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NATIONAL RAIL POLICY: EXAMINING GOALS, OBJECTIVES, AND RESPONSIBILITIES

(113–28)

HEARING

BEFORE THE

SUBCOMMITTEE ON
RAILROADS, PIPELINES, AND
HAZARDOUS MATERIALS

OF THE

COMMITTEE ON
TRANSPORTATION AND
INFRASTRUCTURE
HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRTEENTH CONGRESS

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Washington, DC 20515

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June 20, 2013

SUMMARY OF SUBJECT MATTER

TO:	Members, Subcommittee on Railroads, Pipelines, and Hazardous Materials
FROM:	Staff, Subcommittee on Railroads, Pipelines, and Hazardous Materials
RE:	Subcommittee Hearing on "National Rail Policy: Examining Goals, Objectives, and Responsibilities"

PURPOSE

The Subcommittee on Railroads, Pipelines, and Hazardous Materials will meet on Thursday, June 27, 2013 at 10:00 a.m. in 2167 Rayburn House Office Building to receive testimony from major stakeholders on developing the nation's rail policy for the next reauthorization. At this hearing, the Subcommittee will hear from the Federal Railroad Administration, the American Public Transportation Association, the Association of American Railroads, the American Association of State Highway and Transporation Officials, and the Brotherhood of Locomotive Engineers and Trainmen.

BACKGROUND

The Passenger Rail Investment and Improvement Act of 2008 (PRIIA) (P.L. 110-432) expires on September 30, 2013. PRIIA was the first reauthorization of intercity passenger rail activities since the Amtrak Reform and Accountability Act of 1997, and its major provisions focused on Federal support for intercity passenger rail, improving Amtrak's financial position, and improving intercity passenger rail performance. While some of these provisions have had a positive impact on intercity rail services, others have fallen short of their intended goals. The overriding goals of the next rail reauthorization will be to build upon PRIIA's successes and to make revisions to the provisions that did not fulfill their intent. The hearing's witnesses will inform the committee on the policies and reforms they believe are important to include in the next rail bill.

Federal Support for Passenger Rail

Amtrak Capital, Debt, and Operating Grants: PRIIA authorized a total of $9.8 billion for Fiscal Year 2009 through Fiscal Year 2013, including $2.9 billion in operating grants and $6.7 billion in capital and debt service funding. However, actual annual appropriations for Amtrak from 2009 through 2013 were significantly lower -- $7.3 billion. Amtrak was also required to provide a five-year financial plan and an annual budget that detailed projected revenues and expenditures, projected ridership, estimates of debt, and labor productivity statistics.

New Intercity Passenger Rail Grant Programs. PRIIA authorized two new grant programs for the costs of intercity passenger rail capital investments, including the capital costs of intercity passenger rail facilities, infrastructure, and equipment. Capital projects are broadly defined to include typical activities in support of acquiring, constructing, or improving rail structures and equipment. The $8 billion included in the Recovery Act for High Speed Rail projects was provided under these new authorities. Because the grant programs were structured within a primarily safety-oriented agency, grantees have raised concerns about project delivery process. Further, given the broad underlying PRIIA language, the Recovery Act funding was spread throughout the country, and mixed projects that were focused on incremental upgrades along with green-field high speed rail projects. These competing needs resulted in an unfocused program that satisfied few.

Furthermore, prior to PRIIA, the Federal Railroad Administration (FRA) was primarily a safety agency. In PRIIA and the Recovery Act, FRA was given grant making authority. While FRA was required to distribute funding expeditiously, it did not have regulations in place to guide stakeholders on environmental review, only a Federal Register notice from May 1999. Stakeholders have expressed concerns with the lack of guidance and dissimilarity with other modal administrations within Department of Transportation. Last Congress project streamlining provisions were proposed for rail that were similar to those proposed for highways and transit programs.

PRIIA Financing Improvements

A major goal of PRIIA was to improve the financial condition of Amtrak and create more investment in passenger rail through partnerships with states and the private sector. These provisions could be the foundation for further financial reforms to passenger rail.

Improved Financial Accounting: Section 203 required the Amtrak Board to implement a modern financial accounting and reporting system within three years of enactment. The Department of Transportation Inspector General (IG) reviewed the system and found in a March 23 report that Amtrak is better able to capture its financial performance by route, line of business, and major activity, as PRIIA requires. However, the IG also found that since Amtrak customized the system rather than using an off-the-shelf system, the system is more complex and costly to maintain, raising concerns regarding its long-term utility. The IG also found that Amtrak's heavy reliance on cost allocation reduces the precision of performance reporting. While many companies use cost allocation to an extent, Amtrak allocates (rather than assigns) 80 percent of its costs because it does not collect sufficiently detailed cost data. For example, Amtrak does not measure and record each train journey's fuel consumption, but rather relies on a formula that estimates a journey's fuel consumption.

Debt Restructuring: Section 205 of PRIIA authorized the Secretary of the Treasury, in consultation with DOT and Amtrak, to make agreements to restructure Amtrak's debt, including the purchase of leases. Following enactment, the U.S. Treasury agreed to fund the exercise of the Early Buyout Options in the Amtrak leases that were eligible for exercise in Fiscal Year 2011, Fiscal Year 2012, and Fiscal Year 2013. The Treasury did buy out these leases creating a "savings" to Amtrak of $160 million in future interest charges.

State-Supported Routes. Section 209 of PRIIA required Amtrak to work with the States to develop and implement a single, nationwide standardized methodology for establishing and allocating the operating and capital costs of providing intercity rail service on corridors less than 750 miles in length. This section recognized that over time a patchwork of arrangements had developed between Amtrak and the States. Some States were contributing funding for additional rail service, while others were not. Amtrak and the States have agreed to a common methodology, and beginning on October 1, 2013, most will be required to start contributing additional funding to maintain those services. Amtrak has estimated that this will improve its bottom line by approximately $85 million, contingent on all States agreeing to the amounts. Once in place, approximately 88 percent of the cost of State-Supported Routes will be offset by revenue and State payments.

Northeast Corridor: Section 212 of PRIIA, among other things, established a Northeast Corridor (NEC) Infrastructure and Operations Advisory Commission (Commission) because of the unique structure and complexity of the NEC. One of the Commission's tasks is the creation of a standardized framework for allocating costs between commuter and intercity trains to ensure that all corridor users pay their fair share for their use of the infrastructure. For the majority of the NEC, commuter railroads will be required to pay access fees to Amtrak, to maintain the NEC infrastructure. While the development of the formula was to be completed within two years, the Commission is still working with the States and Amtrak to finalize the cost methodology, and significant issues have been raised by the States concerning governance changes they would like to see before paying new access fees.

