014 EST	FY 2015 EST
Direct Obligations:				
25.1	Advisory & assistance service		20	
41.0	Grants, subsidies, and contributions	3,259	11,000	6,251
99.9	**Total new obligations . . . .**	**3,259**	**17,230**	**6,251**

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 2013 ACT	FY 2014 EST	FY 2015 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)	51,270	44,526	33,390
3020	Outlays (gross)	(6,744)	(11,136)	(11,136)
3200	Obligated balance, end of year (net):	44,526	33,390	22,254
3050	Unpaid obligations, end of year (gross)	44,526	33,390	22,254
3091	Uncollected pymts, Fed sources, end of year			
3100	**Obligated balance, start of year (net)**	**51,270**	**33,390**	**22,254**
3200	**Obligated balance, end of year**	**44,526**	**33,390**	**22,254**
	Budget authority and outlays, net:			
	Discretionary:			
4011	Outlays from discretionary balances	6,744	11,136	11,136
4080	**Outlays, net (discretionary)**	**6,744**	**11,136**	**11,136**
4190	**Outlays, net (total)**	**6,744**	**11,136**	**11,136**

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 2015.

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

Identification Code 69-0723-0-1-401		FY 2013 ACT	FY 2014 EST	FY 2015 EST
	Direct Obligations:			
41.0	Grants, subsidies, and contributions	-	19	-
99.9	**Total new obligations . . .**	**-**	**19**	**-**

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DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

ADMINISTRATIVE PROVISIONS—FEDERAL RAILROAD ADMINISTRATION

SEC. 150. Notwithstanding any other provision of law, funds provided in this Act for the National Railroad Passenger Corporation shall immediately cease to be available to said Corporation in the event that the Corporation contracts to have services provided at or from any location outside the United States. For purposes of this section, the word "services" shall mean any service that was, as of July 1, 2006, performed by a full-time or part-time Amtrak employee whose base of employment is located within the United States.

SEC. 151. 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. 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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DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
HISTORY OF APPROPRIATIONS
FY 2005 - 2013
($000)

Account	FY 2005 [1/]	FY 2006 [2/]	FY 2007	FY 2008	FY 2009
Safety and Operations	138,117	144,490	150,271	150,193	159,445
Railroad Research and Development	35,737	54,524	34,524	35,964	33,950
Rail Line Relocation and Improvement	--	--	--	20,040 [3/]	25,000
Operating Subsidy Grants to National Railroad Passenger Corporation	--	490,050	495,000	574,000	550,000
Capital and Debt Service Grants to National Railroad Passenger Corporation	--	772,200	780,000	850,000	940,000
Efficiency Grants to National Railroad Passenger Corporation	--	31,383	31,300	--	--
Grants to the National Railroad Passenger Corporation	1,207,264	--	--	--	--
Intercity Passenger Rail Grants	--	--	--	30,000	90,000
Next Generation High-Speed Rail	19,493	--	--	--	--
Alaska Railroad Rehabilitation	24,800	9,900	--	--	--
Subtotal	1,425,411	1,502,547	1,478,345	1,561,197	1,798,395
Railroad Rehab and Improvement Program	--	--	3,294	20,751	16,753
Emergency Railroad Rehabilitation & Repair	--	--	--	20,000 [4/]	--
Capital Grants to National Rail Pass. Corp.	--	--	--	--	1,300,000 [5/]
Capital Assistance for High-Speed Rail Corridors and Intercity Passenger Rail	--	--	--	--	8,000,000 [5/]
Total FRA Budget Authority	**1,425,411**	**1,502,547**	**1,481,639**	**1,601,948**	**11,6115,148**

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

Account	FY 2010	FY 2011 [6/]	FY 2012	FY 2013 [8/]	FY 2014
Safety and Operations	172,270	176,596	178,596	169,254	184,500
Railroad Safety Technology Program	50,000	--	--	--	--
Railroad Research and Development	37,613	35,030	35,000	33,169	35,250
Rail Line Relocation and Improvement	34,532	10,511	--	--	--
Operating Subsidy Grants to National Railroad Passenger Corporation	563,000	563,000	466,000	441,625	340,000
Capital and Debt Service Grants to National Railroad Passenger Corporation	1,001,625	920,652	952,000	902,205	1,050,000
Grants to the National Railroad Passenger Corporation	--	--	--	297,100 [9/]	--
Next Generation High-Speed Rail	--	--	--	--	(1,973) [10/]
Northeast Corridor Improvement Program	--	--	--	--	(4,419) [10/]
Capital Assistance for High Speed Rail Corridors and Intercity Passenger Rail	2,500,000	(400,000) [7/]	--	--	--
Subtotal	**1,798,395**	**1,305,789**	**1,631,596**	**1,843,353**	**1,603,358**
Railroad Rehabilitation and Improvement Program	18,441	23,692	--	--	--
Total FRA Budget Authority	**4,377,481**	**1,329,481**	**1,631,596**	**1,843,343**	**1,603,358** [11/]

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

Notes:

1/ FY 2005 appropriations (P.L. 108-447) reflect a 0.80% across-the-board rescission.

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

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

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

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

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

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

8/ FY 2013 Consolidated and Further Continuing Appropriations Act (P.L. 113-6) reflects a 0.02% across-the-board rescission, and 5.0% across-the-board sequestration. Federal Highway Administration allocated $41.8M to FRA's Federal Aid – Highway account.

9/ The Disaster Relief Appropriations Act of FY 2013 (P.L. 113-2) provided funds to Amtrak's, including $32M for repair work and $86M for disaster mitigation projects and the Federal Transit Administration transfer of $185M for Hurricane Sandy resiliency projects.

10/ FY 2014 Omnibus (P.L. 113-76) contains a $1.973M rescission to Next Generation High-Speed Rail prior year unobligated balances, and $4.419M rescission to the Northeast Corridor prior year unobligated balances.

11/ PL 113-76 redirects $41,827,500 in balances of FHWA Maglev funds (allocated to FRA) for Intercity Passenger Rail Grants, Railroad Planning, and Railroad Technology Grants.

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EXHIBIT IV-1

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

Program	FY 2013 Actual	FY 2014 Enacted	FY 2015 Request	FY 2015 Applied	FY 2015 Development
Railroad Research and Development Account	**33,169**	**35,250**	**35,100**	**24,299**	**7,950**
Track Program	10,210	11,429	11,279	6,428	2,000
Rolling Stock Program	8,076	8,322	8,322	6,572	1,750
Train Control and Communication	8,800	8,086	8,086	5,286	2,800
Human Factors Program	2,886	3,542	3,542	2,742	800
Railroad Systems Issues Program	3,198	3,871	3,871	3,271	600
Rail Service Improvement Program	**-**	**-**	**25,000**	**4,556**	**7,244**
Safety and Operations	**4,696**	**4,762**	**4,789**	**3,113**	**1,676**
Salaries & Expenses (R&D)	4,696	4,762	4,789	3,113	1,676
Subtotal, Research &Development	**35,643**	**37,011**	**48,838**	**31,968**	**16,870**
Subtotal, Technology Investment (T)	**-**	**-**	**3,000**	**N/A**	**N/A**
Subtotal, Facilities (F)	**2,222**	**3,001**	**13,051**	**N/A**	**N/A**
Total, FRA	**37,865**	**40,012**	**64,889**	**31,968**	**16,870**

RESEARCH, DEVELOPMENT AND TECHNOLOGY (RD&T) PROGRAM: TRACK PROGRAM

Projects: Rail integrity studies, track buckling prevention, track condition assessment technologies. Modeling of rail vehicle-track dynamics, optimization of wheel-rail interface for Amtrak, development of high-performance track safety standards, development of rail vehicle-track interaction training materials. Maintenance and storage of track inspection cars, and improvements to FRA's Transportation Technology Center (TTC).

Objectives: Reduction in track caused accidents and increased life of track assets. Reduction in accidents caused by incompatible interfaces between the train and track and extension of wheel and rail lives. Improvements to and maintenance of FRA-owned assets. Contributions to DOT's safety, state of good repair, economic competitiveness and environmental sustainability goals.

Description: Track component failure and wear mechanisms are researched to understand life cycles. Full scale testing, laboratory testing, and computer modeling are used. Inspection technologies are developed to enable defect detection in the track before they result in service failures. This also reduces train delays, thereby improving railroads' economic competitiveness. Monitoring of asset condition allows the railroads to predict when maintenance and renewal is required, which helps to keep the track asset in a state of good repair.

Basic research in this area provides information about metal deformation mechanics of, growth and formation of structural defects, development of materials performance guidelines for fastening systems, and effectiveness of automated compared to human-based track inspection.

Computer models are developed to understand the interaction between the wheel and the rail. These models are validated using measurements from full scale tests, enabling development of track safety and rail vehicle qualification regulations. The knowledge gained also allows optimization of the wheel-rail interface to extend the lives of both components. This improves the operator's economic competitiveness and helps to keep the assets in a state of good repair. Basic research in this area provides information about the mechanics of surface-to-surface contacts and the dynamics of vehicle and track interactions.

FRA owns two track inspection cars and a road-rail vehicle. In addition to prototype testing of inspection technologies, FRA uses this equipment for safety assurance and compliance enforcement. FRA invests in TTC's 50 miles of test track, laboratories, workshops, and classrooms to help meet FRA's and other agencies' testing and training needs. Building improvements will help the DOT meet Executive Order targets on environmental sustainability.

Outputs:
- Information to support improved safety regulations for track defects, track geometry, and train qualification
- Autonomous track geometry recording technology

- Rail defect detection technology
- Track substructure condition inspection technologies including stiffness and ground penetrating radar
- Evaluation of advanced welding techniques
- Improved modeling capabilities for rolling contact fatigue and low speed derailment
- Training for FRA inspectors in vehicle-track interaction
- Optimization of wheel-rail interface for Amtrak on the Northeast Corridor
- Track geometry safety assurance
- R&D inspection and test equipment maintenance
- Sustainable building improvements to address Executive Order targets by 2015
- Transportation Technology Center (TTC) site improvements including a compliant radio system and rail car squeeze test fixture

RD&T Partners: Volpe Center (OST-R), Association of American Railroads, and universities.

Requested FY 2015 Funding: $11,279,000 (including $200,000 for building sustainability)

RD&T PROGRAM: ROLLING STOCK

Projects: Evaluate machine vision systems for identifying rolling stock faults, evaluate wayside detectors for identifying brake faults, improve the quality of castings and wheels, and develop computer models of train longitudinal dynamics. Risk analysis of hazardous materials accidents, improvements to tank car structural integrity, development of tank car testing procedures. Evaluation of acoustic hailing devices on locomotives, analysis of locomotive cab ride quality, testing of noise cancellation devices, reducing the risk of fuel tank breaches and fires, improvements to passenger car crashworthiness.

Objectives: Reduction in equipment caused accidents and increased life of rolling stock assets. Reduction in hazardous material accidents and mitigation of the consequences of tank car derailments. Reduction in fatalities and injuries in train accidents, and health and safety improvements for train crews. Contributions to DOT's safety, state of good repair, Quality of life in Communities, and economic competitiveness goals.

Description: Data from wayside and on-board measuring systems is obtained and analyzed to determine how it can reduce equipment caused accidents. Component failures can cause derailments and collisions, so reducing them contributes towards the safety goal. Reducing service failures with improves on-time performance, making train operators more economically competitive. The data can also predict when a component requires maintenance or renewal. Basic research in this area provides information about the performance of machine vision systems and the metallurgy of high-performance materials.

Risk analysis of hazardous material accidents is performed to understand causes and to identify management and mitigation measures. Retrofits to existing tank cars that improve structural

integrity are developed through computer modeling and laboratory and full-scale testing at TTC. Design improvements for new tank cars are developed. Test and inspection requirements for tank cars are specified and used to improve safety regulations. By reducing the need for evacuations following hazardous material derailments, this activity also contributes to DOT's Quality of life in Communities and economic competitiveness goals. Basic research in this area provides information about the safety impact of shifting of hazardous material transportation modes.

Computer modeling is used to improve the locomotive engineers' working environment, improve the effectiveness of locomotive horns, and reduce the risk of fuel tank breaches and fires. Full-scale tests are used to validate computer models. Results from the research into locomotive cab environment, locomotive horns, fire safety, and crashworthiness contribute to the safety goal. Locomotive horn research also supports DOT's Quality of life in Communities goal. Basic research in this area provides information about passenger safety and the impact of standardization on deployment and supply chain development of high-performance, high-speed transportation.

Outputs:

- Evaluation of machine vision systems abilities to inspect safety appliances
- Evaluation of wheel temperature detectors to detect brake faults
- Improved truck casting quality
- Improved wheel materials
- Delivery of a train energy dynamics simulator, together with documentation and training
- Information to support improved safety regulations for tank cars
- Risk analysis of hazardous material accidents
- Test results on tank car structural integrity improvements
- Test procedures for non-conventional designs of tank cars
- Prototype testing of acoustic hailing devices
- Recommendations for improving the locomotive cab environment
- Training of first responders attending accidents involving locomotives
- Prototype testing of a system to reduce flammable fuel tank vapors

RD&T Partners: Volpe Center (OST-R), Pipeline and Hazardous Materials Safety Administration, Association of American Railroads, and universities

Requested FY 2015 Funding: $8,322,000

RD&T PROGRAM: TRAIN CONTROL AND COMMUNICATION

Projects: R&D of high-performance digital radio, positive train location systems, data communication encryption, adaptive braking algorithms, and broken rail detection in non-signaled territory. Development of a manual, employee-in-charge, portable terminal. Implementation of, and training on, the general train simulation model. Investigation of

emerging technologies, such as fiber optic based train detection and rail defect monitoring. Grade crossing obstruction detection, use of Light Detection and Ranging (LIDAR) to determine grade crossing features, analysis of road user behavior near grade crossings, and trespass and suicide prevention studies.

Objectives: Reduction in signaling and communications caused accidents and increased capacity for rail corridors, contributing to DOT's safety and economic competitiveness goals. Reduction in grade crossing accidents and trespass incidents, contributing to DOT's safety and Quality of life in Communities goals.

Description: A train control and communications test bed at TTC is used to develop and evaluate positive train control and related technologies. Enhancements, such as adaptive enforcement braking algorithms are developed with computer modeling and then tested at the facility. Interoperability standards are developed in collaboration with industry stakeholders. The employee-in-charge portable terminal will increase protection of track workers in work zones. Improvements in braking enforcement algorithms and use of the general train simulation model will enable positive train control implementation without adversely affecting capacity. Buried fiber optic cables are installed along the right of way to sense vibrations, which could detect train location, movement, and rail defects. Providing broken rail detection in dark territory will eliminate the need for speed reductions and increase the economic competitiveness of the rail transportation.

Basic research in this area provides information about the use of fiber optic technology for vibrational measurements and the use of cognitive techniques for improving the performance and reliability of radio communications.

Methods for reducing the risk of collisions at grade crossings, including improved detection of obstructions and measuring highway profiles at grade crossings, are investigated. Trespass incidents are analyzed to determine risk factors. Studies are performed on rail corridors with high trespass incidents to evaluate solutions and to apply best practice to other corridors. Basic research in this area provides information about wireless communication technologies to improve grade crossing safety.

Outputs:

- Improvements to the train control and communication test bed at TTC
- Revenue service testing of a positive train location system
- Publication of train control and communications interoperability standards
- Adaptive braking algorithm for passenger trains
- Technology for broken rail detection in dark territory
- Evaluation of grade crossing obstruction detection systems
- Prototype testing of LIDAR technology for measuring highway profiles at grade crossings
- Analysis of road vehicle user behavior near grade crossings
- Evaluation of trespass prevention measures on the West Palm Beach, Florida corridor

- Risk analysis of trespass and suicide incidents

RD&T Partners: Volpe Center (OST-R), universities, Association of American Railroads, and industry partners.

Requested FY 2015 Funding: $8,086,000

RD&T PROGRAM: HUMAN FACTORS

Projects: Safety culture improvement pilot programs, research into fatigue and ergonomics of locomotive cabs and remote control operations, job and cognitive task analyses.

Objective: Reduction in human factors caused accidents, contributing to DOT's safety goal.

Description: Safety culture pilot trials are conducted and evaluated to share best practices across the industry. Applications of models for assessing fatigue and its effects on accident risk are developed to formulate regulations for workforce scheduling and fatigue risk management. A cab technology integration laboratory is used to ensure good ergonomic design of locomotive cab controls and displays. Job and cognitive task analyses are used to ensure that new technology reduces cognitive workload and improves safety. Basic research in this area provides information about safety culture programs, human decision-making, and the validation and calibration of human performance models.

Outputs:
- Results from safety culture pilot trials
- Information to support improved safety regulations regarding scheduling and fatigue risk management
- Facilitation of the DOT Safety Council
- Improvements to controls and displays of locomotive cabs and remote control units

RD&T Partners: DOT's Safety Council, Volpe Center (OST-R) and research cluster on human factors, labor unions, freight railroads, and Amtrak.

Requested FY 2015 Funding: $3,542,000

RD&T PROGRAM: RAILROAD SYSTEMS ISSUES PROGRAM

Projects: Development of a railroad system risk model, specification of next generation passenger trains, testing of alternative fuels and locomotive efficiency improvements, battery powered locomotive development, independent review of FRA's R&D program, and program evaluation capacity building.

Objective: Ensuring R&D activities align with the highest priority safety risks and that the next generation of passenger trains is safe and efficient. Reducing dependence on fossil fuels and greenhouse gas emissions. Ensuring that the R&D program provides real world impact and cost-effective results. Contributions to DOT's safety, environmental sustainability, and organizational excellence goals.

Description: FRA's accident and incident databases are analyzed to identify priority areas for safety R&D. Engineering expertise is provided to the Next Generation Corridor Equipment Committee. Tests are performed in collaboration with suppliers and operators on locomotives to determine the effects of alternative fuels, reductions in emissions, and improvements in efficiency. The Transportation Research Board of the National Academies appoints a panel of experts to review FRA's R&D program and report to the Federal Railroad Administrator. FRA's R&D staff manages approximately 200 projects conducted by grantees and contractors. They travel to locations where the work is performed to conduct project reviews and witness tests. Basic research in this area provides information about risk metrics, risk models, relationships between R&D programs, and measurable safety outcomes.

Outputs:
- Railroad safety risk model and safety R&D priorities
- Results of research into alternative fuels
- Specifications for next generation passenger trains
- TRB's annual research review report
- Project management and oversight

RD&T Partners: Department of Energy, Volpe Center (OST-R), railroads, suppliers, universities, and TRB.

Requested FY 2015 Funding: $3,871,000

RD&T PROGRAM: TRANSPORTATION TECHNOLOGY CENTER UPGRADES

Projects: High-performance rail R&D - Reduce the operational and deployment risks associated with mixed use rail lines. Improve safety by reducing human and technology failures. Reduce rail operating costs by increasing operational efficiency. Improve equipment and infrastructure reliability, by reducing failures and false failure detections. Facilitate development of domestic

manufacturing of rail equipment and infrastructure components. Improvements to the Transportation Technology Center (TTC) - Enable trains to be tested at continuous speeds up to 165 mph. Purchase a new locomotive for testing passenger coaches up to 135 mph.

Objective: Facilitating development of technologies that achieve safe, efficient, and reliable deployment of integrated passenger and freight rail systems in North American rail, contributing to DOT's safety, state of good repair, and economic competitiveness goals.

Description: Research needs emerging from the investment into high-speed and intercity passenger rail corridors, and corridors shared with freight will be addressed. A broad agency announcement will be made to solicit solutions to the identified needs. Track will be constructed that bypasses the existing reverse curve on the railroad test track that currently limits test speeds to 135 mph. A new locomotive capable to 135 mph will be purchased.

Outputs:
- Enabling technologies for high-speed, intercity passenger and freight rail on shared corridors
- New track construction at TTC for 165 mph continuous testing.
- New locomotive capable of testing at speeds up to 135 mph

RD&T Partners: Association of American Railroads and industry partners.

Requested FY 2015 Funding: $15,000,000

RD&T PROGRAM: NATIONAL COOPERATIVE RAILROAD RESEARCH PROGRAM

Projects: Numerous, early stage research projects.

Objective: Involvement of universities, inventors, and small businesses in generating research initiatives, contributing to DOT's safety, state of good repair, environmental sustainability, and economic competitiveness goals.

Description: Transportation Research Board (TRB) solicits research ideas, selects those in merit of funding, and ensures delivery of useful results. Basic research in this program provides ideas in system safety, risk mitigation and measurement, materials science, communications, human performance, and other science essential to the development of new transportation technology.

Outputs:
- Initiation of early stage railroad research ideas
- Improved industry involvement and collaboration

RD&T Partners: TRB and universities.

Requested FY 2015 Funding: $5,000,000

RD&T PROGRAM: RAIL-BASED UNIVERSITY TRANSPORTATION CENTERS (UTC)

Projects: Numerous basic and applied research projects into safety and performance.

Objective: Railroad workforce development and generation of research projects for adoption in FRA's R&D program, contributing to DOT's safety, state of good repair, and economic competitiveness goals.

Description: FRA will select UTCs via rigorous competition that will include incentives for addressing DOT priorities (strategic goals, diversity, international collaboration, multi-state consortia, etc.). Performance metrics will ensure that research and workforce needs are met, programmatic targets are realized, and that funds are effectively invested. Reporting requirements will be strengthened to include explicit details of research results. The selected UTCs will be diverse collaborations of more than one university that advance railroad transportation, education, and workforce development through degree granting programs, seminars and training for practicing professionals, and outreach to attract new entrants to careers in transportation.

Outputs:
- Technology Investment
- Trained professionals placed in railroad employment

RD&T Partners: Volpe Center (OST-R) and universities.

Requested FY 2015 Funding: $3,000,000

RD&T PROGRAM: BUY AMERICA SUPPORT

Projects: Identify domestic sources of high-performance rail equipment and components and opportunities for production improvements to meet demand.

Objective: Achieve Buy America compliance by enhancing domestic supply of high-performance rail products, contributing to DOT's economic competitiveness goal.