Intercity Passenger Rail Performance and Enhanced Reforms

Rail Passenger Service Metrics: PRIIA required FRA and Amtrak to develop metrics for measuring the performance of intercity passenger train service. Furthermore, PRIIA charged the Surface Transportation Board (STB) with resolving disputes between Amtrak and the freight railroads regarding poor performance, and to determine whether the failure to achieve minimum standards are due to causes that could reasonably be addressed by the host freight railroad. If the STB determines such failure is attributable to the host railroad, it could award damages to be paid by the freight railroad to Amtrak. Currently pending before the STB is a proceeding brought by Amtrak against Canadian National that would be the first enforcement action under the new metrics and standards.

Long Distance Routes: PRIIA emphasized that Amtrak's long-distance routes are part of the US intercity passenger rail network. The Act required Amtrak to evaluate the performance of each long distance route, develop individual improvement plans, and FRA was authorized to hold back funds if Amtrak was not making reasonable progress in implementing the improvement

plans. Section 208 of PRIIA required FRA to contract out with an independent entity for the development of objective methodologies for Amtrak to use in determining what routes and services it should providing, including the elimination of existing routes. To date, FRA has not complied with this provision. The committee will inquire about how FRA implemented these provisions.

Enhanced State Involvement: PRIIA tasks States with developing State rail plans to establish priorities and implementation strategies to enhance passenger and freight rail service and serve as the basis for Federal grants.

Next Generation Corridor Equipment Pool Committee: PRIIA required the creation of a Next Generation Corridor Equipment Pool Committee to design, develop specifications for, and procure standardized next-generation rail passenger equipment. This committee developed the specifications for roughly $800 million in locomotive and rolling stock procurements funded by the Recovery Act.

Historic Preservation and Section 4(f) Streamlining: Section 407 of PRIIA required the FRA to issue a report on streamlining compliance with Section 4(f) of title 49 and section 106 of the National Historic Preservation Act for federally funded railroad projects. FRA issued this report in March 2013, and recognized that there is no consistent approach to addressing eligibility of railroad corridors for historic preservation purposes. Furthermore, FRA noted that streamlining mechanisms addressing Section 4(f) compliance processes for railroad resources could benefit Section 106 analyses and the parties improving railroad infrastructure. FRA recommended a number of administrative and legislative measures that would help streamline the processes for railroad projects, including enacting an exemption similar to that provided for the Interstate Highway System, redefining the terms "use" and "historic site" under Section 4(f) to exclude most railroad facilities, exempting certain categories of railroad projects from review, and providing guidance on how to evaluate railroad properties for historic preservation.

Safety Provisions

Safety, Generally: The Rail Safety Improvement Act of 2008 (RSIA), the companion to PRIIA, reauthorized the Federal Railroad Administration's passenger and freight rail oversight activities. Since enactment of RSIA, significant improvements in safety have been realized. 2012 was the safest year on record. Train accidents (excluding grade crossing incidents) have decreased significantly from 2,482 accidents with 27 fatalities and 323 injuries in 2008 to 1,718 train accidents with 9 fatalities and 285 injuries in 2012. Human factors and track defects remain the main causes of those accidents. Grade crossing incidents have also decreased; from 2,429 incidents with 290 fatalities and 990 injuries in 2008 to 1,958 incidents with 233 fatalities and 929 injuries in 2012. Grade crossing and trespassing incidents account for 95 percent of ***all*** rail fatalities.

Positive Train Control: Section 104 of RSIA requires Class I, commuter, and intercity passenger railroads to install positive train control (PTC) on all tracks where toxic-by-inhalation hazardous materials and passengers are transported by December 31, 2015. In 2012, Class I railroads operated over almost 162,000 miles of track, 60,000 miles of which potentially requires

the installation of PTC under the law. The intercity passenger and commuter railroads account for an additional estimated 8,400 miles of track required to be equipped with PTC.

Most railroads have reported to the Committee that they will not be able to meet the 2015 deadline due to technological difficulties, lack of spectrum and radio, difficulties with FRA's interpretation of the law, and financial constraints. FRA estimates the total cost for implementation in excess of $10 billion.

In December 2010, the U.S. Government Accountability Office (GAO) published a report expressing concerns about the ability of the freight and passenger railroads to meet the December 31, 2015 deadline. In August 2012, as mandated by RSIA, the FRA issued a report to Congress on the status of implementation, which stated that partial deployment of PTC could only be achieved by the deadline, and even that was "dependent upon the successful resolution of known and emergent issues."

FRA has recommended that Congress consider legislation allowing the FRA to extend the mandate for PTC installation on specified line segments and to allow FRA to approve the use of alternative technologies in lieu of PTC on specified line segments, and to allow FRA to approve provisional certification of PTC under controlled conditions before final system certification is complete. Meanwhile, other stakeholders have requested that Congress consider an extension of the mandate to December 31, 2018 with the ability of FRA to authorize an additional extension of two-years on a case-by-case basis.

Major Issues for Upcoming Reauthorization

Some of the major policy issues the Committee will discuss at the hearing include:

- What reforms to Amtrak's structure could be undertaken to provide more transparency into its operations, both for its customers and for the federal taxpayer?
- What governance structures can be put in place between Amtrak, commuter railroads, freight railroads, the states, and the federal government to focus investment on the Northeast Corridor?
- How can the next bill build on the progress to strengthen the federal-state partnership for state-supported routes?
- What options exist to improve the financial performance on Amtrak's long distance services?
- How can innovative finance, private sector funding, and the Railroad Rehabilitation and Improvement Financing (RRIF) loan program be leveraged to accelerate important capital projects?
- What policies can be implemented to encourage private-sector participation in the provision of passenger rail services, including food and beverage service?

- What policies can be put in place to accelerate project delivery, to cut down on delays and get projects done?

- What legislative changes to the Positive Train Control mandate should the Committee consider?

INVITED WITNESSES

Hon. Joseph Szabo
Administrator
Federal Railroad Administration

Mr. Michael P. Melaniphy
President and Chief Executive Officer
American Public Transportation Association

Mr. Edward Hamberger
President and Chief Executive Officer
Association of American Railroads

Mr. Mike Lewis
Director
Rhode Island Department of Transportation
on behalf of American Association of State Highway & Transportation Officials

Mr. John P. Tolman
Vice President & National Legislative Representative
Brotherhood of Locomotive Engineers and Trainmen

NATIONAL RAIL POLICY: EXAMINING GOALS, OBJECTIVES, AND RESPONSIBILITIES

THURSDAY, JUNE 27, 2013

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON RAILROADS, PIPELINES,
AND HAZARDOUS MATERIALS,
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
Washington, DC.

The subcommittee met, pursuant to call, at 10:03 a.m., in Room 2167, Rayburn House Office Building, Hon. Jeff Denham (Chairman of the subcommittee) presiding.

Mr. DENHAM. The subcommittee will come to order.

First, let me welcome our witnesses and thank them for their testimony today. We invited you because each of you represents a key stakeholder group involved in our Nation's rail industry. As you all know, Chairman Shuster and I are committed to rail reauthorization this year. I state that at every hearing because I want everybody to know that it is coming very, very soon, and we are going to need all of you involved and helping to get something that makes sense, especially in today's fiscal challenges.

We have traveled across the country now. We will continue to visit different States in the Nation, local and Federal officials, and we are discussing the last reauthorization bill and how it has affected the railroad industry. We have heard suggestions on how we can improve our laws so rail transport can expand in a safe and efficient manner. It is clear that the current rail authorization has helped improve passenger and freight rail service in this country. For example, PRIIA, sections 209 and 212 have moved the ball forward with regard to Amtrak's State-supported routes in Northeast Corridor operations. These lines of business have increased revenue and eliminated much of the need for any Federal operating subsidy.

Our goal is to build on the PRIIA successes and tackle the challenges that remain for freight and passenger rail. Hopefully, this hearing will inform the committee of what steps need to be taken to reach that goal. As I stated earlier this year, we need to be pragmatic and transparent, and we will need all parties to participate in order to deliver the best bipartisan product to the House floor.

As seen by this week's House and Senate appropriation marks, we need to operate within realistic budget constraints, and I think we all agree reforms are necessary to ensure and leverage every dollar we do have efficiently.

There is no division between the different services Amtrak provides. We need to put a structure in place to allow Congress' in-

vestment to strengthen passenger rail. We need to prioritize our investment. We need a reliable source of funding to invest in existing infrastructure in places like California, the Midwest and the Northeast Corridor within existing resources. This means we might have to take a hard look at the pie-in-the-sky visions, such as FRA's multibillion-dollar unrealistic budget. We should invest in projects that will increase safety, increase reliability and reduce trip times without breaking the bank.

Ideally Prop 1(a) in California should be invested in realistic local projects instead of a project that has no realistic business plan, no proven ridership and exploding costs. For instance, in California, we have got the California State Rail Plan, which lists 27 capital investment projects for ACE. We have 36 for the San Joaquin line and 42 for the Capitol Corridor. Each will benefit existing ridership.

Taxpayers entrust in this body their hard-earned dollars, and we must be sure those dollars finds their way back in the form of tangible benefits. Throughout my travels I have heard recurring questions that I want to address with today's witnesses. How do we focus our limited resources on investments that make sense in places like my home State of California? How do we improve governance on the Northeast Corridor to ensure stakeholders have an equal seat at the decisionmaking table? How do we leverage private sector investment and innovative financing to enhance our ability to invest in infrastructure projects? These issues are just an example of the difficult task we must tackle together in the next few months.

Again, I want to thank all of our witnesses this morning. I would now like to recognize Ranking Member Corrine Brown from Florida, for 5 minutes to make any opening statement she may have.

Ms. BROWN. Thank you, Mr. Chairman.

As we meet this morning, the House Appropriation Committee is considering a bill that will cut funds for Amtrak 2014, provide just $950 million for the railroads, including $350 million for operational grants and $600 million for capital and debt service.

Federal funds of $950 million will not give us a better railroad. We know this from experience. What it will do is put Amtrak workers out of jobs, cancel replacement and overhaul of railcars and locomotives and derail service we demanded from Amtrak with the 2008 bill.

I think that if we are going to focus on national rail policy, we ought to be discussing the impact of the constant cutting of Federal support for Amtrak while demanding more and more reforms. The two issues go hand in hand. How can Amtrak improve long-distance routes without funding? How can we expect Amtrak to reduce trip time when we fail to make the infrastructure investments that are needed to implement these reductions?

Indeed, this committee, on a bipartisan basis, authorized a total of $9.8 billion for Amtrak in fiscal 2009 through 2013; however, annual appropriations for Amtrak since 2008 has been significantly lowered, about $2.5 billion less than what we authorized. Just take a look at that chart.

Where is the chart?

Now, 5 years later, some Members claim that Amtrak has not done enough. Well, I truly believe you get what you pay for. Other countries have learned that a long time ago. China, Japan, France and the U.K. are all investing billions in their passenger rail service. We constantly talk about wanting what they have when it comes to passenger rail, but then we are not willing to finance it. We look for other people to finance it, other people who have time and again told this committee that the Federal Government needs to step up to the plate.

We did this for highway and aviation. From 1947 to 1970, when Amtrak was created, the Federal Government spent $11.3 billion on aviation. At the same time, we spent $52.4 billion for the development of an Interstate Highway System. While most of the money came from user fees, at least $8 billion was from general funds. Today annual Federal spending on highway construction exceeds $42 billion. We have not spent that much on improving passenger rail in 43 years. We have glossed over the fact that funding does not come from user fees. In fact, since 2008, a total of $52.3 billion in general funds have been transferred to the Highway Trust Fund to keep it solvent.

I know that the chairman plans to hold a hearing on financing, but again, I think if we are going to talk about national rail policy, we need to also talk about the hole we are digging ourselves into by failing to adequately invest in Amtrak.

Now let me briefly turn to long distance. There has been a lot of talk in the press about eliminating long-distance routes. I strongly oppose that. These routes literally connect our east coast to our west coast. They are what make Amtrak a national railroad. Without the long-distance train, over 4 million people in 23 States and 223 communities will lose all passenger rail service. Let me repeat that: 4 million people in 23 States and 223 communities would lose all passenger rail service.

Finally, a critical component of our reauthorization bill includes reauthorizing our Nation's rail safety program. Although rail accidents are down, the National Transportation Safety Board has been called in to investigate 11 rail accidents that have occurred since June 2012. We must keep this in mind as we work on our bill to take advantage of the opportunities we have before us to eliminate what we need to do to make this, a very safe industry, even safer.

With that, I want to thank all of our participants, and I am looking forward to hearing from the panelists today.

Mr. DENHAM. Thank you.

Again, I would like to thank our witnesses today. Our panel will include the Honorable Joseph Szabo, Administrator from the Federal Railroad Administration; Michael Melaniphy, president and CEO of American Public Transportation Association; Ed Hamberger, president and CEO of the Association of American Railroads; Mike Lewis, director of Rhode Island Department of Transportation, on behalf of the American Association of State Highway and Transportation Officials; and Mr. John Tolman, vice president and national legislative representative for the Brotherhood of Locomotive Engineers and Trainmen.

I ask unanimous consent that our witnesses' full statements be included in the record.

Without objection, so ordered.

Since your testimony has been made part of the record, the subcommittee would request your oral testimony be limited to 5 minutes.

Mr. Szabo, you may proceed. Thank you for joining us.