Description: National Institute of Standards and Technologies Manufacturing Extension Partnership will provide technical assistance in identifying domestic sources of high-performance rail equipment and components.

Outputs:
- Enhanced domestic supply chain
- Improved manufacturing techniques, equipment and materials

RD&T Partners: National Institute of Standards and Technologies Manufacturing Extension Partnership.

Requested FY 2015 Funding: $2,000,000

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

Railroad Safety Strategy: FY 2015

February 2014

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CONTENTS

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INTRODUCTION

Section 102 of the Rail Safety Improvement Act of 2008 (RSIA) directed the Federal Railroad Administration (FRA) to develop a railroad safety strategy and submit it at the same time as the President's budget. This report's organization mirrors the legislation language structure.

Section 102 of the RSIA reads as follows:

*"**SEC. 102. RAILROAD SAFETY STRATEGY***

"(a) SAFETY GOALS—In conjunction with existing federally-required and voluntary strategic planning efforts ongoing at the Department and the Federal Railroad Administration as of the date of enactment of this Act, the Secretary shall develop a long-term strategy for improving railroad safety to cover a period of not less than 5 years. The strategy shall include an annual plan and schedule for achieving, at a minimum, the following goals:

"(1) Reducing the number and rates of accidents, incidents, injuries, and fatalities involving railroads including train collisions, derailments, and human factors.

"(2) Improving the consistency and effectiveness of enforcement and compliance programs.

"(3) Improving the 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.

"(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.

"(b) RESOURCE NEEDS.—The strategy and annual plan shall include estimates of the funds and staff resources needed to accomplish the goals established by subsection (a). Such estimates shall also include the staff skills and training required for timely and effective accomplishment of each such goal.

"(c) SUBMISSION WITH THE PRESIDENT'S BUDGET.—The Secretary shall submit the strategy and annual plan to the Senate Committee on Commerce, Science, and Transportation and the House of Representatives Committee on Transportation and Infrastructure at the same time as the President's budget submission.

"(d) ACHIEVEMENT OF GOALS.—

"(1) PROGRESS ASSESSMENT.—No less frequently than annually, the Secretary shall assess the progress of the Department toward achieving the strategic goals described in subsection (a). The Secretary shall identify any deficiencies in achieving the goals within the strategy and develop and institute measures to remediate such deficiencies. The Secretary and the Administrator shall convey their assessment to the employees of the Federal Railroad Administration

and shall identify any deficiencies that should be remediated before the next progress assessment.

"(2) REPORT TO CONGRESS.—Beginning in 2009, not later than November 1 of each year, the Secretary shall transmit a report to the Senate Committee on Commerce, Science, and Transportation and the House of Representatives Committee on Transportation and Infrastructure on the performance of the Federal Railroad Administration containing the progress assessment required by paragraph (1) toward achieving the goals of the railroad safety Strategy and annual plans under subsection (a).

This report is FRA's strategy for fiscal year (FY) 2015. FRA will provide an evaluation of its performance in its next budget request.

BACKGROUND

FRA promotes and regulates safety throughout the Nation's railroad industry. Most of the regulatory authority is codified under Title 49 Code of Federal Regulations (CFR) Parts 200 to 249. FRA has numerous enforcement tools under its authority, including defect and deficiency warnings, civil penalties, compliance and emergency orders, special notices, and directives.

FRA executes its regulatory and inspection responsibilities through a diverse staff of railroad safety experts. FRA safety inspectors specialize in five safety disciplines assigned to eight regional offices across the Nation. 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 field components include program managers and specialists for highway-rail grade crossing safety and trespass prevention, rail and infrastructure integrity, and industrial hygiene and workplace safety.

The railroad industry's safety record has improved significantly over the past decade. From FY 2004 through FY 2013, the total number of all reportable rail-related accidents and incidents declined 24 percent (14,562 vs. 11,006 respectively).[1] During this period, train accidents also fell by 47 percent (3,269 vs. 1,717), casualties (deaths and injuries) dropped 9 percent (10,262 vs. 9,313), and highway-rail grade crossing incidents decreased 35 percent (3,078 vs. 1,990).

The Government Performance and Results Act of 1993 (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 uses GPRA goals to measure improvements in the management of safety programs by shifting the focus of decision-making from staffing and activity levels to the results of Federal programs. Under GPRA, FRA's safety strategy sets the general direction for safety efforts, including annual performance plans that establish the

[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 2013 was $9,900.

connections between the long-term strategic goals outlined in the safety strategy and the day-to-day activities of program managers and staff. FRA uses GPRA goals to assess and influence: (1) how FRA does business; (2) how FRA managers are held accountable for program results; (3) service quality and customer satisfaction; (4) how information is made available and more accessible to the general public; and (5) the overall management of safety initiatives.

Several major freight and passenger train accidents in 2004 and 2005 raised concerns about railroad safety. In addition to several key national rail safety initiatives that FRA has championed since 2005, the Agency has also devoted four of its six safety performance measures to evaluate train accidents under GPRA.

LONG-TERM STRATEGY MEASURES

FRA believes that the long-term strategy achievements expected from Section 102 of the RSIA and other FRA safety efforts are best evaluated using GPRA results. FRA has been using these goals to measure regional performance and FRA's overall safety performance since GPRA was officially implemented at the Agency in 2003. Regional and headquarters management can monitor and compare their actual performance data against the proposed GPRA goals on a monthly basis.

FRA has focused its efforts on ways to achieve safety improvements through rulemakings, enforcement oversight, and alternative methods such as the Risk Reduction Program (RRP). RRP looks for ways to improve safety by identifying areas through industry collaboration that achieve safety results in ways not previously identified.

FRA uses existing staffing levels for the GPRA goals listed in the tables below.[2]

1. GRADE CROSSING INCIDENTS[3]

	2015	2016	2017	2018	2019
Rate Per Million Train-Miles	2.800	2.700	2.600	2.500	2.400

2. HUMAN FACTOR-CAUSED TRAIN ACCIDENTS

	2015	2016	2017	2018	2019
Rate Per Million Train-Miles	0.985	0.965	0.950	0.935	0.930

3. TRACK-CAUSED TRAIN ACCIDENTS

	2015	2016	2017	2018	2019
Rate Per Million Train-Miles	0.975	0.955	0.935	0.920	0.910

[2] FRA re-evaluates and updates GPRA goals annually. As such, future GPRA goals could change with new safety initiatives and additional resources to carry out those initiatives.
[3] Includes train accidents.

4. EQUIPMENT-CAUSED TRAIN ACCIDENTS

	2015	2016	2017	2018	2019
Rate Per Million Train-Miles	0.360	0.350	0.340	0.330	0.320

5. OTHER (SIGNAL AND MISCELLANEOUS) TRAIN ACCIDENTS

	2015	2016	2017	2018	2019
Rate Per Million Train-Miles	0.480	0.465	0.450	0.440	0.430

6. RAIL NON-ACCIDENTAL HAZARDOUS MATERIALS RELEASES

	2015	2016	2017	2018	2019
Rate Per 200 Million Hazmat Ton-Miles	1.100	1.050	1.000	0.950	0.900

FRA also has an overall performance measure that reports on accidents/incidents per million train-miles as part of the U.S. Department of Transportation (DOT) Safety Performance Goals. These goals, like other safety goals, are based on available data for analysis. Programs such as the NSPP, NIP, RRP, rulemakings, and inspections contribute to achieving these safety goals.

DOT Safety Performance Goal: Rail Accidents/Incidents

	2015	2016	2017	2018	2019
Rate Per Million Train-Miles	15.90	15.70	15.50	15.30	15.10

RSIA SAFETY GOALS

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

Safety Management Systems (SMS)

In 2012, FRA developed an SMS Implementation Plan. FRA already has many well-established, effective safety programs in place and will continue to develop, expand, and improve both internal and external safety programs—in consultation with stakeholders—through various business processes and training. As part of FRA's safety strategy, the Agency intends to use data and technology to further SMS implementation. The Agency understands the importance of safety policy, safety risk management, safety assurance, and safety promotion. These SMS principles directly tie into the mission of the FRA, which is to enable the safe, reliable, and efficient movement of people and goods for a strong America, now and in the future.

FRA's safety program is designed to achieve the best results through effective and efficient use of funds. FRA will continue developing its SMS through process integration, business process re-engineering, change management, and the effective use of supporting tools such as information technology systems and training.

National Safety Program Plan (NSPP)

The NSPP is the FRA Office of Railroad Safety's annual document designed to ensure the sound implementation of the National Safety Program, including identification of recurring and nonrecurring special-emphasis activities for the year. FY 2006 was the first year that FRA produced a unified NSPP with submissions from all of the safety disciplines, regions, and Railroad System Oversight Managers (RSOM) for each Class I railroad; this resulted in fundamental changes to the Office of Railroad Safety's goal-setting, planning, and prioritization processes. The NSPP is issued to every employee in the Office of Railroad Safety, and quarterly assessments of all regional, RSOM, and FRA headquarters initiatives are performed.

The NSPP provides a mechanism for planning recurring activities (e.g., dispatch center assessments performed triennially on a rotating basis). At the national level, it identifies emphasis areas based on data analyses, including interregional initiatives directed at particular system-level issues of concern for major railroads operating in multiple regions. Over the years, FRA's careful adherence to the NSPP has us continue to better focus and integrate our safety improvements. In addition, this process has enabled us to successfully respond to numerous safety data calls requested from agencies that oversee our programs. The NSPP for FY 2013 continues to integrate safety planning for all elements of the Office of Railroad Safety into a single document, and fully supports GPRA and DOT goals.

National Inspection Plan (NIP)

In December 2004, the DOT Office of Inspector General (OIG) recommended that FRA submit to the Secretary of Transportation a comprehensive rail safety plan for implementing a program that makes meaningful use of available data on which to focus inspection activities. In 2005, FRA issued the National Rail Safety Action Plan, which contains the development and implementation of a new NIP. Under this approach, FRA inspectors focus their efforts on specific railroads and locations that, according to data-driven models, are likely to have safety problems.

The purpose of the NIP is to optimize FRA's ability to reduce the rates of various types of train accidents, releases of hazardous materials, and casualties from human factor errors. The plan provides guidance to each regional office on how its inspectors, who each specialize in one of the five inspection disciplines, should divide their work by railroad and by State.

The NIP is a process that involves three steps. In the first step, FRA produces an initial baseline plan for each of the Agency's eight regions based on an analysis of historical accident and inspection data. In the second step, the regional administrators may adjust the goals for their respective regions based on local knowledge and emerging issues. In the third step, FRA monitors how the regions are meeting their inspection goals. The NIP is implemented through a

Web-based interface that allows FRA headquarters and regional offices to monitor progress in field inspections during the fiscal year.

Dashboard

In 2008, FRA deployed an internal Web-based dashboard tool on its secure Web site to provide its leadership, regional management, and inspection workforce multiple views of the Agency's current and historical enforcement efforts. Inspection data from FRA and State inspectors is compiled in near real time, updating every 24 hours. This displays detailed and aggregated data graphically (via bar graphs and gauges). The Dashboard is also used as an effective performance management tool. It maintains more than 15 different metrics (e.g., inspection days, defect ratios, violations) at the inspector, discipline, regional, and national levels. Each metric provides the regional and national average as a comparison. Finally, the Dashboard links several query and report programs from the main secure Web site that have been integrated into the output displays and provide additional detail for users. The Inspector Dashboard is a decision support tool in managing limited inspection resources when scheduling enforcement activities such as focused inspections and audits. It also allows FRA managers at headquarters to monitor inspection activities in the regions to ensure that enforcement and compliance policy is applied uniformly.

The Dashboard has added several additional views and tools over the past 5 years. "The Cube," an online analytical data-mining tool, gets the most usage from headquarters and regional users. It allows the users to customize their search criteria and view inspection efforts and findings summarized by a variety of categories, as captured on the inspection reports. This information is used to identify safety hazards and to plan inspections accordingly. To augment prevention efforts, this information is also correlated with the types of accidents and incidents that are occurring in the region. Another tool, added in April 2012, is the Activity Dashboard view. This view allows FRA management to review the daily activities of FRA and State inspectors through charts and integrated reports based on inspector activity. Each person is able to see where their discipline-specific efforts are going, and confirm that consistency is being maintained among inspection efforts. Finally, the Outside Normal Shift (ONS) Dashboard view was added in May 2013. As part of an FRA initiative to ensure that inspections were taking place during times outside the typical work hours of 8 a.m. to 4:30 p.m., inspectors were asked to record the time they began their onsite inspections and the time they departed. Any time outside this "normal shift" is regarded as ONS and will be visible to FRA management. FRA has a goal to improve the safety of the railroad operations by performing inspections at any time of day or night, including weekends. Additional dashboards and inspection data tools will continue to be added, as needed.

The regional managers will continue to use data from these dashboards to ensure each discipline and inspector meets applicable goals and addresses outliers in the data.

NIP and GPRA links are also available on the Dashboard.

Positive Train Control

Positive Train Control, or PTC, refers to processor/communications-based technology that is capable of preventing train-to-train collisions, over-speed derailments, incursion into established roadway work zone limits, and the movement of a train through a switch not properly lined. PTC systems vary widely in complexity and sophistication based on the level of automation and functionality they implement, the system architecture used, and the degree of train control they are capable of assuming. Current PTC system designs serve as either non-vital or vital safety overlays for existing methods of rail operations, or as standalone systems that provide the functionality necessary to implement new methods of rail operations. PTC technology also has the potential to limit adverse consequences of events such as hijackings and runaway trains, which are of special concern in an era of heightened security in the United States. National deployment of advanced signal and train control technology via PTC will improve the safety, security, and efficiency of freight, intercity passenger, and commuter rail services. FRA is continuing to support the implementation of PTC in America through regulatory reform; project safety oversight; technology development; review and approval of PTC Implementation Plans, PTC Development Plans (PTCDP), PTC Safety Plans (PTCSP), and other PTC-related documentation; and financial assistance.

In compliance with the requirements of Section 104 of the RSIA and with the assistance of the RSAC PTC Working Group, FRA published a Federal regulation on January 15, 2010, that was subsequently modified with technical corrections on September 27, 2010. The Association of American Railroads (AAR) brought suit in the U.S. Court of Appeals for the District of Columbia Circuit alleging that certain provisions of FRA's PTC rule were contrary to the law and constituted arbitrary and capricious agency action. As a condition of the settlement agreement, FRA proposed a modification to the final rule that removed requirements to conduct further analyses or meet certain risk-based criteria in order to be exempt from installing PTC on track that no longer carries poisonous-by-inhalation hazard (PIH) materials. After considering comments, the final rule was issued on May 14, 2012. A separate PTC rulemaking, also a condition of the settlement agreement with AAR, to address de minims shipments of PIH/TIH, yard movements, and en-route failures resulted in an NPRM on December 11, 2012. The extended comment period for this NPRM ended on March 11, 2013. Subsequent to the comment period ending, FRA held a Railroad Safety Advisory Committee (RSAC) working group meeting to address several questions arising from the NPRM comments. The final rule is being completed and is estimated to be completed in FY 2014.

Pursuant to the requirements of the rule, 43 railroads submitted plans for implementing PTC as required. Two additional railroads are in the process of drafting plans for submission to FRA, with FRA assistance in the process. During calendar year (CY) 2010, FRA reviewed each plan received and provided written notification of its decisions regarding approval or provisional approval, approval or provisional approval with conditions, or disapproval. Since then, FRA has received plans that were revised and corrected, as well as initial plans from two additional railroads without previous submissions. The review and approval process of all the implementation plans has been completed and all have now been approved, except the two later filed plans. FRA is continuing to work with the two railroads, which have yet to submit a formal plan, though several issues and concerns still require correction or further clarification.

Thirty-seven host railroads will actually implement PTC systems on their properties, and the remaining six have met the criteria for exceptions from the requirement to install PTC systems as provided in the rule. The timelines for PTC system implementation are individually presented in each implementation plan; however, according to the congressional mandate, all required PTC systems must be implemented by December 31, 2015. FRA believes that the majority of railroads will not be able to complete full PTC implementation by the December 31, 2015, deadline.

Each railroad's PTC system must receive FRA PTC System Certification before it is placed into revenue service in accordance with the Federal requirements. To support these railroad goals, FRA has and will continue to provide field engineering and pre-revenue service system testing oversight support through the first quarter of FY 2016. FRA will also follow through with the formal approval and System Certification of the remaining 35 PTC systems during FY 2014 through first quarter FY 2016. FRA has issued six PTC System Type Approvals and two System Certifications. The scope of deployment (approximately one-half of all route miles of track in the United States), and the statutory deadline of December 31, 2015, will necessitate significant FRA oversight and associated technical guidance and assistance, and might require railroads to begin deployment prior to completion of their pilot programs.

RSIA also authorized $50 million per year for FY 2009 through FY 2013 for a grant program to support execution of railroad safety technology projects that yield public benefits in improved railroad safety and efficiency. FRA received appropriations for the Railroad Safety Technology Grant Program (69-X-0701) in FY 2010, and awarded nine grants to address common PTC implementation technology issues. As of October 1, 2013, four grants were completed and one grant was being closed out. Of the five completed or closing grants, one grantee returned approximately $498,000 upon the completion of their project. FRA will solicit additional projects prior to the end of FY 2014 not to exceed $550,000. FRA will provide ongoing technical and financial oversight of the remaining four projects through their completion. Of the four open grants, one grant was extended at no cost by the request of FRA to study PTC system security and is expected to be completed in FY 2014. No-cost extensions of the period of performance past December 31, 2013, will be required for the other three, due to the lack of availability of PTC system components necessary to execute the grants.

The high-speed rail (HSR) system design and development efforts will continue through FY 2017. All of these efforts include PTC system development and deployment with FRA providing ongoing technical support.

Rail Route Analysis Requirements for Security-Sensitive Hazardous Materials

On November 25, 2008, the Pipeline and Hazardous Materials Safety Administration (PHMSA), in close consultation with FRA, published a final rule implementing the 9/11 Commission Act of 2007. Among other provisions, the Act mandated DOT to issue a final rule that requires rail carriers of security-sensitive hazardous materials to "select the safest and most secure route to be used in transporting" those materials, based on the rail carrier's analysis of safety and security risks on primary and alternate transportation routes. FRA is administering the PHMSA rule and

can require a carrier to change routes if the carrier fails to conduct an adequate analysis or if the carrier fails to select the safest and most secure route. This action would only be taken after consulting with PHMSA, the Transportation Security Administration (TSA), and the Surface Transportation Board.

PHMSA's Rail Routing Rule requires rail carriers of security-sensitive hazardous materials to compile traffic data annually on shipments of these materials. The U.S. Department of Homeland Security (DHS) and DOT have determined that security-sensitive materials are bulk shipments of PIH materials; certain explosive materials that pose a hazard of mass explosion, fragment projectile, or fire hazard; and certain high-level radioactive material shipments. Railroads are required to annually analyze and assess the safety and security of the routes used to transport these security-sensitive materials and all available practicable alternative routes over which they have authority to operate, and to solicit input from State, local, and Tribal officials regarding security risks to high-consequence targets along or in proximity to the routes. The route assessment must consider a minimum of 27 risk factors, including rail infrastructure characteristics along the route, proximity to iconic targets, environmentally sensitive or significant areas, population densities, and emergency response capabilities. After considering mitigation measures to reduce safety and security risks, the railroads are to select the practicable routes that pose the lowest overall safety and security risks.

Using funding from DHS, the Railroad Research Foundation developed a risk management tool that assists rail carriers in performing the safety and security analyses mandated by the RSIA. The Rail Corridor Risk Management System (RCRMS) is a Web-based interactive tool that enables rail carriers to identify route characteristics using the 27 risk factors and to weigh safety and security impacts. This tool provides a standardized, consistent approach to selecting the rail routes posing the lowest overall safety and security risks for security-sensitive hazardous materials.

In FY 2010, FRA formed the Routing Rule Compliance Team, consisting of members from FRA's Offices of Railroad Safety, Policy and Development, and Chief Counsel, as well as representatives from PHMSA and TSA. The purpose of this team is to verify that railroads comply with the Routing Rule Regulation. In FY 2011 and FY 2012, the FRA team met with all Class I railroads and was briefed on each railroad's routing plan. At each meeting, the team examined the carrier's decision-making process for selecting routes to ensure that the railroad conducted an adequate analysis of the route, and that the railroad selected the safest and most secure route, given economic viability. These meetings are held annually.

Class II and Class III railroads that transport security-sensitive hazardous material are also required to follow the Routing Rule Regulation. FRA is working closely with the American Short Line and Regional Railroad Association (ASLRRA) and the Railroad Research Foundation to develop Hazmat Transportation Risk Analytical Model (H-TRAM), a computer program similar to RCRMS. Like RCRMS, H-TRAM is a comprehensive risk assessment tool. However, while RCRMS is intended to rank alternative routes based on a normalized risk score, H-TRAM is better suited to limited operations and permits a sensitivity study of changes in the elements of the assessment. For example, a railroad can determine the improvement of a route risk score by evaluating the risk of moving a PIH chemical in the morning versus in the

afternoon or in the middle of the night. This level of detail will provide insight to guide and inform operational practices. Development of H-TRAM started in FY 2012. Task 1, which includes assessing vulnerability, was complete as of April 2013. Seven remaining tasks are scheduled to be completed during FY 2014.

FRA continues to perform audits of Class II and III railroads at the regional level to ensure compliance with the routing and security rules. The Routing Rule Compliance Team plans to initiate additional audits of the Class II and III railroads in FY 2014. The focus of the Class II and III audits will be those railroads beta testing H-TRAM, those with a high density of PIH traffic, and a representative sample of conglomerate railroads (preference based on PIH traffic).

Confidential Close Call Reporting System (C^3RS)

Since 2007, FRA has sponsored 12 C^3RS pilot projects on four railroads: Union Pacific Railroad, Canadian Pacific Railway, New Jersey Transit, and Amtrak (in nine yard locations). Contributing to this initiative's effectiveness is the partnering that occurs with railroad labor, including the United Transportation Union, Brotherhood of Locomotive Engineers and Trainmen, and the American Train Dispatchers Association. The C^3RS initiative enhances railroad safety culture by building trust and relying on the program's core operating principles—it is voluntary, confidential, and non-punitive, and the collected data is used to recommend corrective actions and provide feedback.

Based on railroad industry support and positive evaluations of the pilot projects, FRA has already facilitated expansion of the Amtrak implementation nationwide in the transportation department. The expansion includes all Amtrak-owned and -controlled property, as well as the entire Northeast Corridor. In addition, Amtrak is implementing C^3RS in its mechanical department, and anticipates further expansion to the engineering department by the end of 2014.

In December 2013, Strasburg Railroad became the first small railroad in the county to implement C^3RS. The Union Pacific Railroad is in the early planning stages of implementing C^3RS in the transportation department system-wide. New Jersey Transit (NJT) also intends to continue to participate in C^3RS, and it anticipates developing a new Implementing Memorandum of Understanding (IMOU) in February 2014.

Future new sites in 2014 include: Metro-North Railroad, Long Island Rail Road, Coaster Commuter Railroad, Caltrain, and Utah Transit Authority (both commuter and light rail operations). The developments that have taken place in FY 2013 will pave the way for advancing this concept to a national level in the near future.

Rulemakings

In FY 2013, FRA further focused on the completion of regulations mandated by the RSIA and other high-priority regulations aimed at reducing accidents, incidents, injuries, and fatalities. FRA published a PTC NPRM to add more flexibility by providing exceptions involving de minimis operations, yard movements, and PTC failures. FRA also made updates to track standards, completing a rule addressing vehicle-track interaction (VTI). In addition, following

completion of a study addressing protection of certain information from discovery in legal proceedings, FRA is moving forward with issuing a final rule on System Safety Programs for passenger railroads that would address the RSIA risk reduction rulemaking mandate for such railroads in FY 2014. FRA anticipates issuing an NPRM to do the same for Class I freight railroads and other freight railroads with inadequate safety performance during FY 2014. The VTI and System Safety Program rulemakings are advancing the regulatory framework necessary for introducing new high-speed trainsets and advancing our High-Speed Rail Safety Strategy. FRA also continued to develop final safety standards based on RSAC recommendations and issued a final rule on passenger train emergency systems in CY 2013.

Railroad Safety Advisory Committee (RSAC)
Through its RSAC, FRA works collaboratively with Government entities, railroads, unions, trade associations, suppliers, and other stakeholders to fashion mutually satisfactory solutions on safety regulatory issues. Recently completed RSAC rulemakings include proposed rules on critical incidents stress plans (effect on employees), rail integrity, signal system reporting requirement amendments, and vehicle/track interaction. The RSAC schedule for 2013 also included work to develop recommendations for regulations addressing rail fatigue/failure, System Safety Program Plans for passenger railroads, fatigue management plans, and engineering standards for HSR.

Traditional Rulemakings
FRA has worked to develop additional regulations through the traditional rulemaking process. These rulemakings include final rules for emergency notification systems for grade crossings, expanded post-accident toxicological testing, and a proposed rule on requirements for periodic updating of the National Grade Crossing Inventory.

FRA will continue to work with the regulated industry to support of the implementation of new regulations, particularly those relating to PTC, risk reduction and passenger system safety programs, and training standards. After FRA completes the training standards regulation in FY 2014, the Agency will initiate a report required by the RSIA on the certification of certain crafts or classes of employees to determine if a regulation is necessary to reduce the number and rate of accidents and incidents or to improve railroad safety.

Other Initiatives
FRA supported PHMSA in its effort to incorporate widely used, longstanding special permits with established safety records into the regulations. Final rule HM-216B, published in June 25, 2012, incorporated seven such special permits. FRA will continue to support and work with PHMSA on future DOT hazardous materials regulations.

RRP

RRP is an FRA-led, industrywide initiative to reduce accidents and injuries and build strong safety cultures by developing innovative methods, processes, and technologies to identify and correct individual and systemic contributing factors using “upstream” predictive data. RRP will incorporate developing knowledge of precursors to actual accidents, confidential reporting, effective problem analysis, and corrective actions. The adoption of new non-regulatory

approaches creates the opportunity for accelerated improvement but does not supersede current regulatory approaches. After FRA initiated this program on its own, the RSIA made completion of a regulation on it mandatory.

FRA envisions a wide variety of projects that could fit under the RRP umbrella. Some examples include C^3RS, peer-to-peer coaching and feedback programs like Clear Signal for Action (CSA), and management development systems. In addition, use of the Track Quality Index or innovative uses of wayside equipment monitors and sensors for predictive maintenance or capital investment may qualify as RRP programs. Any innovative use of predictive data could become a potential pilot project.

FRA has also initiated a program to make the use of personal electronic devices by railroad employees engaged in safety-critical work socially unacceptable. FRA is developing peer-to-peer coaching programs to effect major safety culture changes throughout the industry with assistance of the RSAC. The first meeting of the RSAC working group focusing on electronic device distraction was held in October 2011. Subsequent meetings of the working group led to development of an overall strategy that included outreach and education campaigns, surveys, and focus groups to assess the degree to which device use is accepted on the railroads, and demonstration projects of pilot programs to make use of personal electronic devices socially unacceptable on the railroads. FRA published a Notice of Funds Availability to request applications for the pilot programs, and as a result, awarded $200,000 to the Norfolk Southern Corporation for development of a peer-to-peer program focused on electronic device usage. FRA developed a survey form intended to gain knowledge of the current uses of and attitudes about electronic devices in the railroad industry. FRA plans to use the information over the next several years to assess the effectiveness of risk mitigations, and to target new mitigation strategies.

The Office of Railroad Safety provided limited grants when funds were made available in response to the provision in the RSIA that allows FRA to develop pilot programs to inform development of the regulation. In October 2009, FRA provided grants to several projects submitted by Amtrak and Class I freight railroads. The projects listed below were chosen for their likelihood to improve safety and reduce risk and for the applicability for collaborative transfer to other railroads.

- Safety Culture Change (Amtrak)
- Reduce Grade Crossing Fatalities (Amtrak)
- Cross-functional Risk Reduction (Amtrak)
- Track Substructure Risk Mitigation and Reliability Improvement Project (Amtrak)
- Behavioral Accident Prevention Process (PRIDE) (BNSF Railway (BNSF))
- Unattended Track Geometry Inspection (Soo Line Railroad)
- Continuous High-Speed Rail Test (CSX Transportation (CSX))
- Broken Rail Risk Reduction (Norfolk Southern Railway (NS))
- Fatigue Risk Management System (Union Pacific Railroad (UP))

FRA selected and provided additional grants to projects that showed the greatest ability to affect risk levels. As a result of these projects, some programs have been expanded, and some continue

in pilot mode. For example, Amtrak has expanded its original cross-functional risk reduction teams, and incorporated them as a part of a system-wide safety culture program known as Safe-2-Safer, and UP has developed a comprehensive Fatigue Risk Management Program that prepares them to address the safety needs of their employees and lead the industry in addressing fatigue in a proactive and comprehensive way. NS and CSX both elected to test technologies for HSR flaw detection; NS determined that the technology did not provide the benefits anticipated and discontinued the pilot, but CSX is continuing the project in order to test the next generation of the equipment. BNSF has implemented a functioning peer-to-peer safety intervention program addressing a wide variety of operational risks, including distractions due to electronic devices. The BNSF program continues to be supported by the railroad in pilot mode.

In addition to the voluntary programs noted above, in FY 2014, FRA expects to promulgate an NPRM requiring certain railroads to develop and implement an RRP, and file the RRP plans with FRA. Once the regulation is a published final rule and in effect, FRA will initiate approval of the RRP plans and monitor the railroads' compliance to ensure that railroads proactively identify and address risks associated with the RRP. The regulation will not apply to the entire industry. It will only apply to Class I freight railroads and other freight railroads with inadequate safety performance. In order to address the issue for passenger operations, FRA is developing a separate rule requiring those passenger operations to develop System Safety Programs (SSP). The SSP regulation differs from the RRP regulation in order to account for the operational and structural differences between passenger and freight railroads, but in general, the requirements are compatible and railroads complying with SSP will be deemed to be complying with RRP. Both RRP plans and SSP plans are required by statute to include risk assessment and mitigation, technology implementation plans, and fatigue management plans.

Passenger Rail

In 2009, FRA formally established the Passenger Rail Division (PRD) to support the RSIA initiative for the development of passenger rail system safety programs throughout the United States, and the American Recovery and Reinvestment Act of 2009 (ARRA) initiative for high-speed and commuter passenger rail development. PRD coordinates and maintains FRA safety policies, regulations, and guidance for matters related to high-speed, intercity, commuter, tourist/excursion, and shared-use rail operations.

The primary focus of the PRD is to provide for the safety of passenger rail operations through proactive collaboration with industry, and the development of Federal standards for passenger rail equipment and operations. In addition, the Division helps evaluate the safety of proposed rail operations, including line extensions and shared use operations. This Division concentrates on issues associated with the design, implementation, and operation of passenger rail projects pertaining in particular to system safety, emergency response and preparedness, equipment compliance, and hazard identification and mitigation. These issues are particularly important in the startup of new passenger rail systems ("new starts") or extensions to existing systems. PRD is currently working with projects in Florida (SunRail, Florida East Coast, All Aboard Florida), Colorado (RTD Denver), California (Perris Valley, California High-Speed Rail, SMART), Texas (TexRail), Michigan (SEMCOG, WALLY), North Carolina, New Jersey, New York, Washington, and Utah. PRD has also been a liaison with the Association of Tourist Railroads

and Railway Museums (ATRRM) regarding recent and future rulemakings as well as general railroad and passenger safety. The Division's responsibilities also include a focus on pilot projects that involve the application of new technologies intended to improve safety.

Another major responsibility of the Division is to manage all passenger equipment procurements for new and existing operations. PRD has developed a project management process that enables FRA to more efficiently handle compliance reviews for the large number of passenger equipment projects that have grown substantially in recent years. The process allows FRA to take a more proactive approach to ensuring that new equipment meets all Federal safety standards. PRD staff acts as the liaison between the railroad and FRA's technical divisions to ensure that the railroads and their suppliers understand the expectations and requirements, and submit them to FRA in a timely manner. PRD continues to develop tools and procedures to improve this process, particularly as the number of new starts increases and recent PRIIA procurements involve agencies and participants with little to no experience with FRA safety requirements or the assessment process.[4] PRD is currently working on projects with several agencies including: South Florida Regional Transportation Authority (SFRTA), SunRail, Denver RTD, Massachusetts Bay Transportation Authority (MBTA), Caltrans, Caltrain, Michigan (SEMCOG), Oregon DOT, Washington DOT, All Aboard Florida, SMART, Metrolink, Illinois DOT, Missouri DOT, Michigan DOT, Maryland MTA, and Amtrak.

Along with managing equipment compliance projects, PRD staff is also heavily involved with the development of new passenger equipment regulations through the RSAC Passenger Safety Working Group's Engineering Task Force (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, and establishing safety standards for the next generation of HSR equipment.

In addition to its work with passenger rail systems under FRA jurisdiction, PRD also works with the Federal Transit Administration (FTA) on urban rapid transit projects that use, share, or connect to the U.S. general railroad system. These projects are referred to as "shared use projects" and often involve one or more waivers from FRA safety regulations. PRD works with FTA and all other stakeholders (including host railroads) to ensure an equivalent level of safety is maintained, at a minimum, if any waivers are issued.

FRA has an outreach program to provide passenger railroads with training and information on system safety techniques. System safety 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.

[4] PRIIA 305 procurements – Passenger equipment procurements (locomotives or rolling stock), which makes use of "standardized" equipment specifications, as developed by the Next Generation Equipment Committee (NGEC), established by Section 305 of PRIIA. These procurements are often multi-State procurements to leverage economies of scale and common project management.

In FY 2014, PRD will also begin to develop a process to review railroad SSPs, audit criteria to evaluate the railroads' implementation of the SSP, and their hazard analysis process.

In FY 2014, PRD plans to provide system safety outreach workshops to railroads, labor, and industry groups on the implementation, hazard analysis, safety culture, and safety management systems associated with system safety regulation. Separate workshops will be provided for regional personnel on the SSP concepts, implementation, and oversight.

The PRD will continue to develop and provide training and information on system safety and FRA requirements to all passenger rail new starts. PRD's goal is for all passenger rail new starts to have adequate training and information to establish their own System Safety Program Plans. In addition, PRD will continue its outreach to all existing passenger rail systems, including Amtrak, to promote the safe operation of trains.

In FY 2014, PRD will be implementing the changes to the Emergency Preparedness regulations. In FY 2015, PRD anticipates the implementation of the Passenger Train Door Operation and Safety rule.

FRA regulations currently support maximum train speeds of 150 mph. The vision contained in the RSIA and ARRA contemplates train speeds of up to 220 mph. FRA is currently working with several HSR projects, both directly and through the RSAC process, to identify appropriate requirements for these and similar operations. PRD continues to work with the FRA Office of Railroad Policy and Development on all HSR projects to ensure proactive engagement between all parties on safety-related matters.

In addition, the President's FY 2014 budget for FRA lays out a comprehensive, multiyear reauthorization blueprint for moving forward. The fundamental goal of that proposal is to take a more coordinated approach to enhancing the Nation's rail system; an integrated strategy that addresses safety and passenger and freight service improvements. This new approach better reflects the complex reality of how rail works in the United States—most tracks are privately owned and carry a mix of passenger and freight trains. Safety is improved through regulations and inspections, but also through capital investments. For example, chokepoints often hinder the efficient movement of intercity passenger, commuter, and freight trains. The reauthorization proposal has key priorities that include enhancing world-class rail safety with innovative safety practices and new technologies; modernizing the rail infrastructure of the Northeast Corridor; and promoting innovation by U.S. companies to develop patents for state-of-the-art rail technology to supply rail operators throughout the world. It also includes meeting the growing market demand in the United States with market-based investments in building or improving passenger rail corridors, eliminating rail bottlenecks, adding freight capacity, and conducting comprehensive planning. RSIA was a key piece of legislation to enhance rail safety comprehensively. FRA has focused on establishing and implementing the regulations, programs, and other measures required by RSIA.

Looking ahead, FRA is poised to begin fully implementing these regulations in an effort to drive safety rates to further record lows. The Agency is exploring options for addressing a number of

important safety regulatory issues, including hours of service and harmonizing operating rules. FRA recently issued fatigue-science-based hours of service regulations for passenger train employees under new authority granted by RSIA. The Agency would like to evaluate the benefits and costs of continuing on this course and focus on addressing other fatigue issues with expanded authority to regulate the hours of service of other train employees, signal employees, and dispatching service employees based on sound science. FRA plans to evaluate the benefits and costs of harmonizing operating rules. Each railroad has its own set of operating rules that may differ significantly from one division to another and from one railroad to another. Many operating crew employees are required to learn a variety of different operating rules in order to operate safely in a single tour of duty. Harmonizing operating rules will likely reduce unnecessary confusion and create a safer working environment.

Goal #2: Improving the consistency and effectiveness of enforcement and compliance programs.

FRA has many ongoing programs in place to improve the consistency and effectiveness of enforcement and compliance programs, including those presented below that implement various RSIA mandates.

Industrial Hygiene

The Industrial Hygiene (IH) Division has a dual role within FRA. It is responsible for performing activities in support of enforcement of regulations and implementing internal Occupational Safety and Health Administration (OSHA) compliance programs for the safety and health of FRA employees. The IH Division's responsibility for implementing FRA's internal Occupational Safety and Health (OSH) programs is part of FRA's SMS activities.

In regulatory enforcement, the Division's primary responsibility is to ensure compliance with regulations governing occupational noise exposures in locomotive cabs (49 CFR Part 227 and 229.121) and exposures to contaminants in the cabs of maintenance-of-way equipment (49 CFR Section 214.505). The Division is also responsible for ensuring the safety and health requirements for camp cars provided by railroads as sleeping quarters. FRA issued a new regulation as mandated by RSIA.

FRA's Locomotive Hearing Conservation regulation, 49 CFR Part 227, requires railroads to determine the degree to which their operating employees are exposed to occupational noise while in the locomotive cab and, if such exposures exceed a certain level, establish a hearing conservation program. Section 229.121 of FRA's Locomotive Safety Standards regulation establishes a noise level performance standard for locomotives manufactured after October 29, 2007, and defines methods of compliance to include maintenance standards and testing criteria and procedures.

FRA's IH Division performs audits of the railroads to determine their compliance with the requirements of the hearing conservation rule. By the end of FY 2013, the division completed 79 audits; the first several primarily focused on the larger carriers. The audits of short-line and mid-sized carriers have emphasized ensuring these carriers have done initial determinations of

coverage and exposure assessments. The purpose of the program is to assist in railroad carrier understanding of and compliance with the requirements of these parts, and to provide limited assistance to the smaller carriers with limited resources. In 2006, the division developed and published a comprehensive Occupational Noise Exposure compliance manual that provides interpretive guidance and a compliance checklist to both FRA inspectors and the public, including the carriers, through the FRA Web site.

The IH Division will continue to conduct audits of at least four railroads per region, with at least two of the audits being of short-line carriers. The audits will be conducted with the assistance of and in coordination with each region to ensure that FRA identifies the proper breadth of railroad operating environments where carrier operating employees are exposed to noise. FRA will return to re-audit the larger carriers to determine that their programs are performing as required—doing the refresher training, periodic audiometric testing, and additional exposure monitoring that may be necessary due to changes in operations or equipment.

Title 49 CFR Section 214.505 (*Required environmental control and protection systems for new on-track roadway maintenance machines with enclosed cabs*) contains requirements and exposure determinations and program evaluations that are the responsibility of the IH Division.

The Division will continue to perform inspections and audits of these machines and safety and health programs—primarily the carriers' exposure monitoring and respiratory protection programs—to ensure compliance. To facilitate these activities, the Division developed and provided compliance guidance for use by the Track inspectors and specialists, and the IH staff. This guidance helps to ensure consistency when performing the necessary evaluations of this equipment and the programs involved.

Audits and inspections of carrier compliance with the new safety and health requirements for camp cars provided by railroads as sleeping quarters will continue in future years. As this rule presently applies to only one carrier, the breadth of these audits will be more limited than the others. In March 2013, the IH Division developed and published a comprehensive Camp Car compliance manual that provides interpretive guidance and a compliance checklist to both FRA inspectors and the public, including the carriers, through the FRA Web site.

In addition to the compliance activities in occupational noise, camp cars, and roadway maintenance machine ventilation, the IH Division supports the MP&E, Track and Structures, OP, HM, and S&TC disciplines in the use of fall protection for railroad bridge work, diesel exhaust in locomotive cabs, and enforcing U.S. Environmental Protection Agency (EPA) noise standards from 40 CFR Part 201 under 49 CFR Part 210. In addition, the Division supports enforcement activities under 49 CFR Section 229.129, *Locomotive horn*.

The Division also has primary responsibility for FRA internal safety and health compliance programs including blood borne pathogens, confined space entry, hearing conservation, hazard communication, radiation protection, and injury and illness reporting. The Division develops the structure of the programs, develops and provides the training associated with them, provides guidance for compliance, and maintains all necessary records.

Future Industrial Hygiene Safety Strategy

FRA's strategy for railroad and agency employee safety and health moving forward follows several paths.

As with any new regulation, it is critical that those persons governed by the requirements clearly understand what is expected of them. To this end, FRA intends to focus on education and outreach through participation in industry conferences and seminars where training opportunities are made available to railroads, especially the smaller entities. Enforcement of the Part 227 Occupational Noise Exposure Standards (49 CFR Part 227) will be used to both educate as well as elicit compliance.

Upon finding deficiencies, FRA plans to continue the practice of notifying the carriers and giving them the opportunity to correct the identified deficiencies through the non-punitive aspects of the railroad inspection program. Railroads failing to obtain substantive improvement in a reasonable timeframe, however, may lead to the imposition of civil penalties.

Prior to FY 2014, FRA will have:

1. Completed Part 227 audits of 85 railroads (Class I railroads and smaller railroads).
2. Completed Part 228 inspections/audits of 6 camp car camps.
3. Completed Part 214.505 inspections/audits of 8 roadway maintenance machine operations.
4. Developed and published an Occupational Noise exposure compliance manual.
5. Developed and published a Camp Car rules compliance manual.
6. Developed compliance guidance for Track Discipline and IH staff.

In FY 2014, FRA will:

1. Perform Part 227 audits of 32 railroads with at least 2 being re-audits of Class I railroads.
2. Perform 8 Part 214.505 of all classes of railroads.
3. Perform 6 Part 228 audits of Camp Car camp health and safety compliance.
4. Review, and revise if necessary, the Part 227 Occupational Noise compliance manual reflecting lessons learned during the previous audits.

In FY 2015, FRA will:

1. Perform Part 227 audits of 32 railroads with at least 2 being re-audits of Class I railroads.
2. Perform 8 Part 214.505 inspections/audits of all classes of railroads.
3. Perform 6 Part 228 audits of Camp Car camp health and safety compliance.
4. Review, and revise if necessary, the Part 214.505 Roadway Maintenance Machine rules guidance reflecting lessons learned during the previous audits.

In FY 2016, FRA will:

1. Perform Part 227 audits of 32 railroads with at least 2 being re-audits of Class I railroads.
2. Perform 8 Part 214.505 inspections/audits of all classes of railroads.
3. Perform 6 Part 228 audits of Camp Car camp health and safety compliance.
4. Review, and revise if necessary, the Part 228 Camp Car rules compliance manual reflecting lessons learned during the previous audits.

In FY 2017, FRA will:

1. Perform Part 227 audits of 32 railroads with at least 2 being re-audits of Class I railroads.
2. Perform 8 Part 214.505 inspections/audits of all classes of railroads.
3. Perform 6 Part 228 audits of Camp Car camp health and safety compliance.

In FY 2018, FRA will:

1. Perform Part 227 audits of 32 railroads with at least 2 being re-audits of Class I railroads.
2. Perform 8 Part 214.505 inspections/audits of all classes of railroads.
3. Perform 6 Part 228 audits of Camp Car camp health and safety compliance.