TESTIMONY OF HON. JOSEPH C. SZABO, ADMINISTRATOR, FEDERAL RAILROAD ADMINISTRATION; MICHAEL P. MELANIPHY, PRESIDENT, AMERICAN PUBLIC TRANSPORTATION ASSOCIATION; EDWARD R. HAMBERGER, PRESIDENT AND CHIEF EXECUTIVE OFFICER, ASSOCIATION OF AMERICAN RAILROADS; MICHAEL P. LEWIS, DIRECTOR, RHODE ISLAND DEPARTMENT OF TRANSPORTATION, ON BEHALF OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS; AND JOHN P. TOLMAN, VICE PRESIDENT AND NATIONAL LEGISLATIVE REPRESENTATIVE, BROTHERHOOD OF LOCOMOTIVE ENGINEERS AND TRAINMEN

Mr. SZABO. Thank you, Chairman Denham, Ranking Member Brown and members of the subcommittee. I appreciate the opportunity to testify.

The Passenger Rail Investment and Improvement Act and the Rail Safety Improvement Act, both passed in 2008, were bipartisan game-changing pieces of legislation. 2012 was the safest year in railroading history. Amtrak's on-time performance, its ridership and its revenues are now at all-time highs, and the freight rail industry has never been stronger.

Today, 6,000 corridor miles are being improved, 40 stations are being upgraded, hundreds of new passenger cars and locomotives are being procured, and States are competing—or completing more than 100 different environmental, engineering and planning projects, but we still have a long way to go to make up for decades of underinvestment in rail and be ready for the challenges ahead.

Soon America's transportation network will need to move 100 million additional people and 4 billion more tons of freight annually, and it will need to do it safely, reliably and efficiently.

Our airports and highways are stretched to their limits. Congestion costs our economy more than $120 billion per year. Rail is the clear mode of opportunity. It is extremely safe, cost-effective and the least oil-reliant, most environmentally friendly mode to move people and freight.

Citizens are showing us the way. Recent studies by U.S. PIRG and the Frontier Group have painted a clear picture of American's shifting travel habits. In 2011, the average American drove 6 percent fewer miles than in 2004. In just 10 years, Amtrak's ridership is up more than 40 percent and growing faster than any other mode of travel.

Population growth, mobility challenges, shifting travel patterns, these are the reasons why it is essential for us to work together to provide rail with the sustained source of funding that will put it on par with other modes.

The 5-year, $40 billion rail reauthorization proposed in our fiscal year 2014 budget builds on the core principles of our previous authorizations. And we propose to fund our budget with a new rail account within the transportation trust fund.

Our vision is for a National High-Performance Rail System that builds on today's progress, enhancing the Nation's rail system by addressing safety concerns, by providing funding for passenger and freight rail improvements and by promoting strong planning.

Our vision is a state of good repair for Amtrak, improving safety, efficiency and reliability. With your support, we can develop new passenger rail services and substantially upgrade existing corridors, and we can fund freight rail projects critical to our Nation's economic competitiveness, including ones to improve safety by eliminating or upgrading public highway rail grade crossings. We envision a world-leading domestic rail industry, and we will manage our investments through a transparent process.

Four years ago, when we started our high-speed and intercity passenger rail program, FRA evaluated nearly 500 applications submitted by 39 States, the District of Columbia and Amtrak. The applications requested more than seven times the available funding, illustrating the enormous pent-up demand. And in the past 4 years, the pipeline of rail projects has only grown stronger.

Making large-scale investments on a year-to-year basis is both difficult and inefficient. No rail system in the world has ever been successfully planned and developed in this fashion. Funding predictability is a necessity to empower our partners, the States, local governments and the private sector so they can plan for and invest in the rail network our economy needs and our people deserve.

So now is the time for a new bipartisan game-changing vision for American rail, and we look forward to working with you to make it happen. Thank you very much.

Mr. DENHAM. Thank you, Mr. Szabo.

Mr. Melaniphy.

Mr. MELANIPHY. Good morning, Chairman Denham, Congresswoman Brown, members of the subcommittee. We thank you for this opportunity to testify on our priorities for rail policy in this country. I have to believe that the Nation needs an integrated network of passenger rail services, including high-speed rail, where appropriate, that connects with the existing Amtrak system and with commuter rail, transit operations and other intermodal connections.

Travelers should be able to make seamless connections between modes, between major metropolitan regions linked by rail service. As the Nation's population swells by nearly 150 million people by 2050, we need to make investments in our transportation infrastructure, including intercity passenger rail, which provides transportation choices and achieves national goals.

We support dedicated revenues for such a program, other than those currently supporting the Highway Trust Fund. We also support a streamlined NEPA review process for projects. Moreover, both private and public sector participation should be considered in the development of new rail service and the planning, construction and financing of new rail infrastructure.

We recognize the current fiscal pressures that the Nation faces and the challenges for Congress in providing fiscal resources and setting priorities within the Federal budget. However, we believe the investments in infrastructure, including passenger rail, are among the highest value investments the Nation can make. These investments will provide benefits to the Nation for hundreds of years. We know this committee recognizes the importance of transportation investment to the Nation's economic competitiveness and prosperity.

Expansion and improvement of the our current intercity passenger rail system will require a commitment of Federal, State, local and private resources, a combination of funding and financing strategies that will not only pay for projects, but also speed their planning, design and construction.

APTA recommends an authorization of $50 billion over 6 years to facilitate the development of high-speed intercity passenger rail funded by a dedicated and indexed Federal revenue source and complemented by the use of public-private partnerships.

With regard to rail safety, APTA is unequivocally committed to safety, with passenger and employee safety being the number one priority for our Nation's commuter railroads. Since its inception, APTA has been an advocate for safety improvements, and we are always working to make our industry safer. APTA's standards program and safety audit program are examples of the ways the industry promotes safety, and I have described both in my written testimony.

With regard to positive train control, APTA has consistently supported the concept of PTC, provided that proven technology, resources and radio spectrum, where available, a position that predates the Rail Safety Improvement Act.

APTA is working with its member railroads to meet the law's requirements that all of the Nation's commuter railroads have federally approved systems to help protect against accidents. We want to work with this committee on how to get PTC systems installed on commuter railroads in an optimized fashion. Some commuter railroads already have collision avoidance systems, some of which have been in place for years, but there is still no off-the-shelf technology which is capable of achieving all of the law's safety objectives today. Key components of PTC systems, such as back office software, upgrades and revisions, roadway worker protection, are still in the development stage. It requires newly designed of radios and large amounts of radio spectrum to deliver information to trains and achieve interoperability between carriers. And it requires testing in the actual commuter rail operating environment. And above all, implementation costs are challenging, especially for publicly operated commuter railroads trying to deal with hundreds of state-of-good-repair projects unrelated to PTC, many of which also impact directly on the safety of operations.

Implementation costs for commuter railroads exceed $2 billion, not including operating and spectrum costs. This is on top of many costs the railroads are incurring on the east coast as they deal with the issues of repair and rehabilitation related to Hurricane Sandy.

We have told Congress for several years that we are concerned about the ability to implement PTC on all of the Nation's commuter

railroads by the 2015 deadline, and we sought Federal funding to help commuter railroads pay for the costs of PTC implementation.