Discipline-Specific Technical Training

The Rail Safety Technical Training Standards Division (TTSD) is staffed with discipline-specific trainers that train inspectors throughout the year on FRA safety regulations and policies. The primary mission of the TTSD is to manage the Office of Railroad Safety's Technical Training Program for the 609 Federal and participating State railroad safety inspectors and specialists of the five technical disciplines. In order to accomplish this mission, the Division designs, develops, and delivers specialized internal courses and administers contract training from external sources, as necessary. A test is given before and after each class to confirm that inspectors are learning skills to enforce safety regulations effectively. TTSD also employs third- and fourth-level evaluation instruments to promote enhanced learning transfer and a higher retention of newly acquired skills. Classroom training using established training modules includes compliance directives and/or interpretive guidance from newly issued technical bulletins, compliance manuals, and new regulations or revisions. Classroom training is augmented with Web-based training modules consisting of short video vignettes and interactive slide shows, allowing the learner to learn at his or her own pace. All TTSD technical training is developed and delivered in accordance with generally accepted principals of adult learning.

Technical training is based on organizational needs and is therefore considered mandatory. Various types of analyses are performed to determine the organizational needs, including feedback from headquarters, the regions, and the inspectors. On average, the Division manages approximately 50 classes in 20 different courses of study each year. TTSD also develops and delivers general training to all Federal and State employees who may be assigned to perform accident investigations or write specialized reports, and to meet special Agency needs such as steam locomotive inspections, railroad noise emissions tests, and initiatives associated with risk identification/mitigation such as fatigue analysis, and close call reporting. On average, new inspectors receive about 168 hours of classroom training during their first 2 years of employment. After 2 years, all inspectors and regional specialists receive at least 24 hours of classroom training each year.

TTSD is also tasked with providing technical training to external safety-sensitive railroad employees in connection with C^3RS and CSA. Both programs represent major FRA risk reduction initiatives for both freight and passenger/commuter railroad operations nationwide.

Section 401 of the RSIA required FRA to issue a training regulation for all safety-related railroad employees. The NPRM (Part 243) was published on February 7, 2012, and FRA is developing a final rule. The minimum training standards regulation (49 CFR Part 243) will require FRA to review and approve training programs for safety-sensitive railroad employees. TTSD will manage all aspects of Part 243 oversight, including educational outreach. Once the final rule is published, TTSD will review and approve training programs developed by railroads, contractors, learning institutions, and training organizations the railroad industry intends to administer to qualify safety-related railroad workers. TTSD will identify compliant and noncompliant training programs, and when necessary, provide specific recommendation(s) for program remediation. In addition, TTSD will conduct national oversight audits to evaluate proper implementation and execution of training programs affecting safety-related railroad workers. Prior to an expected implementation date, TTSD will be performing outreach to many railroads, especially smaller railroads, to provide education.

The TTSD develops and administers on-the-job training standards for new Federal and State railroad safety inspectors and inspector trainees. These standards, based on a model used by the U.S. Department of Defense, are specific to FRA inspection tasks. On-the-job training (OJT) standards are updated as needed to ensure relevance with regulatory changes and consistency with evolving Agency policy. OJT standards are designed to ensure that the tasks are fully described, that conditions for learning transfer are present, and that standards of proficiency are met before an inspector is deemed qualified to perform independent inspections/investigations.

FRA promotes continuous learning by encouraging use of the Inspector Competency Model. The model is predicated on workforce planning and development for the five railroad safety inspector disciplines. The purpose is to position FRA for success by ensuring that the workforce has the necessary knowledge and skills to contribute fully to mission accomplishment, now and in the future. The workforce planning process included getting input from FRA's Administrator, Deputy Administrator, and all levels of the Office of Railroad Safety, including focus groups of specialists and inspectors from each discipline. FRA identified 16 core competencies for the five safety inspector disciplines. Application of the Inspector Competency Model is delegated principally to the regions to manage, and it provides FRA a means to measure employees objectively and identify those needing additional development. Such employees receive non-punitive positive interventions such as coaching, mentoring, self-study, practice with feedback, or formal training, as appropriate.

Technical Bulletins

Technical bulletins are internal documents (usually memoranda) issued to FRA's safety personnel by FRA's Director of Safety Assurance and Compliance. The bulletins provide interpretive guidance and they help clarify specific issues under the rail safety regulations and other safety issues. Technical bulletins improve the awareness of inspectors and industry persons in terms of what is expected from them when enforcing or complying with existing safety regulations. The intermediate outcome is more uniform application and enforcement of the regulations, which improves the quality of compliance and data used to measure achievement of safety goals. Newly produced bulletins are immediately distributed to inspectors by email, added to REG-Trieve disks every quarter (which are distributed to inspectors for easy access to

these documents on their laptop computers), and incorporated into training classes. Division Staff Directors associated with the subject matter contained in the technical bulletin are also required to host a briefing webinar with all Office of Railroad Safety stakeholders in the field. The purpose of the webinar is to immediately communicate organizational expectations and give stakeholders an opportunity to ask questions related to the newly issued technical bulletin. Technical bulletins are also posted on the FRA Web site. In October 2012, FRA published HMG-127, Hazardous Materials Guidance on One-Time Movement Approval Procedures. In August 2013, FRA published T-13-01, Guidance Regarding the Application of Vehicle/Track Interaction Safety Standards; High-Speed and High Cant Deficiency Operations; Final Rule, Track Classes 1-5; and in September 2013, FRA also published T-13-02, Guidance Regarding the Application of Vehicle/Track Interaction Safety Standards; High-Speed and High Cant Deficiency Operations; Final Rule, Track Classes 6–9. Per the OIG's recent report on FRA's implementation status of the Rail Safety Improvement Act of 2008 mandates, FRA is currently auditing the technical bulletin process and ensuring that all technical bulletins are also included in any relevant compliance manuals.

Compliance Manuals

The Office of Railroad Safety uses manuals to establish and clarify organizational expectations for railroad safety inspectors, safety specialists, and regional managers. All of the manuals are primary source documents for both classroom and on-the-job training.

The General Manual describes the organization of DOT, of FRA generally, and of the Office of Railroad Safety specifically. This manual includes step-by-step instructions that regions and inspectors must use when performing accident investigations, clarifies general expectations for use of enforcement and other compliance tools, explains in general terms other safety mechanisms and investigations the Office of Railroad Safety uses to ensure a higher level of safety in the United States, and provides interviewing guidance.

The Office of Railroad Safety also publishes compliance manuals on the FRA public Web site for the railroad safety inspection disciplines. These manuals establish organizational expectations for inspection tasks, establish specialized investigation requirements, and explain the appropriate application of FRA safety regulations. All discipline-specific compliance manuals (OP, MP&E, Hazardous Materials, S&TC, and Track) have been updated in the past year and published to FRA's Web site. FRA also published a manual on guidance for the new regulations on inspecting camp cars. The compliance manuals have been posted on FRA's Web site and distributed to both internal stakeholders and participating State rail safety personnel.

Performance Evaluations

Performance evaluations for the Regional Administrators include GPRA safety goals. Quarterly progress reports are provided to the regions showing their progress toward their share of annual national goals. The intermediate outcome provides a means for evaluating what the region is doing to improve safety and a way to verify the successfulness of the region's safety efforts.

Rail and Infrastructure Integrity

The Rail Integrity section is an essential part of the Rail and Infrastructure Integrity Division. This Division includes the Rail Integrity section and the Bridge group. The Rail Integrity section provides FRA oversight on rail maintenance programs. They maintain FRA safety policies and provide guidance for rail-related issues as determined by 49 CFR Part 213, Track Safety Standards, including non-destructive rail inspection programs, defective rail identification and remedial action, rail inspection frequencies, and rail inspection records. The group is the primary representative for the Office of Railroad Safety and other FRA divisions concerning rail-related incidents that affect railway safety.

The purpose of the Rail Integrity section is to provide expert advice and assistance to FRA headquarters and regional track safety staff on safety issues relating to management, inspection, and maintenance of railroad rail; railroad safety issues related to rail and components; and issues concerning rail defect development, rail failure, and rail-caused train accidents.

The Rail Integrity section analyzes the current industry non-destructive rail inspection programs and processes, rail maintenance programs, and makes recommendations on those analyses. They perform onsite inspections, investigations, and evaluations to determine the effectiveness of railroad safety programs that address the inspection, maintenance, and replacement of rail. They also provide oversight into the capabilities of the various non-destructive detection systems, training and experience of the flaw detector car operators, and accuracy of the defect verification process used by the test car operator.

FRA has worked with industry members through the RSAC process to develop proposed regulations for a new performance-based model for scheduling rail flaw detection, adjusted remedial actions for rail flaws, plug rail test requirements, and a significantly improved reporting of the rail inspection information. FRA was also instrumental in developing a minimum qualification for the rail flaw detector car operator which will be published as a final rule (i.e., 49 CFR Section 213.238) in FY 2014. Implementation of this final rule will begin at the end of FY 2014. FRA is continuing the support the implementation of new rail integrity standards and has initiated a new RSAC working group to focus on rail failure and the proper methods to maintain rail.

The Rail Integrity section is also responsible for reviewing railroad plans and procedures for the installation, maintenance, and inspection of continuous welded rail (CWR), and to assure compliance with new regulations recently issued in that area. The section has a responsibility to coordinate the review and conformance assessment of the railroad CWR plans, distribution and processing of the plans, and make the necessary recommendations to ensure that consistent CWR maintenance plans are effective nationwide. The review and assessment of the railroad CWR plans expand FRA's capability to enforce any noncompliant CWR maintenance and installation condition.

The Rail Integrity section has also developed a track inspector Rail Defect Reference Manual for use by inspectors and railroad personnel. The use of the Rail Defect Reference Manual will ensure continued and accurate FRA oversight in railroad rail failure analysis and rail failure-caused derailment investigations. Proper rail failure analysis is particularly important when

working with the various agencies and organizations associated with derailment investigations and is an essential tool for the inspectors to use when providing reports on rail-related incidents to the media or other agencies. The first edition of the manual was issued to FRA inspectors in August 2011. The manual will be revised periodically, as required, and currently is being revised to include two additional chapters concerning the rail grinding and rail welding processes. The revised manual will be published in FY 2014.

Automated Track Inspection Program

In the field of track geometry technology, FRA currently oversees a fleet of five track inspection cars: three cars under the Automated Track Inspection Program (ATIP), two cars under FRA's Office of Railroad Policy and Development, and one auxiliary/buffer car. These advanced, specially designed cars provide accurate track geometry information as well as other track-related intelligence data to assess compliance with 49 CFR Part 213, Track Safety Standards. Collectively, the cars can average about 154 miles per day out of approximately 140,000 miles of main and siding track, with major priorities given to passenger, hazardous material (hazmat), and defense-related routes. The track data collected under ATIP is used by FRA's railroad inspectors and by railroads to ensure track safety and to assess track safety trends within the industry. The data will also begin to track duplicate exceptions that are discovered by the ATIP cars and inform Office of Railroad Safety personnel. The railroads often use ATIP data as a way of checking quality assurance on their inspection and maintenance. In order to facilitate use of the collected data, ATIP will distribute quarterly survey reports to the Agency and railroad managers to promote consistent application. ATIP will place additional emphasis on Amtrak and commuter routes to promote passenger safety. To support this goal, ATIP will identify track segment locations based on quality index for additional attention by ATIP, regions, and railroads. In FY 2013, ATIP began the use of unmanned geometry cars to increase track inspection mileage while reducing per mile inspection cost relative to the ATIP cars. Unmanned and manned systems will allow ATIP to have a greater coverage of the U.S. rail system while controlling the costs of the operation to both headquarters and regional personnel. This is a hybrid between autonomous and manned operations, and will allow FRA to still have data analyzed and input by humans, but allow the cars to run unmanned throughout the country. FRA is also formulating another strategy to more efficiently use track data for inspection prioritization to align ATIP goals more closely with FRA's risk-based inspection planning. The risk-based inspection will take into account prior ATIP inspections along with regional input to better align the ATIP schedule with the Regional Inspection Plan. This approach will give ATIP the ability to route the cars to the areas of highest importance.

Goal #3: Improving the identification of high-risk highway-rail grade crossings and strengthening enforcement and other methods to increase grade crossing safety.

There are 129,644 public highway-rail grade crossings located throughout the United States, where the potential exists 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 crash. Collisions at highway-rail grade crossings are the second leading cause of rail-related fatalities, accounting for 33 percent of all fatalities in 2012.

During the past 4 calendar years for which complete data is available, grade crossing collisions have remained relatively constant in absolute terms with a slight increase of 2 percent, from 1,933 in 2009 to 1,970 in 2012. Unfortunately, total casualties have increased, with fatalities reduced by 6 percent and injuries up 27 percent. The number of incidents and casualties remains a concern for FRA. While the absolute number of collisions has remained constant, it should be noted that the number of total train miles annually increased by almost 10 percent during these years. The rate of crossing collisions per million train miles has decreased from 2.89 in 2009 to 2.69 in 2012.

FRA will promote and enhance public safety over the next 5 years by reducing the rate of collisions at highway-rail grade crossings (number of crossing collisions per million train miles) and the rail-related deaths and injuries. This will be achieved by using additional public outreach and educational programs and increasing law enforcement partnerships.

During the 5-year period, FRA will continue to partner with national organizations (e.g., Operation Lifesaver (OL)), the Federal Motor Carrier Safety Administration (FMCSA), the Federal Highway Administration (FHWA), the National Highway Traffic Safety Administration (NHTSA), and non-Federal law enforcement agencies to increase awareness and enforcement of highway-rail grade crossing violations. In 1972, when OL began, there were approximately 12,000 collisions between trains and motor vehicles annually. On August 31, 2010, the National Transportation Safety Board commended OL as a leader in reducing highway-rail grade crossing accidents. By 2012, the most recent year for which preliminary statistics are available, the number of train/motor vehicle collisions had been reduced by approximately 84 percent from the 1972 level to 1,970.

The following is a brief description of some of the organizations and how FRA works with them.

ORGANIZATION	DESCRIPTION AND FRA ACTIVITIES
OL	A nonprofit, international, continuing public education program first established in 1972 to end collisions, deaths, and injuries at places where roadways cross train tracks, and on railroad rights-of-way. FRA will provide funding and assistance in program development.
FMCSA	Focuses on reducing crashes, injuries, and fatalities involving large trucks and buses. FRA will join forces with FMCSA outreach efforts and activities to prevent collisions at highway-rail grade crossings. One such example is in 2011 OL in partnership with FRA and FMCSA, launched the “Pro Driver Challenge.” Rail Safety Challenge, a new videogame-style online experience that prepares professional drivers for situations they could face on the road.

ORGANIZATION	DESCRIPTION AND FRA ACTIVITIES
Law Enforcement	Increases partnerships between FRA and law enforcement through FRA's Law Enforcement Liaison Program. In addition, works with the National Sheriffs' Association and the International Chiefs of Police Association to foster a better relationship with law enforcement. FRA's Law Enforcement Liaison Program uses active and retired law officers to work with local law enforcement agencies to stress the importance of enforcement in the prevention of crossing collisions. In 2011 FRA developed model State legislation on highway-rail grade crossing violations by motorist's. FRA recommended that State governments enact the model State law in order to reduce fatalities, injuries, and property damage caused by collisions at highway-rail grade crossings.
FHWA, NHTSA	FRA will continue to work with these agencies and FMCSA to encourage Departmental advocacy for improving crossing safety. FRA is a member of the Department's Intelligent Transportation Systems Management Council to facilitate the inclusion of crossing safety into the development of IntelliDrive.

Prior to FY 2015, FRA will have:

1. Supported implementation of a rule issued in 2012 requiring that railroad carriers establish and maintain a toll-free telephone service for rights-of-way over which it dispatches trains for the reporting of emergencies or other problems.
2. Studied the effectiveness of various highway-rail grade crossing treatments on designated high-speed rail corridors (e.g., Northeast Corridor, North Carolina, and Michigan) and evaluated the economic benefits of the treatments. The purpose of this study is to demonstrate the benefits of making improvements at crossings where passenger and commuter train speeds are being increased.
3. Revised the DOT crossing inventory form, FRA F6180.71, to include new fields that will enhance the ability of States, railroads, FRA, and others to evaluate safety at crossings; and issued a rule mandating the periodic updating of the inventory using the new form by railroads, per RSIA.
4. Issued a rule or established policy and guidance on responsibility for safety at private crossings. This is an action identified in the 2004 Secretary's Action Plan and a continuation of efforts that began in 2006.
5. Updated the Compilation of State Laws and Regulations Affecting Highway-Rail Grade Crossings. This publication compiles the existing State laws concerning highway-rail grade crossings and will be made available to the public.
6. Researched the risk reduction impacts associated with commonly used Alternative Safety Measures in quiet zones (e.g., escape medians) to determine appropriate standard effectiveness rates. This study will potentially expand the approved Supplementary Safety Measures and streamline the review process of Alternative Safety Measures.
7. Begun to update model legislation for highway-rail grade crossing violations.
8. Conducted a study determining the effectiveness of the new Manual on Uniform Traffic Control Devices requirement for all passive crossings to be equipped with either stop or yield signs.

In FY 2015, FRA will:

1. Conduct a study assessing the impact of quiet zones on crossing safety.

In FY 2016, FRA will:

1. Analyze and evaluate highway-rail grade crossing treatments being installed on higher-speed rail corridors (80 miles per hour to 110 miles per hour).
2. Evaluate existing and potential practices for incorporating highway-rail grade crossing safety into Connected Vehicles (ITS).

In FY 2017, FRA will:

1. Update model legislation for highway-rail grade crossing violations.
2. Conduct a study on the demographics of drivers that are involved in fatal highway-rail grade crossing collisions to better target crossing collision efforts.
3. Update the Compilation of State Laws and Regulations Affecting Highway-Rail Grade Crossings. This publication compiles State laws concerning highway-rail grade crossings and will be available to the public.

In FY 2018, FRA will:

1. Conduct a study assessing the impact of quiet zones on crossing safety.
2. Conduct a study to determine if more accurate accident prediction and casualty severity formulas can be developed and whether or not the existing U.S. DOT Accident Prediction Formulas should be revised.

In FY 2019, FRA will:

1. Conduct a study using geographic information system (GIS) data to locate each highway-rail grade crossing collision and determine if there are common characteristics that may contribute to the collisions. This information may then be used to develop engineering, enforcement and education efforts to mitigate these characteristics.
2. Conduct a study to assess the effectiveness of the implementation of State Action Plans on reducing the number of highway-rail grade crossing collisions.

Goal #4: Improving research efforts to enhance and promote railroad safety and performance.

FRA Research and Development

The primary goals of the FRA Research and Development (R&D) program are to enhance railroad safety for conventional rail and to support the development and deployment of safe high-speed rail (HSR) operations. FRA R&D provides the scientific and engineering foundation upon which the safety assurance process is based. FRA's R&D works closely with the Office of Railroad Safety to ensure rulemaking and enforcement use the best available research, knowledge and technologies. For example, in FY 2013, the results of modeling and full-scale testing were used to guide changes to crashworthiness requirements for passenger rail cars.

R&D is also conducted in collaboration with railroad industry partners. Engagement with the Association of American Railroads (AAR) technical committees identifies research topics that are co-funded. In FY 2012, FRA started a 5-year program that is jointly funded with the industry to conduct ongoing research into the root causes of wheel failures.

R&D stakeholder strategies include active engagement with our labor and manufacturing partners, soliciting their input and feedback as participants in oversight committees, working groups, and informal meetings and feedback.

Research and Development Goal

The R&D safety goal is to reduce risk by reducing both the likelihood of accidents occurring and mitigating the consequences, should they occur. Consequences can be defined as the harm to which an individual or group of people is exposed, and, in this sense, is the weighted summation of fatalities, injuries, shock and trauma. Reducing risk over time will reduce the number of accidents and actual harm that occurs.

A safety risk model that will be forward-looking, enabling a proactive approach to improving safety was initiated in FY 2012. The first version of the completed model was completed in September of 2013, after which it will continuously be updated and will be used to prioritize and evaluate R&D activities for the foreseeable future. While the model will be based on historical accident data (as recorded in FRA's Railroad Accident/Incident Reporting and Highway-Rail Accident/Incident databases), it will also incorporate findings from FRA inspections, accountable accidents (those that fall below the FRA reporting dollar threshold), and close call reports. The model will also reflect recent changes in regulations, technology, and operating conditions.

Periodically, FRA, with a cross-industry panel of experts, will revise the safety risk model to reflect the most recent accident data, new technology, operating practices and regulations. The model will be used to guide the safety R&D program, and benefits from the program will be reflected in the model.

One of the critical success factors of previous FRA R&D achievements is the organization of the office into 4 divisions and 10 program areas. The following table shows how divisions and program areas relate to the most frequent causes of accidents and incidents.

R&D Division and Program Area	Accident or Incident Cause				
	Trespass	Grade Crossing	Derailment	Train Collision	All Other Causes
Office of R&D					
Railroad Systems Issues					X
Human Factors Division					
Human Factors Research	X	X	X	X	X
Track Division					
Track and Structures			X		X
Track and Train Interaction			X		
Facilities and Equipment	X	X	X	X	X
Rolling Stock Division					
Rolling Stock and Components			X	X	
Hazardous Materials			X		X
Train Occupant Protection		X	X	X	X
Train Control and Communications Division					
Train Control and Communications			X	X	X
Grade Crossings and Trespass	X	X			

The Railroad Systems Issues program area directs the entire R&D program towards the DOT's goals and provides assurance that those goals are being met. Strategic priorities for the period of this plan are:

- Develop and use a safety risk model to help identify R&D priorities;
- Build FRA capabilities for program evaluation to ensure projects have the highest probability of delivering benefits; and
- Seek opportunities for university funding to develop the future railroad workforce.

The Human Factors Division focuses on safety related to human errors, which currently account for more than one-third of all train accidents in the U.S. railroad industry. Railroads depend on the adaptability of people, as well as the performance of infrastructure, equipment, and control systems to keep the system safe. Railroad workers need knowledge, training, tools and alertness to do their jobs properly and to ensure the public, their coworkers' and their own safety. When train crews are highly fatigued, the average total accident cost has been found to be more than triple the overall average cost of accidents. Strategic priorities for the human factors division for the period of this plan, i.e., FY 2015 to FY 2019 include:

- Conduct pilot trials to improve safety and organizational culture in railroad organizations;
- Conduct research on fatigue, distraction and ergonomics to address individual and team behavior; and

- Develop technology, automation and systems design to minimize the potential for human errors.

Track failure is a leading cause of train derailments in the United States. Incorrect interaction between moving vehicles and the track is a common cause of derailments. Strategic priorities for the period of this plan are:

- Develop track inspection technologies that detect defects before they become failures in service;
- Develop computer modeling capabilities to improve understanding of vehicle-track interaction, wheel and rail profiles and contact conditions;
- Expand the use of autonomous recording methods to provide more frequent and cost-effective measurements of track condition; and
- Develop new methods for monitoring difficult to detect safety issues such as longitudinal rail force, ballast lateral restraint and ballast condition.

R&D in the Rolling Stock Division aims to reduce the likelihood of derailments from equipment failures and to mitigate the consequences should derailments occur through these or other causes. Some of these strategies will also address consequences resulting from other types of accidents, such as derailments. Strategic priorities for the period of this plan are:

- Investigate the effectiveness of wayside and on-board monitoring systems to detect equipment defects;
- Analyze component failure modes to identify necessary improvements in materials and construction methods;
- Prioritize R&D projects to reduce the risk of transporting hazardous materials by rail;
- Build on the recent progress in revising regulations for crashworthiness of rail vehicles to further improve safety in collisions and derailments; and
- Prioritize R&D projects to improve fire safety for passenger cars and for fuel tanks on both conventional locomotives and diesel multiple unit trains.

Train control and communications R&D is aimed at eliminating train-to-train collisions, avoiding over-speed derailments and increasing the safety of track workers. Strategic priorities for the period of this plan are:

- Support the railroads in meeting the deadlines for implementation of PTC;
- Continue to support the Generalized Train Movement Simulator to help the industry implement PTC optimally; and
- Identifying areas of residual risk after PTC implementation to determine future R&D needs.

The Train Control and Communications Division also addresses the top two causes of railroad fatalities and injuries: collisions at highway-rail grade crossings and trespassers hit by trains.

The strategic priorities for the period of this plan are:

- Advance safety technologies, education and community outreach to improve grade crossing and trespass safety through local pilot trials, and then publicize successes;
- Explore opportunities offered by Intelligent Transportation Systems (ITS) to improve grade crossing and trespass safety; and
- Hold research needs workshops on highway-rail grade crossing safety and trespass prevention to identify further opportunities for research-driven improvements to safety.

The FRA-owned Transportation Technology Center (TTC) in Pueblo, Colorado has a strategic role in the R&D program. Since its dedication as the High-Speed Ground Test Center in 1971, it has played an important part in research, development and testing of rail infrastructure and equipment. Amtrak's Acela train, for example, was tested at TTC prior to commencement of revenue service in 2000. The facility will continue to be used to ensure the safe implementation of new rolling stock and infrastructure technology.

FRA's Cab Technology Integration Laboratory (CTIL) is used for human factors research. It is a complete locomotive cab with windows replaced by computer monitors that display images of passing track and scenery. CTIL is housed at the Volpe Center in Cambridge, Massachusetts. In addition to conducting FRA's research, CTIL will be made available to the industry and other researchers.

FRA owns two research rail cars, a road-rail vehicle, instrumented wheelsets, and various portable devices for inspection and measurement. This equipment is managed for FRA under an Operation, Maintenance, Instrumentation and Analysis (OMIA) contract. The contractor is responsible for maintenance and storage of the equipment. This equipment will continue to be used for:

- Independent evaluation by the FRA of railroads' track and structure integrity; and
- Providing a platform for the testing and development of new inspection technologies in the harsh railroad environment.

<u>HSR Research and Development</u>

After the passage of the American Recovery and Reinvestment Act of 2009, which provided capital assistance for HSR corridors and intercity passenger rail service, the FY 2010 budget provided further capital assistance funding and $30 million for HSR R&D. A National Cooperative Rail Research Program (NCRRP) was established with $5 million, and the remaining $25 million was used to fund R&D into technology and operating practices related to HSR.

The NCRRP is managed by the Transportation Research Board. A review panel has been appointed and nine projects have been selected for funding. This work is expected to be completed by September 2015. FRA plans to continue the NCRRP beyond this date at an annual funding level of $5 million.

The principal procurement strategy for the $25 million HSR R&D program was to publish a Broad Agency Announcement in 2010. From more than 100 proposals received, 50 were

selected for funding. The following summarizes the key outcomes expected from this program by the time it concludes in September 2014.

Concrete Crossties

- Tie performance requirements based on empirical and laboratory analyses;
- Industry standards for freeze-thaw testing of whole ties;
- Non-destructive technologies for objectively assessing in-track tie condition;
- Improved materials and manufacturing processes for concrete ties; and
- Full-scale experimental lab for tie, fastener and ballast testing.

Human Factors

- Training and software materials for intercity and high speed passenger CSA programs;
- Web-based learning system for advancing educational opportunities;
- Prototype interactive map display that provides critical information to the locomotive crew;
- Training course for locomotive crew; distraction awareness and vigilance enhancement. Training course made available to industry; and
- Self-administered neurocognitive training system for HSR operators implemented by HSR training departments.

Train Control

- Software tool for analyzing rail traffic to provide daily freight volumes, enabling effective corridor planning;
- New technology to safely join signal wires to rail heads;
- Demonstrated performance of radar-based control of four quadrant grade crossing gates; and
- Technical assessment of the capacity of the 220 MHz spectrum to support PTC operations for high speed rail.

Rail

- Solid state welding technology for joining rails with superior strength over conventional methods;
- Technology for field repair of turnout frogs;
- Corrosion inhibiting treatments for rails to prevent corrosion in tunnels and other wet locations; and
- Automated detection and sizing technology for rail head defects.

Industry Guidance

- Noise and vibration assessment guidelines including the latest international best practices;

- Assessment of risks and possible mitigation techniques for flying ballast under high speed trains;
- Prioritized technical challenges and testing plans for shared freight and passenger corridors; and
- Compilation of procedures and best practices from the international rail industry regarding aerodynamic issues affecting of high speed train operation.

Rolling Stock

- Revised specifications for the next generation of railcars to improve accessibility;
- Revised crash energy management requirements for passenger equipment based on current and emerging industry technology and an analytical performance evaluation; and
- Design and qualification testing of a 70 ton freight truck intended to increase freight speeds on shared corridors.

Track and Structures

- New technology providing high resolution video of track and right-of-way to supplement on-track inspections;
- In-depth study of track support issues at bridge approaches to isolate root causes and to provide engineered remediation techniques;
- Detailed design and bid package for high speed rail turnout utilizing U.S. specified components;
- Fundamental research into track structure deflection and settlement behavior under high speed train traffic;
- Bridge scour detection technology to reduce safety risks associated with degraded piers and foundations; and
- Portable sensors and modeling software to enable periodic assessment of rail bridge condition.

One of the outcomes of the current HSR R&D program is a list of priorities for research planned for FY2015 and beyond. The research needs fall under the following headings:

- Evaluating and mitigating the risk posed to higher speed passenger trains by adjacent track derailments;
- Highway-rail grade crossing safety challenges for shared high-speed rail passenger and heavy axle load freight operations in the United States;
- Special track work for shared high-speed rail passenger and heavy axle load freight operations;
- Ballasted track for shared-use rail corridors;
- VTI characteristics of track transition sections and implications to shared passenger and freight rail corridor operations; and
- Capacity and operating challenges of shared passenger and freight rail corridors.

FRA plans to expand its HSR testing capabilities. The Transportation Technology Center in Colorado has approximately 50 miles of test track with a maximum speed of 165 mph, and several buildings housing varies test machines. Some options for developing the test track and increasing testing speed are shown in the following table.

#	Description	Max. Curve Speed (mph)	Est. Max. Speed (mph)	Construction Time (months)
1	By-pass Railroad Test Track (RTT) reverse curve	162	180	28
2	Extend RTT 6.8 miles to eliminate reverse curve	162	200	32
3	Extend RTT 14.4 miles to northern property limit	187	235	36
4	Extend RTT 17.3 miles using LIMRV alignment	187	230	36
5	New Ultra High Speed Loop within property limits	225	270	36
6	New Ultra High Speed Loop extending north of property limit	225	305	36

Goal #5: Preventing railroad trespasser accidents, incidents, injuries and fatalities.

Trespassing along railroad rights-of-way is the leading cause of rail-related deaths in America. Nationally, close to 500 trespass fatalities occur each year, and nearly as many injuries. By definition, trespassing on private railroad property without permission is illegal. From a study completed in May 2008, FRA learned that trespassers who die are an average of 38 years old and are most often Caucasian males. Approximately two-thirds were under the influence of alcohol and/or drugs. Coroners described the activity of more than 43 percent of the decedents as walking, standing, sleeping, lying, reclining, lounging, or sitting on the track or in the gauge, i.e., between the rails. Seven percent were walking or running across the track. Other activities included riding a recreational vehicle (all-terrain vehicle, dirt bike, snowmobile, etc.), standing outside the gauge but obviously too close, riding or getting on or off a train, driving a highway vehicle, or being on a bridge or trestle.

<u>Future Trespassing Strategies</u>

FRA's future trespassing strategies include the following:

1. Promote and enhance public safety by reducing rail-related deaths and injuries due to trespassing on railroad rights-of-way and other property, using increased public outreach, enforcement and education programs. Strategy consists of activities that FRA plans and organizes (for example, a workshop dedicated to the issues associated with railroad trespassing). Additionally, FRA's grade crossing managers will continue to conduct their own form of outreach through public speaking engagements and distributing FRA produced outreach flyers. FRA's Law Enforcement Liaison program promotes enforcement by using liaison officers to engage in training sessions with fellow police officers about railroad trespassing issues. (Ongoing throughout the next 5 years.)
2. Partner with national organizations to increase awareness and enforcement of railroad trespassing, including OLI.

3. Support efforts conducted by stakeholders in railroad safety. For example, the FRA has partnered with the City of West Palm Beach, FL the South Florida Regional Transportation Authority (SFRTA), CSX Transportation, and other partners, to participate in the Trespass Prevention Research Study. This study is designed to identify and review trespass laws and mitigation strategies. The goal is to successfully reduce trespassing incidents and fatalities.

Prior to FY 2015, FRA will:

1. Award a contract to develop summaries and generic demographic profiles describing the decedents in fatal trespass incidents, and will provide information regarding the at-risk audience to be targeted for additional outreach by the FRA and our partners. This is a follow-up study to the one published in 2008 titled, Rail Trespasser Fatalities; Developing Demographic Profile. This study will use a private contractor to obtain additional demographic data for the time period of 2005–2010 from local county medical examiners so as to develop a general, regional profile of "typical" trespassers in order to target audiences with appropriate education and enforcement campaigns that will reduce the annual number of injuries and fatalities.
2. Plot each trespassing incident and fatality using data collected by the railroads and working with the Geographic Information System. This information will be useful to direct additional outreach, educational resources, and law enforcement activities to areas in need. Effective June 2011, railroads are required to provide latitude/longitude locations for all trespassing casualties reported to FRA.
3. Update the *Compilation of State Laws and Regulations Affecting Highway-Rail Grade Crossing*.
4. Review and update model trespass legislation and vandalism model legislation.
5. Publish its findings from the second edition of "Rail Trespasser Fatalities: Developing Demographic Profile."
6. Publish the 6th Edition of the Compilation of State Laws and Regulations Affecting Highway-Rail Grade Crossing. This edition will have several chapters on laws that affect railroad trespassing and vandalism.
7. Study the impact of Rails-with-Trails program on trespasser and pedestrian safety.
8. Review and update trespass and vandalism prevention strategies.

In FY 2015, FRA will:

1. Host a Right-of-Way Trespass Reduction workshop to take an in-depth look at the issues to identify and share best practices as well as explore new strategies to reduce trespassing.
2. Update a demographic study of trespasser profiles.

In FY 2016, FRA will:

1. Use the new data being collected under Part 225 to conduct an analysis on suicides on railroad rights-of-way.
2. Use the GIS information being collected on trespassing incidents being reported under Part 225 to conduct an analysis to locate "hot spots" where trespassing is likely to occur.

In FY 2017, FRA will:

1. Update the *Compilation of State Laws and Regulations Affecting Highway-Rail Grade Crossing*.
2. Review and update model trespass legislation and vandalism model legislation.
3. Review and update trespass and vandalism prevention strategies.

In FY 2018, FRA will:

1. Host a Right-of-Way Trespass Reduction workshop.
2. Conduct a demographic study of trespasser profiles.
3. Perform an analysis of the various trespass prevention initiatives that were initiated over previous 5 years to determine best practices.

In FY 2019, FRA will:

1. Issue a report outlining the accomplishments, best practices, and model guidelines for reducing trespassing along railroad rights of way.
2. Use the GIS information being collected on trespassing incidents being reported under Part 225 to conduct an analysis to locate areas, especially along high speed rail corridors, and work with local communities to deter railroad trespassing.

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 Bridge Safety Program

Bridges and tunnels are integral to the infrastructure and safe operations of railroads. Railroads must manage their structures to prevent any occurrence of a catastrophic failure.[5] FRA has been conducting evaluations of railroad bridge management programs since the 1980s, before the Statement of Agency Policy on the Safety of Railroad Bridges was issued as an interim statement in 1995 and in final form in August 2000. The policy issued guidelines by which railroads should implement bridge safety management programs, and by which FRA evaluated those programs. FRA issued a revised bridge policy statement in January 2009 to add recommendations developed in 2008 by the Railroad Bridge Working Group of the RSAC.

In September 2007, FRA also issued Safety Advisory 2007-03 to further explain and amplify important aspects of the Agency's bridge safety policy and to re-emphasize the need for railroads to adopt and implement safe maintenance practices to prevent bridge failures.

Prior to the promulgation of the Bridge Safety Standards found in Part 237, FRA conducted evaluations of bridge management practices on a representative sampling of the Nation's

[5] FRA uses the term "catastrophic failure" to describe an incident in which a bridge collapses or directly causes a train accident. A "bridge failure" is a situation in which a bridge is no longer capable of safely performing its intended function.

railroads, including Class I, II, and III freight railroads, and passenger carriers. The evaluations generally compare a railroad's program with the guidelines in the FRA Bridge Safety Policy, and include observations of individual bridges to determine their general condition, as well as the accuracy of the railroad's inspection reports. Most large railroads generally conformed to the FRA guidelines, but FRA discovered instances in which management had not adequately evaluated or addressed critical items delineated in railroad bridge inspection reports before they developed into critical failures or near failures. Many of the smaller railroads evaluated also conformed generally to the guidelines, but a considerable number either fell short by a large degree or showed no evidence of bridge inspection, management, or maintenance.

To meet requirements of the RSIA, the RSAC developed recommendations for a Federal railroad bridge safety regulation that would govern railroads' bridge management programs. These recommendations served as the basis for FRA's Bridge Safety Standards Final Rule that was published in 2010 as 49 CFR Part 237.

This rule established Federal requirements for railroad bridge management programs. Railroads are required to implement bridge management programs that include annual inspections of railroad bridges by qualified persons, among other things. Track owners are required to maintain an accurate inventory of their bridges, know the safe load capacity of bridges, and to conduct special inspections when the weather or other conditions warrant. Bridge management programs also must require adequate design and effective supervision of bridge modification and repairs that would materially modify the capacity of a bridge. Finally, railroads have to audit their bridge management programs and inspections.

The Bridge Safety Standards include a staggered schedule for the adoption of bridge management programs. The initial group of track owners, including Class I freight railroads and major passenger carriers, were required to adopt their respective bridge management programs by March 14, 2011. Class II and III railroads were required to adopt their bridge management programs by September 13, 2011, and September 13, 2012, respectively. FRA's bridge and structures staff has met with all of the Class I and II freight railroads and the major passenger carriers in order to review their respective programs and discuss any apparent oversights or deficiencies. Similar reviews have begun on the Class III and other small railroads with particular emphasis on holding companies that have indicated that their programs were developed at the corporate level and then driven down to the individual subsidiary railroads. Future evaluations of railroad bridge management practices will compare an adopted bridge management program against regulatory requirements for content, followed by a comparison of a track owner's actual practices against those called for in their adopted bridge management program.

FRA examined reports from January 1, 1982, through December 31, 2006, of 51 train accidents caused by the catastrophic structural failure of railroad bridges, an average of two per year. During that 25-year period, two people were injured and no fatalities were attributed to structural bridge failure. Since that period, four instances have been reported to FRA in which lack of adherence to the guidelines in the Bridge Safety Policy resulted in trains operating over structural deficiencies in steel bridges that could very easily have resulted in serious train accidents.

In the most recent 6-year period from January 1, 2007, through December 31, 2012, FRA reports show 17 train accidents occurred due to catastrophic structural failure resulting in seven injuries and no fatalities. Of these train accidents, 14 involved timber trestles, 1 a steel pile trestle, 1 the concrete pier supporting a steel bridge, and 1 was caused by failure of the mechanism of a movable bridge. The most severe of these accidents occurred in 2007 on the M&B Railroad near Myrtlewood, AL, where a train of solid fuel rocket motors derailed when a timber trestle railroad bridge collapsed under the train. Several cars, including one car carrying a rocket motor, rolled onto their sides and six people were injured.

In addition to the development of regulations and the evaluation of railroad bridge management programs, FRA cooperated with ASLRRA and all of the Class I railroads in the development of a bridge management program guidance document that can be used by small railroads to assist in the development of their own bridge management programs. FRA has also provided instruction on bridge management program development at seminars sponsored by ASLRRA.

Federal Investments

The Transportation Investment Generating Economic Recovery (TIGER) program was created under ARRA and received funding from FY 2010 through FY 2013. TIGER grants are to be used for a variety of surface transportation projects and include funding for transit, highway, port and port landside access, maritime, and freight rail projects.

One of the key components grant applicants needed to include in their applications was 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.

FRA has awarded $3.1 billion over four offerings. The short-line segment of the rail industry received slightly over $167 million, principally for track improvements and bridge repairs, which should assist in ensuring the safety of rail operations and state of good repair. In FY 2013, FRA reviewed the fifth round of TIGER grant applications. For the grants awarded to rail projects that improve infrastructure, including bridges, FRA will monitor and assess the safety associated with these improvements in FY 2015 and beyond.

The Railroad Rehabilitation and Improvement Financing (RRIF) Program provides direct Federal loans and loan guarantees to finance the development of railroad infrastructure. FRA gives priority to projects that provide public benefits, including benefits to public safety, the environment, and economic development. Railroads and State and local governments are eligible applicants for projects to acquire, improve or rehabilitate intermodal or rail equipment or facilities, including track, track components, bridges, yards, buildings and shops.

Future Bridge Safety Strategy

FRA's strategy for enhancing railroad bridge safety moving forward follows several paths. As with any new regulation, it is critical that those persons governed by the requirements clearly understand what is expected of them. To this end, FRA intends to focus on education and

outreach through participation in both FRA and industry conferences and seminars where training opportunities are made available to railroads, especially the smaller entities. Enforcement of the new Part 237, Bridge Safety Standards, will be used to both educate as well as elicit compliance. Initially, FRA will focus on track owners' policies and bridge management programs to ensure that their contents meet the minimum requirements of the regulation. Upon finding any deficiencies, FRA plans to place the track owner on notice through the non-punitive aspects of the railroad inspection program. Failing to solicit substantive improvement in a reasonable timeframe may lead to the imposition of civil penalties; however, FRA would prefer to see such funds expended on the maintenance and improvement of the railroad infrastructure. Once FRA is satisfied that a track owner's bridge management program meets the regulatory requirements, the Agency will move to auditing a track owner's compliance with not just the regulations but also their own adopted program. Bridge management including inspection, load capacity evaluation, design, and construction all rely on adherence to sound engineering practices. Typically, these practices and standards have evolved and been documented by professional organizations comprising experts in the field such as the American Railway and Maintenance-of-Way Association (AREMA) and similar organizations. FRA bridge staff will actively participate in the maintenance and development of railroad bridge consensus standards through membership on the various AREMA structures committees.

Prior to FY 2015, FRA will have:

1. Completed Part 237 reviews of Class I freight railroads and major passenger systems.
2. Completed Part 237 reviews of Class II freight railroads.
3. Completed Part 237 reviews of 20% of the over 650+ Class III and other small railroads.[6]
4. Performed bridge inspection audits of Class I and Class II railroads freight railroads and major passenger systems.
5. Developed and published a Bridge Safety Standards compliance manual.

In FY 2015, FRA will:

1. Perform Part 237 reviews of 10 percent of Class III and other small railroads.
2. Perform bridge inspection audits of all classes of railroads.
3. Review and consider updating Part 214, Subpart B, Bridge Worker Safety Standards.
4. Review Part 237, Bridge Safety Standards, for possible revision.

In FY 2016, FRA will:

1. Perform Part 237 reviews of an additional 10 percent of Class III and other small railroads.
2. Perform bridge inspection audits of all classes of railroads.
3. Audit Class I railroads and major passenger system bridge management programs.
4. Review Class I railroads and major passenger systems bridge load capacities.

In FY 2017, FRA will:

1. Perform Part 237 reviews of an additional 10 percent of Class III and other small railroads.

[6] Other railroads are defined (as it was referenced in the final rule for the Bridge Safety Standards) as tourist, scenic, and excursion railroad operations whether they are connected to the general railroad system of transportation.

2. Perform bridge inspection audits of all classes of railroads.
3. Audit Class II railroad bridge management programs.
4. Review Class II railroad bridge load capacities.