We have also asked the FCC and Congress to provide radio spectrum without cost on the basis of public safety. And given all these challenges, we recommended the deadline for implementation be extended from 2015 to 2018 to allow for complete and orderly system integration.

APTA appreciates the opportunity to testify today. We will be happy to try and answer any questions that you may have. Thank you.

Mr. DENHAM. Thank you. Mr. Hamberger.

Mr. HAMBERGER. Thank you, Mr. Chairman, Ranking Member Brown and members of the subcommittee. Thank you for the opportunity to be here today to discuss reauthorization of PRIIA.

All of us want passenger railroads that are safe, efficient and responsive to the transportation needs of the country. At the same time, America cannot prosper in an increasingly competitive global marketplace without a best-in-the-world freight rail system. We think our Nation can have both: a safe and effective passenger rail service and a safe, productive world best freight rail system.

Freight railroads want passenger railroads to succeed. We work cooperatively with passenger and commuter railroads to help make this happen, and we support Government efforts to grow passenger rail in ways that complement freight rail growth.

As Mr. Szabo has said on more than one occasion, yes, America deserves a world-class passenger rail system, but not if it comes at the expense of what is already the world's best freight rail system.

As I have said more than once before, our Nation's freight railroads are overwhelmingly privately owned and operate almost exclusively on infrastructure that they own, build, maintain and pay for themselves. In fact, this year alone, $25 billion private capital will go back into the infrastructure. That's 40 cents on every dollar, to grow, maintain and expand our infrastructure.

But I draw your attention to the fact it is not that way for passenger rail either here or anywhere else in the world. I respectfully suggest that once you as policymakers agree on the nature and scope of passenger railroading in this country, you must be willing to commit public funds on a long-term basis commensurate with that determination. Moreover, Amtrak cannot plan, build and maintain adequate infrastructure that provides optimal transportation mobility and connectivity when there is so much uncertainty regarding what its capital and operating funding will be from one year to the next.

Having said that, the establishment and management of schedules and on-time performance between Amtrak and the host freight railroads should be undertaken jointly by those parties on a contractual basis. It should be governed by private, bilateral contracts and the facts and circumstances of particular routes, not by one-size-fits-all legislative mandates.

As you take a look at reauthorization of PRIIA, we have five principles that we think could help guide your considerations. First, safety has to take priority over anything else. Under certain conditions, passenger rail can operate on freight rail tracks at more than 79 miles an hour. In general, however, we believe that more

than 79 miles an hour requires a separate track. Where there is a separate track for passenger rail, we think it should be far enough away so that if there is an accident, that it does not foul the adjacent track, having even more tragic consequences.

Second, capacity issues must be properly addressed. Additional passenger train operations should both preserve the ability to operate freight trains as needed today and the opportunity to expand further freight service as our customers require in the future.

Third, if passenger trains use freight railroad assets and property, it is reasonable for the freight railroad to expect full and fair compensation.

Fourth, freight railroads must be adequately protected from liability that would not have resulted but for the added presence of the passenger rail service.

Finally, there can be no one-size-fits-all approach. Each project involving passenger rail in general or high-speed rail projects in particular has its own unique challenges and circumstances and should be dealt with on a case-by-case basis.

In my final minute, I would just like to draw your attention to my written testimony, where we go into great detail, as Mr. Melaniphy just has, on the challenges of implementing positive train control. We join APTA in calling for an extension of the deadline. Our proposal is for at least a 3-year extension plus an additional 2 years at the Secretary's discretion because of the unknown challenges that are out there.

And let me make it very clear. We are not looking for a repeal of this mandate. We are committed. We have spent over $3 billion already. We have thousands of employees working on it. There are challenges as we try to develop the technology, as we try to develop the new radios, as we try to develop and install the equipment on 22,000 locomotives, and over 60,000 miles of track. Much of it will be installed by 2015, but not all.

We want to work with this committee to see if we can work through an extension that allows this to be done, but you have our commitment that we are committed to doing it and we will get it done. Thank you.

Mr. DENHAM. Thank you, Mr. Hamberger.

Mr. Lewis.

Mr. LEWIS. Chairman Denham, Ranking Member Brown and distinguished members of the committee, thank you for inviting me to participate in today's hearing. My name is Mike Lewis. I am the director of the Rhode Island Department of Transportation, but today I am testifying on behalf of AASHTO, as its current president. I also serve as a member of the Northeast Corridor Commission.

AASHTO's position on national rail policy has evolved through many years of State experience with delivering passenger rail service and working with and supporting large and small freight railroads. Dating back to AASHTO's 2002 Freight Rail Bottom Line Report, we have highlighted public-private partnerships as a model for investment in freight rail projects.

Rail must be a part of a balance of transportation—a balanced mix of transportation alternatives available to our Nation's freight trippers and the traveling public. Making increased levels of invest-

ment and realizing the public benefits of a strong freight rail system will require partnerships among the railroads, the States and the Federal Government. The Heartland Corridor and the National Gateway Corridor are major intermodal connector projects resulting from shifting patterns of freight demand. These and similar projects make it clear that we must constantly adapt to changing global economics and logistics and that rail is an essential element of our overall national transportation system.

Continued Federal investment is essential. Without it, the resulting—an increased reliance on the highway system would greatly increase highway congestion and maintenance costs, driving up overall costs of goods movements in the U.S.

The recently formed National Freight Advisory Committee will provide a forum for integrating freight within all modes. Two AASHTO board members have been selected to serve on the committee, Secretary Ann Schneider of Illinois and Mike Tooley of the Montana DOT.

Having spent my career in transportation first in Massachusetts and now in Rhode Island, I am most familiar with rail service in the Northeast. Demand on the NEC is at record levels. The NEC, however, cannot continue to accommodate rising demand, due to infrastructure that is highly congested and in need of repair. With more than 2,000 trains per day and major segments at or near capacity, operating the NEC leaves little room for error, as we saw with recent closures of parts of the corridor due to the commuter rail accident in Connecticut and as recently as Tuesday with the derailment of Amtrak construction equipment in Rhode Island.

By bringing key stakeholders to the table, the NEC Commission is making a difference. For the first time, all the stakeholders are joining together to develop a corridorwide 5-year capital program. The fundamental tenet of the capital program is that funds generated by increased State and Amtrak financial contributions will not supplant existing Federal funding, but be used to leverage higher levels of overall Federal and State investment. The NEC Commission is a model for collaboration that can be used on other corridors across the U.S.

The States have been providing funding assistance to Amtrak outside the Northeast Corridor as well. In 2013, 15 States either partially or completely supported Amtrak service. Under the provisions of PRIIA section 209, all short-distance Amtrak corridors must become State-supported routes and States must pay the proportional costs associated with their respective corridor.

States continue to work cooperatively with Amtrak and are now in the process of contract negotiations looking at the list of items provided under the 209 pricing policy to determine the best use of State resources.