In FY 2018, FRA will:

1. Perform Part 237 reviews of an additional 10 percent of Class III and other small railroads.
2. Perform bridge inspection audits of all classes of railroads.
3. Continue audits of Class II railroad Bridge Management Programs.
4. Begin review of Class III and other small railroads bridge load capacities.

In FY 2019, FRA will:

1. Perform Part 237 reviews of an additional 10 percent of Class III and other small railroads.
2. Perform bridge inspection audits of all classes of railroads.
3. Perform bridge management program audits of all classes of railroads.
4. Continue review of Class III and other small railroads bridge load capacities.

RESOURCES NEEDED

The resources needed to meet the safety programs and goals in this strategy plan for FY 2015 are found in FRA's budget request for FY 2015.

PROGRESS ASSESSMENT

A historic review of FRA's safety program (using information from GPRA measures over a number of years) is provided below. These results show the progress made leading up to the RSIA requirements.

FRA Safety Performance Measures

1. GRADE CROSSING INCIDENTS*

Fiscal Year	Incidents	Train-Miles	Rate per Million Train-Miles	
			Actual	GPRA Goal
2004	3,078	764,845,686	4.024	NA
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	786,127,747	3.240	3.750
2009	2,054	687,952,167	2.986	3.650
2010	2,008	692,341,016	2.900	3.650
2011	2,054	712,899,248	2.881	3.500
2012	2,033	733,046,025	2.773	3.300
2013	1,990	741,036,819	2.685	3.100

* All data is current as of February 2014, and are from the FRA's Office of Safety Analysis Data Web site. FY 2012 and 2013 data are preliminary.

2. HUMAN FACTOR-CAUSED TRAIN ACCIDENTS*

Fiscal Year	Accidents	Train-Miles	Rate per Million Train-Miles	
			Actual	GPRA Goal
2004	1,316	764,845,686	1.721	NA
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	786,127,747	1.230	1.660
2009	716	687,952,167	1.041	1.350
2010	656	692,341,016	0.948	1.350
2011	709	712,899,248	0.995	1.250
2012	674	733,046,025	0.919	1.200
2013	658	741,036,819	0.888	1.100

* All data is current as of February 2014, and are from the FRA's Office of Safety Analysis Data Web site. FY 2012 and 2013 data are preliminary.

3. TRACK-CAUSED TRAIN ACCIDENTS*

Fiscal Year	Accidents	Train-Miles	Rate per Million Train-Miles	
			Actual	GPRA Goal
2004	1,005	764,845,686	1.314	NA
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	786,127,747	1.094	1.150
2009	713	687,952,167	1.036	1.150
2010	673	692,341,016	0.972	1.150
2011	680	712,899,248	0.954	1.120
2012	618	733,046,025	0.843	1.080
2013	539	741,036,819	0.727	1.060

* All data is current as of February 2014, and are from the FRA's Office of Safety Analysis Data Web site. FY 2012 and 2013 data are preliminary.

4. EQUIPMENT-CAUSED TRAIN ACCIDENTS*

Fiscal Year	Accidents	Train-Miles	Rate per Million Train-Miles	
			Actual	GPRA Goal
2004	419	764,845,686	0.548	NA
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	342	786,127,747	0.435	0.521
2009	252	687,952,167	0.366	0.450
2010	256	692,341,016	0.370	0.450
2011	244	712,899,248	0.342	0.450
2012	210	733,046,025	0.286	0.430
2013	201	741,036,819	0.271	0.420

* All data is current as of February 2014, and are from the FRA's Office of Safety Analysis Data Web site. FY 2012 and 2013 data are preliminary.

5. OTHER (SIGNAL AND MISCELLANEOUS) TRAIN ACCIDENTS*

Fiscal Year	Accidents	Train-Miles	Rate per Million Train-Miles	
			Actual	GPRA Goal
2004	529	764,845,686	0.692	NA
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	391	786,127,747	0.497	0.647
2009	333	687,952,167	0.484	0.647
2010	342	692,341,016	0.494	0.593
2011	334	712,899,248	0.469	0.590
2012	321	733,046,025	0.438	0.560
2013	319	741,036,819	0.430	0.530

* All data is current as of February 2014, and are from the FRA's Office of Safety Analysis Data Web site. FY 2012 and 2013 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
2004	690	99,471,842,135	1.387	NA
2005	746	106,698,150,776	1.398	1.422
2006	650	113,372,962,173	1.147	1.385
2007	721	118,127,388,438	1.221	1.348
2008	706	115,079,552,454	1.227	1.326
2009	650	113,179,992,644	1.149	1.278
2010	682	128,311,280,742	1.063	1.278
2011	711	131,730,371,516	1.079	1.249
2012	632	135,453,116,948**	0.933**	1.220
2013	647	138,841,247,771**	0.932**	1.218

*All data is current as of February 2014 and are derived from the PHMSA hazmat database and the Carload Waybill Sample.
** Projected.

CONCLUSION

FRA's Railroad Safety Strategy includes a variety of approaches to achieve industry safety improvements. The annual NSPP is focused on critical safety projects that are designed to advance safety improvements. The annual NIP focuses Federal inspection efforts toward areas of railroads needing the most attention and monitors progress made achieving inspection goals. Rulemakings are improving industry actions by providing standards for addressing safety issues. Updating the track standards and completing rules addressing rail integrity and VTI will mark the culmination of the track-related RSIA requirements. The RRP brings industry and FRA together to build a strong safety culture and continuous safety improvement. Issuance of regulations in this area, coupled with training standards, will have broad impact on the safety of employees across crafts and on rail operations in general. FRA support for the successful nationwide implementation of PTC systems will reduce the risk of some of the most severe accidents, including those involving passenger trains and PIH materials. Highway-rail grade crossing and trespass prevention programs promote enhancing public safety through public outreach, educational programs, and increased law enforcement partnerships. FRA's Research and Development Program has a positive safety impact, a positive impact on performance, and identifies promising available technology. Emphasis is placed on producing the maximum possible real-world impact at the earliest possible time.

GPRA requires Federal agencies to develop strategic plans with long-term, outcome-oriented goals and objectives, annual goals linked to achieving the long-term goals, and annual reports on the results achieved. FRA uses this process to evaluate all aspects of its safety programs with the overall focus on six GPRA goals that are designed to support two of DOT's safety strategic objectives (to reduce transportation-related accidents and incidents, and to reduce all transportation-related hazardous materials incidents), as well as its current strategic objective to reduce deaths and injuries. FRA has consistently achieved safety improvements reducing the rates of highway-rail grade crossing incidents, human factor-caused train accidents, track-caused train accidents, equipment-caused train accidents, and other (signal and miscellaneous) train accidents per million train-miles, and rail non-accidental hazardous materials releases per 200 million hazmat ton-miles. FRA remains focused on continuous safety improvement.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

Railroad Safety Strategy FY 2014–2018: Progress Assessment

February 2014

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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) 2013 toward achieving the safety goals for the period from FY 2014 to FY 2018, 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, FRA continued working to improve railroad industry safety and meet the mandates of the RSIA. Comparing FY 2013 to FY 2012, the overall rail-related accident/incident rate per train mile declined by 2 percent.[2] The grade crossing incident rate, human factor-, track-, and equipment-caused train accident rates, as well as the non-accidental rail hazardous materials (hazmat) releases rate, all decreased as well. 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.

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 Title 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 to 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 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 2004 through FY 2013. During this 10-year period, the total number of all reportable

[1] Dated February 2014.
[2] For FY 2013, this rate is based on 12 months of preliminary data.

rail-related accidents and incidents declined 24 percent.[3] Also, train accidents fell by about 47 percent (3,269 vs. 1,717); casualties (deaths and injuries) dropped 9 percent (10,262 vs. 9,313); and highway-rail grade crossing incidents decreased 35 percent (3,078 vs. 1,990). 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.[4]

A historic review of FRA's safety program, including information from the GPRA measures, 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 2004 to FY 2013, 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 33 percent.
- Human factor-caused train accidents rate by 48 percent.
- Track-caused train accidents rate by 45 percent.
- Equipment-caused train accidents rate by 51 percent.
- Other (signal and miscellaneous) train accidents rate by 38 percent.
- Non-accidental rail hazmat releases rate (per 200 million hazmat ton-miles) by 33 percent.
- Rail-related accidents/incidents rate by 22 percent.

[3] 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 is $10,500.

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

1. GRADE CROSSING INCIDENTS*

Fiscal Year	Incidents	Train-Miles	Rate per Million Train-Miles	
			Actual	GPRA Goal
2004	3,078	764,845,686	4.024	NA
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	786,127,747	3.240	3.750
2009	2,054	687,952,167	2.986	3.650
2010	2,008	692,341,016	2.900	3.650
2011	2,054	712,899,248	2.881	3.500
2012	2,033	733,046,025	2.773	3.300
2013	1,990	741,036,819	2.685	3.100

* All data is current as of February 2014, and are from the FRA's Office of Safety Analysis Data Web site. FY 2012 and 2013 data are preliminary.

2. HUMAN FACTOR-CAUSED TRAIN ACCIDENTS*

Fiscal Year	Accidents	Train-Miles	Rate per Million Train-Miles	
			Actual	GPRA Goal
2004	1,316	764,845,686	1.721	NA
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	786,127,747	1.230	1.660
2009	716	687,952,167	1.041	1.350
2010	656	692,341,016	0.948	1.350
2011	709	712,899,248	0.995	1.250
2012	674	733,046,025	0.919	1.200
2013	658	741,036,819	0.888	1.100

* All data is current as of February 2014, and are from the FRA's Office of Safety Analysis Data Web site. FY 2012 and 2013 data are preliminary.

3. TRACK-CAUSED TRAIN ACCIDENTS*

Fiscal Year	Accidents	Train-Miles	Rate per Million Train-Miles	
			Actual	GPRA Goal
2004	1,005	764,845,686	1.314	NA
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	786,127,747	1.094	1.150
2009	713	687,952,167	1.036	1.150
2010	673	692,341,016	0.972	1.150
2011	680	712,899,248	0.954	1.120
2012	618	733,046,025	0.843	1.080
2013	539	741,036,819	0.727	1.060

* All data is current as of February 2014, and are from the FRA's Office of Safety Analysis Data Web site. FY 2012 and 2013 data are preliminary.

4. EQUIPMENT-CAUSED TRAIN ACCIDENTS*

Fiscal Year	Accidents	Train-Miles	Rate per Million Train-Miles	
			Actual	GPRA Goal
2004	419	764,845,686	0.548	NA
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	342	786,127,747	0.435	0.521
2009	252	687,952,167	0.366	0.450
2010	256	692,341,016	0.370	0.450
2011	244	712,899,248	0.342	0.450
2012	210	733,046,025	0.286	0.430
2013	201	741,036,819	0.271	0.420

* All data is current as of February 2014, and are from the FRA's Office of Safety Analysis Data Web site. FY 2012 and 2013 data are preliminary.

5. OTHER (SIGNAL AND MISCELLANEOUS) TRAIN ACCIDENTS*

Fiscal Year	Accidents	Train-Miles	Rate per Million Train-Miles	
			Actual	GPRA Goal
2004	529	764,845,686	0.692	NA
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	391	786,127,747	0.497	0.647
2009	333	687,952,167	0.484	0.647
2010	342	692,341,016	0.494	0.593
2011	334	712,899,248	0.469	0.590
2012	321	733,046,025	0.438	0.560
2013	319	741,036,819	0.430	0.530

* All data is current as of February 2014, and are from the FRA's Office of Safety Analysis Data Web site. FY 2012 and 2013 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
2004	690	99,471,842,135	1.387	NA
2005	746	106,698,150,776	1.398	1.422
2006	650	113,372,962,173	1.147	1.385
2007	721	118,127,388,438	1.221	1.348
2008	706	115,079,552,454	1.227	1.326
2009	650	113,179,992,644	1.149	1.278
2010	682	128,311,280,742	1.063	1.278
2011	711	131,730,371,516	1.079	1.249
2012	632	135,453,116,948**	0.933**	1.220
2013	647	138,841,247,771**	0.932**	1.218

*All data is current as of February 2014, 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
2004	14,562	764,845,686	19.039	17.490
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	786,127,747	16.907	18.450
2009	11,608	687,952,167	16.873	17.000
2010	11,559	692,341,016	16.696	16.400
2011	11,451	712,899,248	16.063	16.400
2012	11,118	733,046,025	15.167	16.300
2013	11,006	741,036,819	14.852	16.300

* All data is current as of February 2014, and are from the FRA's Office of Safety Analysis Data Web site. FY 2012 and 2013 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 FRA's action plans and FRA's 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 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 decision-making 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 for: (1) determining how FRA does business; (2) holding FRA managers accountable for program results; (3) focusing on things such as service quality and customer satisfaction; (4) deciding how management information is made available so it will be more accessible to the general public; and (5) improving the overall management of the safety initiatives. FRA not only evaluates its existing safety programs and has 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 through an efficient process. 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.

FRA, working with stakeholders, is creating an environment to gain voluntary participation to reduce risk from operations using confidential information to assist in decision-making 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 also has a long-term goal 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 supplements 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 FRA Confidential Close Call Reporting System (C^3RS) demonstration project is one example of the risk reduction strategy at work.

NSPP is RRS's annual plan to establish a comprehensive outline for implementation of 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. This is done mainly through analyses of accident data on defects and violations found during inspections, communications among managers at headquarters and with the eight regional offices on the results of analyses and inspections, and further inspections to obtain more information about identified problems. Findings are presented to senior railroad managers that attend meetings with FRA's Administrator for a discussion on how to resolve safety risk issues.

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, focused enforcement, and program evaluation. The objective is to achieve cost effective safety improvement results.

In March 2013, FRA regions reviewed their inspection status against the NIP goals for FY 2013 and made adjustments, as needed, in response to unexpected events such as spikes in accidents that required shifting inspection resources. Between May and August 2013, the FY 2014 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 2014, starting October 1, 2013.

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 ensures that FRA is putting inspectors in the best locations 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 is 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. Dashboard is a tool for managing limited inspection resources when scheduling enforcement activities such as focused inspections and audits. FRA managers monitor inspection activities to ensure that enforcement and compliance policy is applied uniformly. In May 2013, an Outside Normal Shift Dashboard tool was added to allow FRA managers to track the number of hours spent by inspectors on railroad property outside typical work hours, in an effort to improve railroad operating safety.

RSAC is a partnership effort, chartered under the Federal Advisory Committee Act, which FRA established to work with 31 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. Participating parties collaborate on safety tasks that they agree to accept from FRA and work together in an attempt to reach consensus on pressing safety issues. This process has improved the quality of railroad safety initiatives and fostered a greater level of compliance with safety regulations.

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 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 that 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 inexperienced employees, close clearances, hazards on industrial track, risk of being struck by mainline trains, and job or safety briefings.

FAMES analyzes engineering and signalmen fatalities to look for commonalities, develop findings, and make recommendations to the industry in order to prevent similar incidents. In November 2012, FAMES published "The Importance of Effective On-Track Safety Briefings," and in August 2013 also published "Fatal Accident Patterns – Hours of Day."

SOFA and FAMES consist of railroad management, labor organizations, associations, and FRA. Participants 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. FRA (working with railroad management, labor organizations, and individual employees) promotes and assists with marketing, adopting, and implementing non-regulatory programs.

Focused inspections are basic efforts toward achieving success of 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 in an effective and efficient process.

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 encourage 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.

PTC

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 has amended the PTC regulation in consideration of stakeholder requests. In FY 2012, an amendment to the final rule was published reflecting a settlement between FRA and the Association of American Railroads (AAR) that eliminated two risk-based tests. These tests could potentially have caused PTC to be installed on more track segments than specifically required by Congress. The amendments were published on May 14, 2012, and became effective on July 13, 2012. FRA also issued another Notice of Proposed Rulemaking (NPRM) addressing 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 second PTC rulemaking responds to a petition for rulemaking from the AAR and is intended to make other, miscellaneous amendments to the PTC regulations at 49 CFR Part 236. FRA published the proposed rule amendment in 2012 and is now finalizing the rulemaking.

During FY 2013, FRA has continued to support implementation of this technology by reviewing and approving PTC Implementation Plans (PTCIP). To date, FRA has approved 44 plans submitted by the railroads, including two in FY 2013. Currently, a total of 37 host railroads will be installing PTC systems. This includes seven Class I railroads and Amtrak, and 29 smaller railroads. The PTCIPs reviewed in FY 2012 had to be revised because of delays in the availability of the required technology, line segment reprioritizations based on changes in carrier traffic, and reductions in required PTC installations.

The RSIA required FRA to submit a report on the status of PTC implementation to Congress by December 31, 2012. This report was submitted in August 2012. As was identified in FRA's report to Congress, the industry is facing several challenges in implementing PTC systems by the statutory December 31, 2015, deadline. Delays resulting from technical issues with the Interoperable Electronic Train Management System (I-ETMS), a system that will be implemented by many railroads, might result in installation efforts extending beyond the 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 is conducting audits of railroad PTC installation and test efforts as opposed to extended onsite oversight. FRA will continue to provide onsite field engineering and pre-revenue service support throughout the PTC implementation period.

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. The Federal Communications Commission (FCC) must comply with the National Environmental Policy Act of 1969 and the National Historic Preservation Act before tower construction of any of the 22,000 antennas/towers may proceed, and in the past FCC has processed only 2,000 to 3,000 applications for such approval per year. The review and approval process under those laws has the potential to 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.

FRA has granted Type Approval and System Certification to several PTC systems:

PTC Development Plan Type Approvals

- National Railroad Passenger Corporation's (Amtrak) Advanced Civil Speed Enforcement System (ACSES II) in use on the Northeast Corridor (FY 2010).
- Amtrak's Incremental Train Control System (ITCS) in use on its Michigan Line (FY 2013).
- BNSF Railway's (BNSF) Electronic Train Management System (ETMS VI) was in use on several of the railroad's subdivisions (FY 2011).
- CSX Transportation, Inc.'s (CSX), BNSF's, Norfolk Southern Railway's, and Union Pacific Railroad's (UP) I-EMTS for use as described in their joint submission (FY 2011).
- Portland & Western Railroad's Enhanced Automatic Train Control (E-ATC) for use on two railroads in Oregon and possibly one railroad in Utah and one railroad in California (FY 2013).
- Port Authority Trans-Hudson's (PATH) Communication Based Train Control (CBTC) for use in New York and New Jersey (FY 2013).
- New Jersey Transit Rail Operation's (NJTR) Advance Speed Enforcement System (ASES II) for use in New Jersey and New York (FY 2013).
- Long Island Railroad (LIRR) Advance Civil Speed Enforcement System (ACSES II) For Use in Non-Automatic Train Control (ATC) Territory was approved in FY 2013.

System Certifications

- Amtrak's ACSES II in use on the Northeast Corridor (FY 2010).
- Amtrak's ITCS in use on its Michigan Line (FY 2013).
- Starting in FY 2014, BNSF is replacing ETMS VII now in use with Interoperable IETMS.
- FRA System Certification of Southern California Regional Rail Authority's I-ETMS expected in FY 2014 due to schedule slippages.

FRA has been working with three Class I railroads 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 could be used by other railroads that will be installing I-ETMS.

FRA is also using funds authorized by the RSIA to address common PTC implementation issues. Of the nine grants awarded under the Railroad Safety Technology Grant Program:

- Four are complete, one is in close out;
- Three continue waiting delivery of equipment under development for a FY 2014 completion; and
- One has been extended into the first quarter of FY 2014 at the Government's request to address security.

FRA is supporting the integration of PTC technologies and HSR by providing funding and technical support to the Peninsula Corridor Commuter Rail Service in California (Caltrain), for preliminary design work and regulatory approval requirements on the Communications-Based Overlay Signal System (CBOSS), an ITCS-based PTC system. CBOSS will be implemented on the high-speed corridor between San Francisco and San Jose, CA. FRA implemented advance activation prototype highway-rail grade crossings on a railroad line from St. Louis to Chicago to support test operations to 110 mph and has begun production system implementation and testing.

In the draft legislation for the reauthorization of FRA's safety programs, FRA has proposed changes in the PTC requirements. These include modifying the full implementation date to no later than December 31, 2018, and permits granting extensions up to December 31, 2020, when 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 Federal Communications Commission (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. Following this assessment, the FCC Commissions would be required to directly auction licenses to railroads, excluding the Class I railroads, for the required spectrum from the FCC inventory, as necessary for public safety.

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 2013. FRA issued an NPRM to the PTC rule to add more flexibility. During FY 2013, FRA also made several RSIA-required updates to track standards and vehicle-track interaction (VTI). During this fiscal year, the full RSAC met twice, and various working groups and their task forces held approximately 20 meetings in order to develop recommendations for pressing safety issues.

In FY 2013, 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.[5] To date, the ETF has reached consensus on 23 items, ranging from crashworthiness to fire safety for Tier III trainsets. The full RSAC recently 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 continue to work concurrently with the full ETF; the Engineering Structures and Integrity (ESI) Task Group continues to develop a "compliance guidance manual" to compliment the propose 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. The ETF began to codify the previous guidance for Tier I[6] alternative crashworthiness standards, and the consensus recommendations for Tier III equipment. During FY 2013, FRA made significant progress toward issuing an NPRM.

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

- Rail Integrity (NPRM FY 2013)
- Critical Incidents Stress Effect on Employees (NPRM FY 2013)
- Emergency Notification Systems (amendments to the Final Rule FY 2013)
- Fatigue Management
- Rail Failure
- Signal System Reporting Requirement Amendments (NPRM FY 2013)
- Highway-Rail Grade Crossing Inventory (NPRM FY 2013)
- Passenger Rules
  - Passenger Train Emergency Systems II (Final Rule CY 2013)
  - Vehicle/Track Interaction (Final Rule FY 2013)
- PTC (de minimis amendment to final rule, published NPRM FY 2013)
- Post-Accident Drug Testing for Non-Controlled Substances (Final Rule FY 2013)
- RRPs Roadway Worker Protection, Miscellaneous Amendments (NPRM FY 2012)
- Training Standards for Safety-Related Railroad Employees

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

[5] 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.
[6] Tier I means operating at speeds not exceeding 125 mph; 49 CFR Section 238.5.

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.

RRP

In December 2011, the RSAC accepted a task to assist with development of the requirements for certain railroads to develop and implement an RRP as mandated by the RSIA. An NPRM is under development.

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. FRA is developing an NPRM and supporting guidance documents, addressing the three areas that the task forces worked on.

Throughout FY 2013, the RRP Division participated in pilot implementations of C^3RS. C^3RS provides an opportunity for railroad employees at sites on UP, Canadian Pacific Railway, New Jersey Transit, and Amtrak to report safety problems without fear of punishment. Midterm evaluations of the system have shown significant efficiency and safety effects: a 31-percent improvement in railroad cars moved between incidents, better labor-management relationships, and a reduction in discipline cases. In FY 2013, FRA expanded the program by implementing it on new locations on UP. In addition, FRA granted waivers that made it possible for Amtrak to implement the program nationwide on all Amtrak-owned main tracks in the summer of 2013. The RRP Division is currently developing a version of the system that can be implemented nationwide on all railroads.

Electronic Device Distraction

The RRP Division is also 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 addition, RRP team members, in cooperation with the RSAC, have developed print and electronic media designed to raise awareness and provide education on electronic device distraction (EDD). These materials were made available to the rail industry and are already in use. The RRP Division is developing an EDD presentation for use by regional inspectors. The inspectors will attend local union meetings, give the presentation and solicit feedback from the workers. The RRP Division is also developing a new set of posters that will

be distributed to members of the RSAC. These posters will be used to raise awareness of the EDD problem. The Volpe Center has been contracted to develop a snapshot of the EDD problem by interviewing a diverse group of railroad workers in a focus group. Their final report is expected to be published in FY 2014. The RRP Division is planning on conducting 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 issued in FY 2014.

Passenger Rail Safety

In FY 2013, FRA continued to support the development and implementation of new safety standards for passenger rail equipment and operations. FRA's Passenger Rail Division (PRD) also continued to provide guidance on system safety, emergency response plans, and regulatory requirements to new passenger rail operations.

FRA also helps evaluate the safety of proposed rail operations. FRA addresses many issues associated with the selection, implementation, and evaluation of "new start" railroads. PRD works with new starts to plan for and determine compliance with Federal regulations. In FY 2013, PRD provided assistance to new passenger railroads for the development and implementation of system safety programs for conducting preliminary hazard analyses in the design phase. In FY 2013, PRD continued to provide technical assistance to new start commuter and passenger operations throughout the country. These operations include TEXRail in Fort Worth, TX; Sonoma County Transportation Authority (SMART) in Santa Rosa, CA; and Denver RTD in Denver, CO. In addition, PRD has assisted existing commuter/passenger operations regarding line extensions and associated regulatory and safety requirements. These include the UTA Transit Authorities (Frontrunner) extension to Provo, UT, and Sound Transits (Sounder) extension to Lakewood, WA.

Throughout FY 2013, FRA worked with passenger railroads and authorities on equipment procurements in various stages. PRD staff helps manage FRA's compliance assessment process and provides guidance to agencies and manufacturers to ensure that the regulations are properly understood and applied. These projects include existing railroads, new starts, and joint procurements by State authorities, 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, and All Aboard Florida.

In FY 2013, FRA continued its outreach program in order to provide new start passenger railroads with training and information on system safety techniques. System safety uses innovative hazard management techniques to proactively identify and address safety issues before accidents occur, in order to reduce the number of accidents and casualties (including trespassing and highway-rail grade crossing accidents).

FRA has also continued to assist with development of responses to waiver requests and investigations regarding shared use operations by transit systems with railroads. Various

properties that PRD assisted with include: New Jersey Transit; Sacramento Regional Transit Authority; Tri-Met in Portland, OR; Santa Clara Valley Transportation and North County Transit (Sprinter), both in CA.

FRA issued a System Safety NPRM in September 2012 and is currently working to finalize the System Safety regulation that will require all passenger railroads to develop and implement SSPs that satisfy the RSIA requirements for RRP. System Safety 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.

FY 2013, FRA completed an implementation guide including sample SSP's to assist railroads with SSP development and implementation. FRA will begin to develop a process for reviewing of railroads' SSPs, audit criteria to evaluate the railroads implementation of the SSP, and their hazard analysis processes.

FRA regulations currently support maximum train speeds of 150 mph in a Tier 2 operating environment. The vision contained in the RSIA and ARRA contemplates train speeds of up to 220 mph. FRA is currently working with several HSR projects to identify appropriate safety requirements for these operations. The establishment of a proposed regulation for a Tier 3 operating environment is anticipated in FY 2014, which allows for maximum speeds of 220 mph.

In FY 2013, FRA collaboratively worked with Amtrak to address the necessary approvals and safety analysis for 160 mph operations of the Acela. FRA has also worked with Amtrak and the California High Speed Rail Authority (California HSR) in establishing appropriate requirements for rolling stock, if a joint procurement is pursued. FRA worked with representatives from California HSR in reviewing a site-specific hazard analysis on a section of the proposed alignment in Fresno, employing system safety techniques that consider all hazards at a particular location.

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 an NPRM on February 7, 2012. A final rule should be issued soon.

Update of Track Standards

In FY 2013, FRA addressed RSIA-required updates of track standards addressing rail integrity and VTI. The Rail Integrity Final Rule addresses 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. VTI enhances the

productivity of trains on lower speed segments and makes it easier to extend the use of qualified higher-speed trainsets to additional lines and tracks.

Other Regulations

Section 413 of the RSIA specifically mandates that an emergency escape breathing apparatus be made available on locomotives. An NPRM was published and FRA is considering public comments as well as evaluating alternative requirements for meeting this regulation in a cost-effective manner.

Section 412 of the RSIA requires that FRA revise its existing regulations prescribed under section 49 U.S.C. 20140 to include maintenance-of-way. FRA is currently developing an NPRM to address this requirement.

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 2012, the American Short Line and Regional Railroad Association (ASLRRA) and the Railroad Research Foundation, working closely with FRA, initiated the development of the Hazmat Transportation Risk Analytical Model (H-TRAM), a computer program similar to Rail Corridor Risk Management System. Like RCRMS, H-TRAM is a comprehensive risk assessment tool. However, while RCRMS is intended to rank alternative routes based on a normalized risk score, H-TRAM is better suited to limited operations and permits a sensitivity study of changes in the elements of the assessment. For example, a railroad can determine the improvement of a route risk score by evaluating the risk of moving a PIH chemical in the morning versus in the afternoon or the middle of the night. This level of detail will provide the insight to guide and inform decisions related to operational practices. Task 1, which includes assessing vulnerability of the railroads, was completed in April 2013. Remaining tasks, including testing, are ongoing.

FRA continues to perform audits of Class II and III railroads at the regional level regarding compliance with the rail routing and security rules. The Routing Rule Compliance Team initiated audits of the Class II and III railroads in FY 2013. The focus of the initial Class II and III audits were those railroads beta-testing H-TRAM, those with high density of PIH traffic, and representative sample of conglomerate railroads (preference based on PIH traffic). Based on these criteria, the compliance team identified two shortlines railroads to audit in FY 2013. CSX Railroad was also identified to be audited for compliance with the security rule because of the recent acts of vandalism to their tank cars transporting hazardous materials.

Industrial Hygiene

The Industrial Hygiene (IH) Division addressed various compliance issues regarding the Use of Locomotive Horns at Highway-Rail Grade Crossings (49 CFR Section 229.129). In FY 2012,

the IH Division compiled a list of frequently asked questions that was used in the newest MP&E Compliance Manual. The IH Division has continued to use the list as talking points when making presentations to railroads, particularly at regional Short Line conferences (three of which were held in FY 2013). In addition, the division is making use of the locomotive horn test records required by 49 CFR Section 229.129 in responding to complaints.

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. For FY 2012, the Division planned for 33 audits and completed 47. For FY 2013, the division completed 24. 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.

Another 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 3 years, this program only identified 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 2013, 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 trained 24 inspectors; and in FY 2013, trained an additional 8 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 IH Division has 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 also began enforcement of the newly revised regulations, 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 2013, the division conducted 6 audits for compliance.

In FY 2013, FRA continued to investigate potential silica dust, asbestos, and diesel exhaust exposures of railroad employees associated with older locomotive equipment and Roadway Maintenance Machines, the latter under 49 CFR Section 214.505.

The IH Division also manages the occupational safety of FRA employees. In FY 2013, the Division revised the Employee Response to Emergencies Plan for FRA headquarters employees, and trained employees and contractors for the Plan for Sustaining Essential Government Services during a Pandemic. In FY 2013, the field-based industrial hygienists were all certified to become First Aid/CPR and AED instructors so that they can provide this training to coworkers and participants from other DOT modes throughout the year. Through the FRA Safety and

Health Committee, the Division disseminates important safety and wellness tips, and OSHA program documents.

Discipline-Specific Technical Training

As in prior years, FRA held several technical training classes focused on areas within its five core disciplines (Track, S&TC, MP&E, OP, and HM). These are held to instruct FRA inspectors in new practices and to help them more effectively enforce the safety regulations and do so uniformly across the country. In addition, three non-discipline specific training classes were held: Investigative Skills Fundamentals, Accident Investigation Fundamentals, and Fall Protection from Bridges. Technical training consisted of a variety of modules developed to address skill performance gaps and meet learning needs as a result of RISA regulatory mandates such as Conductor Certification, Hours of Service for Passenger Operations, Locomotive Safety Standards, and Rail Integrity. In response to Executive Order 13589, Section 5, TTSD provided training to enable the Office of Railroad Safety to transition from paper violation report preparation and submission to digital report processing, including the use of DOT-approved digital signature authentication procedures with the PIV ID card. The training program is substantial—new inspectors attend 7 weeks of training in their first 2 years, and all other journey-level inspectors receive at least 1 week of training during the year.

In FY 2013, TTSD provided workflow support in connection with formatting, publication, and dissemination of discipline-specific compliance manuals for Operating Practices, Motive Power & Equipment, and Track Volumes II & III. The remaining compliance manuals were published in November and December of 2012.

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 2013, FRA also published guidance documents for new regulations on inspecting camp cars, bridge safety standards, and PTC. FRA is in the process of drafting a compliance manual for the Highway-Rail Crossing and Trespasser Programs Division and an Hours of Service compliance manual.

Emergency Orders

FRA issues an Emergency Order (EO) when an unsafe condition or practice by a railroad causes a situation involving a hazard of death or personal injury. EO's are published in the Federal Register. In FY 2013, FRA issued one Emergency Order, EO No. 28. This EO, titled "Emergency Order Establishing Additional Requirements for Attendance and Securement of Certain Freight Trains and Vehicles on Mainline Track or Mainline Siding Outside of a Yard or Terminal," was issued by FRA to all railroads and published on August 7, 2013. FRA found that that there are gaps in the regulatory scheme that can create an emergency situation involving a hazard of death, personal injury, or significant harm to the environment, with respect to

securement of unattended vehicles and trains transporting certain poisonous by inhalation (PIH) hazardous material on mainline track and mainline sidings outside of a yard or terminal.

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 2013, FRA published a safety advisory jointly with the Pipeline and Hazardous Material Safety Administration to help ensure the safe transportation of hazardous materials, and issued five others: Passing Stop Signals Protecting Movable Bridges (SA 2013-01, February 28, 2013); "Low-Speed Wheel-Climb Derailments" (SA 2013-02, March 14, 2013); "Kicking Cars and Going Between Rolling Equipment During Flat Switching Equipment During Flat Switching Operations" (SA 2013-03, May 3, 2013); "Importance of Clear Safety Procedures for Temporary Removal From Service of Highway-Rail Grade Crossing Warning Systems and Wayside Signal Systems" (SA 2013-04, June 3, 2013); "Joint Failure on Continuous Welded Rail Track" (SA 2013-05, August 5, 2013); and "Preventing Unintended Movement of Freight Trains and Vehicles on Mainline Track or Mainline Siding Outside of a Yard or Terminal" (SA 2013-06, August 2, 2013).

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 2013. 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, 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 RSAC has reached consensus to revise four sections of the Track Safety Standards. In addition, through these regulatory changes, FRA was instrumental in developing minimum qualifications for the detector car operators, approved as new 49 CFR Section 213.238. The Final Rule will be issued soon.

FRA has 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. The review and assessment of the railroads' CWR plans 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.

Track Safety Standards Study

Paragraphs (a) and (b) of Section 403 of the RSIA require a study of inspection practices and the amount of time required for inspections under the Track Safety Standards, and, if warranted by the study, another set of revisions to those regulations. FRA organized an independent study by an outside contractor and developed a questionnaire used to get information from railroad track inspectors throughout the country. Interviews with railroad and union officials were also conducted for additional perspectives. The study was completed and signed by the Secretary on May 2, 2011, starting the 2-year timeline for rulemaking. Initially, FRA decided to address the results of the study through two separate rulemakings, the first dealing with rail integrity and the second dealing with track inspections. After further consideration of the issues involved, on April 26, 2012, the RSAC concluded that the separate rulemaking on track inspections was not needed and that FRA's recent and ongoing rulemakings will sufficiently address the contingent rulemaking mandate of Section 403(c) of the RSIA. Accordingly, the relevant RSAC task was closed. FRA conducted its own analysis of the issues involved and concluded that the completed rulemaking on VTI final rule published in March 2013, and the current rulemaking on rail integrity (NPRM published in October of 2012 and Final Rule anticipated soon) sufficiently address the issues raised by the study and that an additional rulemaking on track inspections is not necessary.

VTI

VTI and key safety issues related to track geometry and inspection will be addressed through a final rule published on March 13, 2013. The final rule incorporates industry comments to the proposed rule, clarifying comments from the French National Railway Corporation requested by FRA and the RSAC. VTI enhances the productivity of trains on lower speed segments and makes it easier to extend the use of qualified higher speed trainsets to additional lines and tracks. The VTI final rule became effective on July 11, 2013.

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. In FY 2013, FRA continued to operate its fleet of five track geometry cars to conduct inspections nationwide. Since 2000, the fleet has inspected close to 500,000 miles[7] of the U.S. rail network. Collectively, the cars operate about 160 miles per day on average, with priorities given to passenger, hazmat, and defense-related routes. In FY 2013, FRA's ATIP fleet covered approximately 66,800 miles of track. FRA is working to implement a remote unmanned track geometry measurement system that will allow more ATIP inspections at reduced cost in the future. FRA deployed this remote data analysis in July of 2013. This unmanned system is more fully discussed in the Progress

[7] Source: Track Data Management System.

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 March 2012, FRA began to prepare 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 book reflects the law in the individual States up to July 2009. In FY 2013, FRA worked to complete the sixth edition, which will be published soon.

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 on June 13, 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.

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 anticipates that the Final Rule will be published in FY 2014.

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. FRA anticipates that the remaining State will have a plan approved soon.

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

A final report titled "Proposed Key Elements of Critical Incident Intervention Program for Reducing the Effects of Potentially Traumatic Exposure on Train Crews to Grade Crossing and Trespasser Incidents" was published in December 2011. FRA updated it to support development of the anticipated new critical incident regulation. An implementation guide will be developed for carriers to follow when adapting their existing programs to fit new FRA regulations requiring Critical Incident Stress Plans to be issued soon. This implementation guide will initially be developed for a single carrier and then modified for more broad cross-carrier use. Additionally, the document will summarize a plan for developing 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 2013, FRA began drafting a report detailing possible applications of a visual map using Geographic Information System (GIS) software for tracking trespasser and suicide incidents on railroad rights-of-way, and summarizing findings from preliminary analyses of the information currently available. FRA is also drafting a second report that will summarize existing knowledge about proposed railroad suicide countermeasures and potential effectiveness. A third report will summarize how the terms "trespass" and "suicide" have been applied in railroad incidents around the world in an effort to help better understand how information can be compared internationally. An international meeting is being planned for FY 2014 to establish consensus on current knowledge and future plans for railway suicide countermeasures.

Program Evaluation

A Program Evaluation section was added to the FRA R&D Strategic Plan, FY 2013 – FY 2017. To implement this strategy, a Program Evaluation Capacity Building Strategy and an R&D Evaluation Implementation Plan were developed in FY 2013. The purpose of this effort is to help improve quality evaluation practices in R&D. It supports a continuous improvement process for measuring, developing, maintaining, and sustaining long-term improvements in technology transfer and overall R&D program impact and effectiveness. Implementation of the plan has begun with pilot demonstration evaluations in each of the R&D Divisions. This evaluation effort will 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

FRA made significant progress towards developing a report summarizing several strategic job analyses, detailing the knowledge, skills, and abilities needed for key safety-critical positions in the railroad industry to help improve the recruitment, selection, and training of safety-critical employees. A separate strategic job analysis is being conducted specifically for the role of the inspector position with recommendations for hiring and training of new inspectors as FRA transitions from a prescriptive compliance-based inspection system to a more collaborative-based SMS. Because of the cross-modal interest in this effort, interviews and focus groups with chief safety officers in the DOT Safety Council will be held to develop input for the inspector job analysis.

Safety Culture

On March 18 and April 29, 2013, FRA's Office of Research and Development held two APTA hosted webinars titled "All Aboard! FRA R&D's Clear Signal for Action (CSA) Safety Culture Program for Passenger Railroads" with the passenger rail industry. Rigorous evaluations of CSA initiatives in the both passenger and freight rail operations during the past decade have shown a 76% reduction in injuries, a 79% reduction in locomotive engineer de-certifications, a 62% reduction in derailments, and significant improvements in numerous safety culture indicators at pilot intervention sites.

During the first webinar, senior leaders in the passenger rail industry were informed about the basic elements of the CSA program, including past successes in both freight and passenger operations, and how it can help satisfy new System Safety Rule requirements. They were also informed about the current project to develop common training materials and implementation guidelines for a nationwide rollout of this model program in the passenger rail industry, and to pilot test those materials and guidelines at selected intervention sites. A Request for Proposals was published on FedBizOpps in FY 2013, and a contract is expected to be awarded during FY 2014. Fifty two people participated in the first webinar, and 20 people were interested in participating in a CSA Stakeholder Review Panel (SRP). During the second webinar, the purpose, function, and role of the SRP for the upcoming CSA were described along with additional opportunities for industry involvement in the SRP.

At the APTA Conference from June 1-5, 2013, R&D led a Workshop describing the CSA Program for Passenger Operations for the broader APTA audience. The CSA Workshop informed participants about the intended nationwide roll-out of the CSA program in passenger operations, described how CSA can satisfy System Safety Rule requirements, and presented opportunities for involvement through the SRP. An SRP session will be held with senior leaders in the industry to discuss general oversight by the SRP in the development of training material and a guidelines document, their role in helping guide the pilot CSA initiatives, and estimated time involvement.

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 2013 on the use of fatigue models to establish a fatigue baseline based on work schedules that will allow the effectiveness of regulations and policies to be periodically evaluated. (Fatigue Status of the U.S. Railroad Industry (DOT/FRA/ORD-13/06), February 2013; Raslear, Gertler and DiFiore). This work supports the DOT Safety Council's efforts.

FRA uses the FAST fatigue model to analyze the work schedules of crewmembers involved in accidents that it investigates. Preliminary analyses by R&D indicate that fatigue levels in these accidents are comparable to the fatigue levels that were observed in a large-scale analysis of accidents from 2003 to 2005. (Validation and Calibration of a Fatigue Assessment Tool for Railroad Work Schedules, Final Report (DOT/FRA/ORD – 08/04), November 2008). FRA published a report finding that employees involved in accidents had higher fatigue levels than employees who were not involved in accidents (Fatigue Status of the U.S. Railroad Industry (DOT/FRA/ORD-13/06), February 2013; Raslear, Gertler and DiFiore). A similar publication on work schedules, sleep, fatigue, and accidents in the U.S. railroad industry was published in a scholarly journal (Fatigue: Biomedicine, Health & Behavior, Volume 1, pp. 99-115, January 2013). FRA is exploring using this work schedule analysis as a cost-effective method to track changes in fatigue in the railroad industry.

The Railroaders' Guide to Healthy Sleep website has tallied over 36,000 visits since its June 2012 launch (and more than 27,000 visits this fiscal year). The FY 2013 efforts have focused on website promotion at scientific and industry conferences, and marketing, which included a January 2013 meeting with a Stakeholder Panel comprised of labor, management, and sponsor representation that focused on strategies for target audience outreach and communication. FRA is developing news stories related to Web site content and promotional outreach materials such as flyers, brochures, and posters. These are distributed to industry contacts. (http://www.railroadersleep.org/).

Grade Crossing Safety

Research results for the trespass mitigation strategies from the West Palm Beach trespass prevention research study were published in July 2013. Results from the driver behavior analysis using field operational test data will also be published. A prototype low-cost PTC-based train detection and warning system for passive grade crossings will be developed. The Human Factors Research Division published a report in January 2013 that examines motorists' decision-making at grade crossings using Signal Detection Theory. That report indicates that motorists' willingness to stop is more important that their ability to detect a train (DOT/FRA/ORD-13/01).

Locomotive Cab Displays and Controls

The purpose of this research is to develop human factors guidance supporting the design and evaluation of locomotive moving-map displays through simulations using the Cab Technology Integration Laboratory (CTIL). 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 underway will show whether these displays enhance operator situational awareness, reduce operator workload, and improve human performance—potentially reducing train collisions. During FY 2012, FRA published a report on the use of the CTIL to examine human performance with and without the use of a moving-map display. Plans call for conducting human performance studies interactively with the display in CTIL, once the simulation and modeling software for CTIL has been converted to the CORYS Corporation's system.[8]

FRA also sponsored other efforts to improve the locomotive cab display. FRA hosted a meeting with General Electric at the Volpe Center to discuss locomotive cab display design approaches and approaches to display integration. A meeting with the AAR Interoperability Committee was hosted at Volpe to discuss display issues and human factors engineering approaches for future locomotive cab layouts. A project to improve sustained attention during train operations continues. A prototyped routing/scheduling moving-map display was initiated in FY 2012 and is under continued development.