So what should be included? National rail policy must be just that: a national policy. As AASHTO policy states, a robust national rail transportation network that moves both passenger and freight effectively and efficiently across international borders, State lines and within regional and State boundaries is essential to this Nation's continued growth and vitality.

Safety continues to be our first priority. We must look at corridor-specific measures that will reduce fatalities and injuries and

allow States the flexibility to use new technology, combine resources and partner with the private sector in innovative approaches that will lead to zero deaths, including those at rail-highway grade crossings.

As called for PRIIA, a national rail plan should be the vision for both freight and passenger. To implement this plan, Congress must provide a long-term, stable funding for intercity passenger rail. Federal investment for intercity passenger rail in the Northeast Corridor and State corridors and improving the national network of intercity passenger rail, including long-distance trains, should follow a model similar to that proposed by the FRA, which consolidates rail programs to focus on existing passenger service state of good repair and expand and improve passenger and freight networks in order to accommodate growing demand.

In addition, the MAP–21 project delivery streamlining measures should be extended to rail projects, both freight and passenger. The amount of time that it takes for a rail project to move from planning to actual construction could be reduced by half, saving millions in construction costs.

The journey to defining and executing a national rail policy will be a long one, but today is a good day to start.

I appreciate the opportunity to testify before the committee and will be happy to answer any questions you may have.

Mr. DENHAM. Thank you, Mr. Lewis.

Mr. Tolman.

Mr. TOLMAN. Good morning, Chairman Denham and Ranking Member Brown, members of the subcommittee. I appreciate the opportunity to speak here today. On behalf of the 37,000 active Brotherhood of Locomotive Engineers and Trainmen members and over 70,000 rail conference members, I want to thank the committee.

The BLET supports the concept of a unified national plan for our Nation's passenger and freight railroads. It is consistent with our desire for long-term planning and financing of rail. It is also imperative that any national rail policy would protect the interests of the men and women who work in the railroad industry today.

In order for our Nation to meet the economic and environmental challenges that we face, we must continue to invest in the infrastructure and to develop and plan for new means to get goods and people from place to place in the most fuel-efficient means possible. Rail clearly is the best means of doing this.

On the passenger side, Amtrak and the intercity commuter railroads and their employees have the knowledge, skills and abilities to develop, implement and grow passenger rail systems throughout this country. They have done great work and continue to set record riderships across the country. Passenger rail is a great example of the old quote in the "Field of Dreams": "If you build it, they will come."

On the Amtrak side, this cycle of underfunding must end. They desperately need long-term funding and predictability. Most troubling currently of all labor is the recent proposed House appropriations budget for fiscal year 2014. The bill would cut the FRA by 40 percent.

On the freight side and for its professional skilled railroad employees, intermodal freight transportation is the way of the future, with goods moving from ship to truck to train on a seamless network.

To continue this, we need to ensure that we continue to invest in our infrastructure. Unfortunately, the House Appropriations spending leaves TIGER grants out entirely; it also tries to cut this year's awards in half by rescinding $237 million before the DOT can get the already awarded grants out the door.

Railroads have improved their fuel efficiency by 23 percent in the last two decades. As stated by Ed Hamberger, the freight side in the industry is investing billions annually in its infrastructure and is well positioned to handle any additional freight that comes its way, but we must also ensure that continued investments are not only to expand the capacity but also to improve safety.

Along these lines of safety, PTC will save lives, and the BLET strongly supports the implementation of PTC on our Nation's railroads. This technology will prevent the most egregious and catastrophic accidents throughout our Nation. All too often, cost-benefit analysis is used as the sole objection against moving ahead on rail safety projects. If we could rewind the time and freeze the movement before any fatal accident, such as Macdona, Texas, or Graniteville, South Carolina, occurred and talk to the train crew or talk to the residents, who among us would like to explain to them that they would die of an accident not from the accident itself, but from the smoke or hazardous materials inhalation because the congressionally mandated emergency escape apparatus—breathing apparatus and switch points indicators failed a cost-benefit analysis.

Let's work together to implement feasible protective safety opportunities for the public and for its employees. As Ed Hamberger testified last week in front of the Senate, and he stated, job safety is the number one issue for the industry. So let's walk the walk and talk the talk and get things done together. A national rail policy must take all factors into account, including connectivity to provide service nationwide. Now is the time to stimulate the economy and to invest in jobs, the number one issue in the last national election, jobs.

Through the creation of good passenger rail system throughout the Nation, for every $1 billion invested in high-speed rail or rail passenger, it could create 47,000 jobs, based on a DOT study and a Federal Transit Administration study.

The workers currently employed by our Nation's railroads are among the highly skilled employees in the world. They are entitled to a safe work environment, and any comprehensive rail plan should not interfere with their ability to keep and expand their work.

In conclusion, we would like to reinforce the need for Amtrak long-term funding and continued need for cooperation between the freight railroads and labor to provide a stimulus to our industry, to the economy, and we need to do this while making critical strides to enhance safety.

Once again, thank you very much for the opportunity to be here.

Mr. DENHAM. Thank you, Mr. Tolman.

Thank you all of our witnesses. As always, we will be doing the 5-minute rule. We will plan on at least two rounds of questioning, with such a large panel.

I am going to start things off with Mr. Szabo.

We have gone round and round a couple times on budgets. I imagine that we will go round and round several more times on it, especially with the House Appropriations Committee recently making their plans known, but I want to get a realistic view from a committee standpoint on what our priorities for PRIIA reauthorization are; what are realistic projects we can actually accomplish, given a bipartisan effort between the two Houses? You start with your budget at $2.7 billion. The Senate budget is current funding, which is $1.45 billion, and then the House now at $.95 billion.

Best-case scenario, I think, is current funding. I mean, that is the Senate's starting point and the House is lower, I imagine we are going to ultimately get somewhere in between there. Going much higher, without some new funding source, which I would be encouraged to hear any efficiencies or new funding sources that the administration is looking at, but best case right now today looks like would be that $1.4 billion or the current level of funding.

What are some of the top programmatic reforms that you think will ensure the most efficient use of those Federal dollars?

Mr. SZABO. Well, I think if you take a look at our budget submission, it really clearly spells that out. Our mission is to ensure the safe, reliable and efficient movement of people and goods.

When you start taking a look at the state of our transportation network today, the congestion costs in loss of productivity that our transportation network is already facing, and then when you take a look at the decades of underinvestment in rail, combine that with the efficiencies that rail can generate in moving people and goods, the enhanced productivity, the enhanced safety, the improved environmental sustainability that the rail offers, we believe that our budget proposal is not only realistic, but certainly appropriate, that it is time that we truly put rail on parity with the other transportation modes, that we no longer treat it like a forgotten stepchild. And because of these decades of underinvestment, there is clearly this need to advance the vision forward of real commitment of dollars and a reliable and sustainable funding pool out of a rail account in the trust fund.

Mr. DENHAM. Outside of the whole budget debate, because that debate is going to continue to go on, assuming we have extra money, we are going to need to put significant infrastructure repairs, not only some that safety repairs that should have been done decades ago, but certainly areas that we can create greater efficiencies, but in the PRIIA bill itself, we are looking for reforms that help us to create greater efficiencies or greater use of taxpayer dollars. Do you think State-supported routes is working well and would you propose doing that in other areas? Are there other types of reforms that you need to be looking at?

Mr. SZABO. You know, I think if you take a look at our budget proposal, one of our key changes there is the fact that we start breaking Amtrak down into the business lines, which allows us greater transparency. We call for the preparation of a 5-year plan according to each business line, which will allow us at FRA to be

much more aggressive in overseeing their implementation of each of those business lines, and looking for continuous improvement in financial viability.

We do have to start the discussion by acknowledging the fact that Amtrak's financial performance last year was the best in its 42-year history and has, in fact, improved each of the last 4 years. But we also have to say that that is not good enough and that we need to continue to drive that continuous improvement in their financial stability and reducing the support on Federal tax dollars.

Mr. DENHAM. In your testimony, you state that reorganizing Amtrak grants structure will not work at the current levels. Amtrak's already putting together business lines. If it is working now, why would that not be something that could work at current levels?

Mr. SZABO. We really did our due diligence in putting together the plan to understand what it is really going to take to ensure that safety, efficiency and reliability of each of those business lines, and we absolutely believe that each of those business lines are important to meeting the transportation needs of the traveling public. And to go at any level less than that, particularly, particularly the level that the House came out with would negatively affect safety, it would negatively affect reliability and the efficiency of the network, and would likely increase costs for the States under section 209 as well as increase costs for the commuters under section 212.

Mr. DENHAM. Thank you. I realize, again, we are going to have this ongoing debate on budget, but we have to be able to figure out something in realistic reforms, and that is why I will continue to answer this question about business lines. It is working. Amtrak is working on business lines today under current budget scenarios. We want to take all of the good things that are happening today under the previous PRIIA bill and, regardless of where we end up on this budget debate, make sure we have got a good package to move forward that continues to improve efficiencies and safety throughout.

I am out of time. Ms. Brown.

Ms. BROWN. Thank you, Mr. Chairman.

And I want to also thank you for the field trips that we have had. The one that we took up to the Northeast Corridor was extremely educational for everybody on the committee.

And one of the things with Sandy, what happened, Mr. Lewis, with the tunnels, what is it that we need to do to make sure that these natural disasters, that we harden those situations?

Mr. LEWIS. Short of raising the level of the continent——

Ms. BROWN. Yes, sir.

Mr. LEWIS [continuing]. We have—first of all, we have to recognize, as you have, the vulnerability of the existing infrastructure that we have and to be able to address through a series of prioritization of projects, how do we protect that infrastructure and its exposure?

I mean, we all recognize, just taking the NEC, Northeast Corridor, for example, the numbers of trips, over 2,000 train trips a day on the corridor, and the numbers of people that are served by that, as well as freight, the value to the Nation's economy of those trips, they are absolutely vital that we protect those interests.

So in our planning and prioritization of infrastructure improvements, we need to take into account these more recent risks that we have in front of us.

Ms. BROWN. Some of my colleagues want to require that the States pay for long-distance service. What is your opinion on that?

Mr. LEWIS. As I said in my testimony, I think there is a role for all parties. The States certainly have a role to play; the Federal Government is a necessary component of that. The States have stepped up, as they are under 209 and under PRIIA and under 212, for greater investment.

We do need to be sure, if the States are going to step up, and all of you know how difficult State budgets are and the challenges in front of many States, and if we are going to go and sell increased investment to our State legislators, we need to be able to show them where that money is going and the value it brings to that State. So I think that is a challenge we have, but I think there is a willingness on the part of the States that we are partners in this challenge.

Ms. BROWN. Thank you.

Mr. Szabo, would you answer that question. And also what is your opinion of the House proposed funding level for Amtrak?

Mr. SZABO. No. I find the House proposed level both concerning and a bit perplexing. At a time when passenger rail, when Amtrak is the fastest growing transportation mode in the Nation, as vehicle miles driven by Americans continue to decline, and it has been on a downward trend over the past decade, that we wouldn't be making the investments that are necessary to truly make intercity passenger rail a viable part of a balanced transportation network.

And as I said in the answer to my previous question to the Chair, it really is time that we take a look at how we enhance productivity, how we eliminate the cost of congestion, make sure that we allow States to plan out and build transportation that will allow people and goods to use the mode that is most efficient for a journey. And for too long, rail has been, particularly passenger rail, the forgotten mode.

Ms. BROWN. It is clear that the House is behind the American people, because the ridership is up about, what, 40 percent?

Mr. Hamberger, my last question. With respect to the PTC and the spectrum issue, what can Congress do to assist you all, because I understand there are some challenges there?

Mr. HAMBERGER. Thank you for that question. With respect to spectrum, the freight railroads were able to get out quickly and procure enough spectrum. I think the question on spectrum is really more for APTA and Mr. Melaniphy. But while you have raised the FCC, let me just put on your radar an issue that has just bubbled up in May of this year. The Federal Communications Commission has advised us to stop installing any more antennas. We have about 22,000 more radio antennas to install, over 95 percent of which will be located on our right-of-way. The FCC is now requesting that we perform an environmental assessment on each of those 22,000 antennas.

We have had some meetings with them. They understand that such reviews might take a few years and add even further to the delay. We are having meetings with them at the commissioner

level on down, and we hope, with the good assistance of Mr. Szabo and his staff, to come to a more streamlined solution over at the FCC. If that doesn't happen, we might be back asking for some relief of that.

But having taken Mr. Melaniphy's time, let me turn the spectrum issue over to him.

Mr. MELANIPHY. No. We just—we want to reiterate that spectrum is a critical piece. And this is a safety issue here, and it is very important that the public agencies have access to spectrum. So that we appreciate the opportunity to work with Mr. Hamberger's members on access to spectrum and leasing spectrum where it is available, but it is critical that we have access to that spectrum, and that we are recommending that it be given at no cost to the public sector operators so they can provide this safety service to their members.

Ms. BROWN. Thank you.

Thank you, Mr. Chairman.

Mr. DENHAM. Thank you.

Mr. Barletta.

Mr. BARLETTA. Thank you, Mr. Chair.

Mr. Szabo, you talked a lot about the underinvestment of the Government, of the Federal Government. I would like to talk about the RRIF program, something that is very interesting to me. Being a former businessman and understanding how important it is to make the capital investments back into the industry, I thought this is a great program.

Now, the RRIF program has been on the books since 2000, it has an authorization of $35 billion for investment in rail infrastructure, which we all agree is critical. Yet as I understand it, the Federal Rail Administration has only approved $1.7 billion in loans since 2000. Why is the RRIF program so underutilized when our rail infrastructure needs such investment?