PTC Systems

AAR has adapted and published 12 of the PTC Interoperable Train Control (ITC) standards for inclusion in the AAR Standards and Recommended Practices. These include cab design layout, Edge Messaging Protocol, Advanced Message Queuing Protocol, Class C messaging, Class D multicast messaging, and Locomotive Integration Gateway. The remaining standards are in various states of industry review and approval process. In FY 2013, FRA continued to monitor and encourage these industry efforts, and FRA's R&D funded some of these efforts and provided input into the design. Engineering efforts continue to address concerns identified in the review and approval process.

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.

[8] CORYS Corporation builds the simulation and modeling software system that drives the cab simulator.

In FY 2013, funded and provided project management and guidance for a project that developed and tested an improved brake enforcement algorithm for freight railroads that will help enable precision braking. This project is ready for third-party integration.

Also in FY 2013, FRA is funding and providing technical oversight of the development of the Positive Train Location (PTL) system. PTL accurately locates the front and rear of the trains, and enables PTC-equipped trains to identify the track they are occupying in parallel track territory.

Rail Integrity

FRA is continuing to fund research at the University of California-San Diego (UCSD) to develop and refine a rail flaw detection system. The project's objectives are as follows: (1) better rail flaw detection reliability (including internal head defects under shelling and vertical split heads), (2) higher inspection speed than achievable by current rail inspection systems, and (3) 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 speeds, with further development, the target is inspection 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 skepticism on 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 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 speed is limited by the laser repetition rate.

The fully developed and optimized air-coupled system is expected to be comparable to current laser-based defect detection system with respect to reliability. 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.

In January 2013, a demonstration of the UCSD air-coupled rail flaw detection system was given to BNSF. BNSF expressed strong interest in the technology and a willingness to help during

future field testing. A field test of the air-coupled rail flaw detection system is planned for spring 2014. The exact date of the field test will depend on the outcome of the testing currently in progress at UCSD's Rail Defect Testbed. This testing is being conducted using new mounting mechanisms able to host the air-coupled transmitter so that it is isolated from vibrations. In September 2013, UP railroad engineers visited UCSD to learn about the rail safety research currently in progress at the university. They were given a tour and demonstration of the Rail Defect Farm and a presentation of the status of the project as well as the planned field testing.

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. The work for this project is being performed with funding from 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.

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.

Significant development progress was made during FY 2013. The ATIP ATGMS (DOTX221) completed multiple solo runs on the East Coast in preparation for a longer solo test which occurred in late FY 2013 covering the Amtrak routes nationwide. As part of this effort, a remote editing station software package has been developed and tested to permit near-real time editing and reporting of ATGMS data. This software interfaces with the ATGMS data set from an Internet-enabled connection. A second, carbody-mounted ATGMS has been developed and deployed on an Amtrak coach for technology demonstration on the Northeast Corridor. Testing has included parallel runs with Amtrak's manned geometry car. Data from each system is being analyzed and a comparison report is being created to complete this research.

In FY 2013, fundamental research was completed to develop systems that will facilitate a freight car-based ATGMS. Design and modeling efforts for a multi-source power ATGMS were completed in FY 2013. The power system will use solar power as its primary source, and a small diesel generator for supplemental needs. Under an FY 2013 Small Business Innovative Research (SBIR), a small diesel generator was designed, constructed, and tested to serve as the supplemental power source.

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.

Track Buckling Prevention

The goal of this ongoing FRA R&D project is the development and field testing of a prototype for the non-destructive, efficient, and reliable determination of Rail Neutral Temperature (NT). The prototype is expected to meet the following five criteria:

1. Accuracy: Rail NT measurement of ±5 °F;
2. Calibration: No need for calibration for different rail sizes, different rail manufacturers, different steel microstructures, or different residual stress distributions (i.e. no need for baseline measurements);
3. Reference Value: No need reference value of stress (i.e. no need to measure the zero-stress condition of a given rail);
4. Rail Support: No influence of rail supports or tie-to-tie variation (i.e. system must work equally well on wood ties and concrete ties and with any type of rail fastening system); and
5. Wayside System: The system can be permanently mounted as a wayside system, thus avoiding traffic interruption.

Most modern railways use Continuous Welded Rail (CWR). Inherent in these structures are safety risks due to the absence of expansion joints to accommodate thermally induced expansion and shrinkage. These effects can cause rail buckling in hot weather and rail breakage in cold weather. Unfortunately, the problem of rail thermal buckling was particularly noted in the summer of 2012 due to the extremely warm temperatures experienced throughout the country. Several accidents likely caused by thermal buckling in the summer of 2012 include: the UP derailment in Junction City, KS in June; and the UP derailment in Glenview-Northbrook, IL in July.

Currently, railroads impose slow orders to avoid derailments due to track buckling. Slow orders may be based on measurements from track inspections or ambient temperatures from weather forecasts, and the assumption that actual rail temperature typically is in the range of 30 °F to 35 °F above the ambient temperature. The practice of slow orders may be effective in reducing track buckling-related derailments; however, it is inefficient. Issuing blanket slow orders and conducting subjective inspections costs the railroad industry millions of dollars each year. Excessive slow orders can also be of concern on high traffic density tracks, where the impact of reduced speeds can affect the transportation of goods and people, possibly impacting the Nation's economic well-being. The FRA R&D project is expected to produce a more efficient and reliable alternative to the current approach to addressing rail buckling risks.

Also, for more reliable determination of slow orders and assessment of track buckling risk, FRA has sponsored the development of a model for predicting rail temperatures based on real-time meteorological forecast data. The model is based on a transient heat transfer process in which the energy balance continuously changes, causing the rail temperatures to rise or fall. Among the factors considered in the model are heat input due to solar radiation and heat loss due to convection. The model was validated using both forecast and observed weather data, and has

been previously tested on Amtrak, UP, and BNSF. The model-predicted rail temperatures were found to be within reasonable ranges. The model has been implemented into a Web-based, rail-weather application that can be accessed by participating railroads. Recent developments have included further refinements of the model algorithm by incorporating additional weather parameters and addressing broader track conditions. Improvements to the online application continued in FY 2013; the user interface and available options were enhanced in order to make the application more attractive to end users. In FY 2013, a joint effort with CSX and Amtrak was initiated. The main focus of this effort is to continue to validate the accuracy of the model in order to allow the railroad industry to gain confidence in the outputs of the model.

In FY 2013, the University of California-San Diego (UCSD) continued the work under an FRA R&D grant for an *in-situ* rail NT measurement system. This research is a priority that affects both the safety and management of rail transportation. FRA Safety Statistics data for the period 2006–2011 indicate that irregular track alignment from buckling or sun kinks caused 141 derailments and associated direct damage costs in excess of $57 million. According to the same FRA Safety Statistics data, rail buckling or sun kinks were the first causes of train accidents in the U.S. within the categories of track, roadbed and structures in 2010. The anticipated introduction of high-speed rail transportation in the U.S. may exacerbate further the problem of rail thermal buckling due to the dynamic load associated with increased speed.

The UCSD approach ("Rail-NT" technology) is based on a novel idea of using nonlinear ultrasonic guided waves to measure thermal stresses in the rail. Two separate patent applications were filed by UCSD on this technology in 2012 and 2013. The UCSD technology is being tested at the Large-Scale Rail-NT/Buckling test-bed, a unique 70-ft long track that was constructed to further rail NT-related research. The test-bed is hosted at UCSD's Powell Structural Laboratories, one of the largest structural testing laboratories in any U.S. University. The UCSD Test-bed was constructed with an FRA R&D grant, Volpe technical support, and BNSF in-kind support (labor and materials). Other researchers from the University of Pittsburgh and the University of Nebraska-Lincoln have been afforded access and also benefitted from using the Test-bed for their rail NT-related research free of charge. The test-bed was showcased at the American Railway Engineering and Maintenance-of-Way Association (AREMA) Rail Committee meeting that was held at UCSD in 2011. In the fall of 2012, the test-bed was retrofitted by BNSF with new strain gage and temperature instrumentation and with the installation of a new rail size, at no cost to UCSD or the FRA. The test-bed now has the capability to test both 136RE and 141RE rail sizes for NT measurements.

In the summer of 2012, the UCSD "Rail-NT" system was field-tested at TTCI on both wood and concrete ties track segments. This field test confirmed the UCSD laboratory tests, and that the project goal and the related criteria listed above have been substantially met. The results were published in peer-reviewed technical journals and presented at appropriate technical forums (TRB, AREMA, ASME conferences), in accordance with FRA R&D policy on technical information sharing. To advance this technology to the deployment phase, UCSD "Rail-NT" technology has been exclusively licensed to Rail Inspections, LLC, a small company spun off from UCSD's non-destructive examination (NDE) group. FRA is currently funding the development of four demonstration prototypes of the Rail-NT system to accelerate the transition of this technology to the railroad. In FY 2013, three prototypes were delivered and installed for

field testing and data acquisition at sites that were selected by the three cooperating railroads (Amtrak, BNSF, and UP). The contractor has trained designated railroad personnel and provided an Operations & Maintenance manual. Initial results are encouraging and will be used for a comprehensive evaluation of the system's performance and economy. The related final report is scheduled to be delivered at the end of the contract in February 2014.

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.

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 base line 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.[9]

Improved Hazardous Material Car Inspection

In FY 2012, TTCI (under contract with FRA) and industry partners conducted research to determine the probability of detection for various 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

[9] 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

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.

Automated Wayside Vehicle Inspection

R&D seeks to improve the effectiveness of manual inspections by applying technologies for automated 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.

Following successful preliminary tests under controlled conditions, FRA is working with the industry to conduct a revenue service, "real world" evaluation of the effectiveness of wayside wheel temperature detector technology in assuring the safety of freight car braking systems. The revenue service evaluation will enable FRA and the industry to evaluate the technology's ability to effectively detect defects and reduce risk compared to current manual inspection procedures. During FY 2013, FRA worked with industry to develop a safety assurance plan for the new technology. This plan will form the basis of a waiver petition to allow a pilot trial to be conducted. The pilot trial is planned for FY 2014 and is intended to demonstrate the safety benefits of the new technology. In addition to the project to demonstrate wheel temperature detector technology, FRA is evaluating multiple wayside detection technologies to determine their effectiveness in detecting common rolling stock equipment defects, in cooperation with the Class I railroads.

HSR

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 through FRA's BAAs. Specific examples of new and forthcoming safety regulations supporting HSR operations include VTI, System Safety Program, and the Safety Standards for High-Speed Passenger Equipment.

In FY 2013, FRA continued working with two HSR developers, Xpress West (formerly DesertXpress), and California HSR, to identify appropriate safety requirements for their proposed services. FRA's work with Xpress West continued until funding was discontinued. 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 the past year, FRA has worked with California HSR in developing its internal guidance document for regulatory approval, established an approach for safety and regulatory oversight with Xpress West, and continued 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. In FY 2013, 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 will be useful to direct additional outreach, educational resources, and law enforcement activities to areas in need.

FRA also issued a model State law on trespassing and vandalism several years ago. It is posted on FRA's Web site. A revised model law pertaining to railroad trespassing and vandalism is currently under review by FRA's Office of Chief Counsel. FRA expects to make it available in FY 2014.

FRA continued efforts to update the 2004 Rail Trespassing Fatalities Developing Demographic Profiles study. The study will consist of characterizing the decedents in fatal trespass incidents and providing information regarding the at-risk audience for additional outreach efforts. The revised study will use data covering railroad trespassing deaths from 2005 to 2010. FRA released this final report on the effort in FY 2013. The report indicates that the average railroad trespasser is white males who are possibly intoxicated, with a mean age of 38, and with low socioeconomic status.

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.

In FY 2013, FRA completed the sixth edition of the "Compilation of State Laws and Regulations Affecting Highway-Rail Grade Crossings" which will be issued soon. This edition will have several chapters on laws that affect railroad trespassing and vandalism. This 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 July 2009.

FRA has partnered with the City of West Palm Beach, FL; the South Florida Regional Transportation Authority; CSX Transportation; 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. FRA expects to release a final report on this effort, which can serve as a guide to reduce trespassing in other communities, in early FY 2014.

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 – FRA completed reviewing BMPs for 74 Class III freight and other small railroads in FY 2013.
- Small Railroad BMP Reviews – As of the end of FY 2013, FRA completed reviews of 13.2% 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 2013, FRA audited 867 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.

FRA published a Bridge Safety Standards Compliance Manual in FY 2013. This manual is used by FRA inspectors to ensure uniform interpretation of the regulation during enforcement activities. It is also available to and used by the regulated community to provide guidance on FRA's expectations for compliance with the bridge safety standards.

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, FRA has awarded $3.1 billion over four offerings. Of this total, $653 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 $167 million, principally for track improvements and bridge repairs, which should assist in ensuring safety and state of good repair. The Department evaluated FY 2013 grant applications and made awards in September 2013.

outreach through participation in both FRA and industry conferences and seminars where training opportunities are made available to railroads, especially the smaller entities. Enforcement of the new Part 237, Bridge Safety Standards, will be used to both educate as well as elicit compliance. Initially, FRA will focus on track owners' policies and bridge management programs to ensure that their contents meet the minimum requirements of the regulation. Upon finding any deficiencies, FRA plans to place the track owner on notice through the non-punitive aspects of the railroad inspection program. Failing to solicit substantive improvement in a reasonable timeframe may lead to the imposition of civil penalties; however, FRA would prefer to see such funds expended on the maintenance and improvement of the railroad infrastructure. Once FRA is satisfied that a track owner's bridge management program meets the regulatory requirements, the Agency will move to auditing a track owner's compliance with not just the regulations but also their own adopted program. Bridge management including inspection, load capacity evaluation, design, and construction all rely on adherence to sound engineering practices. Typically, these practices and standards have evolved and been documented by professional organizations comprising experts in the field such as the American Railway and Maintenance-of-Way Association (AREMA) and similar organizations. FRA bridge staff will actively participate in the maintenance and development of railroad bridge consensus standards through membership on the various AREMA structures committees.

Prior to FY 2015, FRA will have:

1. Completed Part 237 reviews of Class I freight railroads and major passenger systems.
2. Completed Part 237 reviews of Class II freight railroads.
3. Completed Part 237 reviews of 20% of the over 650+ Class III and other small railroads.[6]
4. Performed bridge inspection audits of Class I and Class II railroads freight railroads and major passenger systems.
5. Developed and published a Bridge Safety Standards compliance manual.

In FY 2015, FRA will:

1. Perform Part 237 reviews of 10 percent of Class III and other small railroads.
2. Perform bridge inspection audits of all classes of railroads.
3. Review and consider updating Part 214, Subpart B, Bridge Worker Safety Standards.
4. Review Part 237, Bridge Safety Standards, for possible revision.

In FY 2016, FRA will:

1. Perform Part 237 reviews of an additional 10 percent of Class III and other small railroads.
2. Perform bridge inspection audits of all classes of railroads.
3. Audit Class I railroads and major passenger system bridge management programs.
4. Review Class I railroads and major passenger systems bridge load capacities.

In FY 2017, FRA will:

1. Perform Part 237 reviews of an additional 10 percent of Class III and other small railroads.

[6] Other railroads are defined (as it was referenced in the final rule for the Bridge Safety Standards) as tourist, scenic, and excursion railroad operations whether they are connected to the general railroad system of transportation.

2. Perform bridge inspection audits of all classes of railroads.
3. Audit Class II railroad bridge management programs.
4. Review Class II railroad bridge load capacities.

In FY 2018, FRA will:

1. Perform Part 237 reviews of an additional 10 percent of Class III and other small railroads.
2. Perform bridge inspection audits of all classes of railroads.
3. Continue audits of Class II railroad Bridge Management Programs.
4. Begin review of Class III and other small railroads bridge load capacities.

In FY 2019, FRA will:

1. Perform Part 237 reviews of an additional 10 percent of Class III and other small railroads.
2. Perform bridge inspection audits of all classes of railroads.
3. Perform bridge management program audits of all classes of railroads.
4. Continue review of Class III and other small railroads bridge load capacities.

RESOURCES NEEDED

The resources needed to meet the safety programs and goals in this strategy plan for FY 2015 are found in FRA's budget request for FY 2015.

PROGRESS ASSESSMENT

A historic review of FRA's safety program (using information from GPRA measures over a number of years) is provided below. These results show the progress made leading up to the RSIA requirements.

FRA Safety Performance Measures

1. GRADE CROSSING INCIDENTS*

Fiscal Year	Incidents	Train-Miles	Rate per Million Train-Miles	
			Actual	GPRA Goal
2004	3,078	764,845,686	4.024	NA
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	786,127,747	3.240	3.750
2009	2,054	687,952,167	2.986	3.650
2010	2,008	692,341,016	2.900	3.650
2011	2,054	712,899,248	2.881	3.500
2012	2,033	733,046,025	2.773	3.300
2013	1,990	741,036,819	2.685	3.100

* All data is current as of February 2014, and are from the FRA's Office of Safety Analysis Data Web site. FY 2012 and 2013 data are preliminary.

2. HUMAN FACTOR-CAUSED TRAIN ACCIDENTS*

Fiscal Year	Accidents	Train-Miles	Rate per Million Train-Miles	
			Actual	GPRA Goal
2004	1,316	764,845,686	1.721	NA
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	786,127,747	1.230	1.660
2009	716	687,952,167	1.041	1.350
2010	656	692,341,016	0.948	1.350
2011	709	712,899,248	0.995	1.250
2012	674	733,046,025	0.919	1.200
2013	658	741,036,819	0.888	1.100

* All data is current as of February 2014, and are from the FRA's Office of Safety Analysis Data Web site. FY 2012 and 2013 data are preliminary.

3. TRACK-CAUSED TRAIN ACCIDENTS*

Fiscal Year	Accidents	Train-Miles	Rate per Million Train-Miles	
			Actual	GPRA Goal
2004	1,005	764,845,686	1.314	NA
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	786,127,747	1.094	1.150
2009	713	687,952,167	1.036	1.150
2010	673	692,341,016	0.972	1.150
2011	680	712,899,248	0.954	1.120
2012	618	733,046,025	0.843	1.080
2013	539	741,036,819	0.727	1.060

* All data is current as of February 2014, and are from the FRA's Office of Safety Analysis Data Web site. FY 2012 and 2013 data are preliminary.

4. EQUIPMENT-CAUSED TRAIN ACCIDENTS*

Fiscal Year	Accidents	Train-Miles	Rate per Million Train-Miles	
			Actual	GPRA Goal
2004	419	764,845,686	0.548	NA
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	342	786,127,747	0.435	0.521
2009	252	687,952,167	0.366	0.450
2010	256	692,341,016	0.370	0.450
2011	244	712,899,248	0.342	0.450
2012	210	733,046,025	0.286	0.430
2013	201	741,036,819	0.271	0.420

* All data is current as of February 2014, and are from the FRA's Office of Safety Analysis Data Web site. FY 2012 and 2013 data are preliminary.

5. OTHER (SIGNAL AND MISCELLANEOUS) TRAIN ACCIDENTS*

Fiscal Year	Accidents	Train-Miles	Rate per Million Train-Miles	
			Actual	GPRA Goal
2004	529	764,845,686	0.692	NA
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	391	786,127,747	0.497	0.647
2009	333	687,952,167	0.484	0.647
2010	342	692,341,016	0.494	0.593
2011	334	712,899,248	0.469	0.590
2012	321	733,046,025	0.438	0.560
2013	319	741,036,819	0.430	0.530

* All data is current as of February 2014, and are from the FRA's Office of Safety Analysis Data Web site. FY 2012 and 2013 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
2004	690	99,471,842,135	1.387	NA
2005	746	106,698,150,776	1.398	1.422
2006	650	113,372,962,173	1.147	1.385
2007	721	118,127,388,438	1.221	1.348
2008	706	115,079,552,454	1.227	1.326
2009	650	113,179,992,644	1.149	1.278
2010	682	128,311,280,742	1.063	1.278
2011	711	131,730,371,516	1.079	1.249
2012	632	135,453,116,948**	0.933**	1.220
2013	647	138,841,247,771**	0.932**	1.218

*All data is current as of February 2014 and are derived from the PHMSA hazmat database and the Carload Waybill Sample.
** Projected.

CONCLUSION

FRA's Railroad Safety Strategy includes a variety of approaches to achieve industry safety improvements. The annual NSPP is focused on critical safety projects that are designed to advance safety improvements. The annual NIP focuses Federal inspection efforts toward areas of railroads needing the most attention and monitors progress made achieving inspection goals. Rulemakings are improving industry actions by providing standards for addressing safety issues. Updating the track standards and completing rules addressing rail integrity and VTI will mark the culmination of the track-related RSIA requirements. The RRP brings industry and FRA together to build a strong safety culture and continuous safety improvement. Issuance of regulations in this area, coupled with training standards, will have broad impact on the safety of employees across crafts and on rail operations in general. FRA support for the successful nationwide implementation of PTC systems will reduce the risk of some of the most severe accidents, including those involving passenger trains and PIH materials. Highway-rail grade crossing and trespass prevention programs promote enhancing public safety through public outreach, educational programs, and increased law enforcement partnerships. FRA's Research and Development Program has a positive safety impact, a positive impact on performance, and identifies promising available technology. Emphasis is placed on producing the maximum possible real-world impact at the earliest possible time.

GPRA requires Federal agencies to develop strategic plans with long-term, outcome-oriented goals and objectives, annual goals linked to achieving the long-term goals, and annual reports on the results achieved. FRA uses this process to evaluate all aspects of its safety programs with the overall focus on six GPRA goals that are designed to support two of DOT's safety strategic objectives (to reduce transportation-related accidents and incidents, and to reduce all transportation-related hazardous materials incidents), as well as its current strategic objective to reduce deaths and injuries. FRA has consistently achieved safety improvements reducing the rates of highway-rail grade crossing incidents, human factor-caused train accidents, track-caused train accidents, equipment-caused train accidents, and other (signal and miscellaneous) train accidents per million train-miles, and rail non-accidental hazardous materials releases per 200 million hazmat ton-miles. FRA remains focused on continuous safety improvement.