Mr. SZABO. Yeah. I think as we start talking through greater specifics for reauthorization, this is an area that we would like to have some additional conversation with the committee on how we do make RRIF more useable for the industry, in particular the short lines. To a great extent over the past decade, through some statutory change, the program has kind of lost its initial focus on trying to make sure that capital dollars are available for these smaller short line railroads that are so capitally starved. And there is no question that short lines have a more difficult time getting through the process to be deemed eligible for a loan. The Class I's can get through. They have got all their financials in order. You know, it is relatively routine process for them. For the mom and pops, it is more of a struggle.

So a couple of things that we are doing now as well as one thing that we have proposed in our budget, to help mom and pops get through the RRIF process more expeditiously and to better understand what it is, we started forming some joint partnerships with States. And the State of Ohio, their development commission was actually the first that we were able to partner with to where they take the leadership in becoming the RRIF experts for all of the short lines in the State of Ohio in providing that early upfront

guidance to them and helping them through the process much more quickly.

Mr. BARLETTA. What is the average time from start to finish for the loans that you have completed?

Mr. SZABO. We are required that once an application is complete, to have it through the process in 90 days, and we meet that goal. The challenge has always been getting all of the information in up front to make that application complete. And so with programs like the one that we have put together in Ohio, we are going to enhance the applicant's ability to have a full application, to understand everything that is needed of them, and get it through the process that much more quickly.

But also going back to our budget, you will notice that we talk about the need for grants for freight rail infrastructure improvements, and short lines would clearly be eligible here. What we have found is that so often, there are short lines that are desperate for capital, but they cannot qualify for a loan. And we believe, in these cases, particularly for safety enhancements, bridges, track improvements, that grants would be a more appropriate tool.

Mr. BARLETTA. Deputy Secretary Porcari pledged to improve the RRIF program. What was it that he was trying to accomplish? I mean, he admitted that it needed to be improved.

Mr. SZABO. Yep.

Mr. BARLETTA. So I don't put the focus all on the short lines or the rail industry. I think there is a problem in the program in it being administered and I think there is—people have admitted that. So this has been 13 years, $35 billion authorized, but only $1.7 billion actually utilized. What was it that he was trying to accomplish?

Mr. SZABO. Actually, what we have accomplished, going out and working with the States now is going to dramatically reduce the time to get a loan through the process and make sure that better information is provided up front, which will allow us to start that 90-day clock sooner and make sure that we continue to hit our 90-day deadline for all of those applications, but I think there are other things that can be done. And, again, as we get into reauthorization, some conversations that we might be able to have on how we might be able to better simplify the process for those mom and pops to get that capital in their hands.

Mr. BARLETTA. Quick question, Mr. Melaniphy. Do you think there have been any improvements to the RRIF program since the deputy secretary pledged to improve it in 2011?

Mr. MELANIPHY. First I think the key here is that, unlike the TIFIA program, there are no funds appropriated for the credit subsidy of the RRIF loans and each loan applicant must pay the credit subsidy cost to their own loan, and while they can pledge capital against the program, it adds to the cost of the overall project.

I think we need to look at how the TIFIA program is structured and look to see if there are ways to align the RRIF program to be more in alignment how the TIFIA program is structured without respect to buying down the risk of the project.

Mr. BARLETTA. Thank you, Mr. Chair.

Mr. DENHAM. Mr. Sires.

Mr. SIRES. Thank you, Mr. Chairman.

And thank the panelists for being here.

You know, ridership along the Northeast Corridor is strong, is growing. We obviously face urgent need on investment of the infrastructure. In the past few years, all we seem to talk about is how to privatize this, yet we are performing rather well instead of talking about investments that they need.

Can the panelists provide me with their perspective on how privatizing the Northeast Corridor will affect both the cost of riders and the level of service that they will be provided, and whether or not the privatization will affect the kind of long-term investment in infrastructure that the Northeast Corridor will require in the next 20 or 30 years? Can somebody take a shot at that?

Mr. HAMBERGER. You can start. The questions move to the right.

Mr. SZABO. We can either start with Mike and finish with me or vice versa.

Mr. LEWIS. You take it.

Mr. SZABO. The most important thing we can do for the future of the Northeast Corridor is to allow the good work of the Northeast Corridor Commission to continue moving forward, as well as making investments that we are proposing in our budget proposal and ensure the certainty, the predictability and reliability of funding to make those necessary state-of-good-repair improvements as well as investing in the corridor for the next generation of service.

This is clearly one the best markets in the world, and with the limited resources, some remarkable things have been done. Over the past 15 years, a majority of passengers flew between New York and DC, and since the introduction of the Acela service, that has been completely turned around to where it is pushing close to, I think, 80 percent now that are traveling by train——

Mr. SIRES. One——

Mr. SZABO. Yeah. And then just 20 percent that are shared by all of the airlines put together. But when you start talking about what role privatization has, there certainly is likely going to be an opportunity for private capital in the corridor, but I really think that the Commission is the one that needs to be able to determine what is the appropriate role and when that role takes place to ensure the capital comes into the corridor.

Mr. SIRES. Would you care to speculate how it will affect the price for the customers and investment in infrastructure?

Mr. SZABO. Well, we don't advocate the privatization of the service. To go back to what I said, I think there may be the opportunity for private capital into the infrastructure, but ultimately it is about the safe, efficient reliability of the service for the passengers for the costs that they have to pay. And, we believe that the approach that is taken today with appropriate investment is the approach that needs to continue.

Mr. SIRES. You know, I know the question was raised before about natural disasters. I had a firsthand look at what happened with Sandy. You talk about predictability. There is really no predictability when it comes to, how do you deal with, when you do capital budgets, and then all of a sudden, you get hit with a storm like Sandy, that throws your capital budget all out of whack?

Mr. SZABO. Well, I think the biggest thing that we have to ensure moving forward, and this is not just from a rail standpoint,

but from all of our infrastructure, is that we are now designing resiliency as well as potential recovery into the design of all transportation projects.

In my mind, there is just no question that weather patterns are going to continue to become more and more uncertain and more and more severe, and so we have to have redundancy as well as resiliency built into our transportation network.

Mr. SIRES. Because I know the ports by me, Port of Newark, obviously, they are looking at the same thing. But, you know, if the ports don't work or they are shut down or you are shut down, you know, 80 percent of the merchandise that comes from those ports is consumer to region, and you can't move it. You know, people—you know, it is just—I don't know how we can be predictable on anything like that.

Mr. SZABO. Yeah. One of the first calls that I made after Sandy hit was to Ed Hamberger, just to better understand how we could divert freight and keep freight flowing to those ports that weren't affected and understanding what rail infrastructure had not been harmed and how we try and keep those goods flowing.

Mr. SIRES. Yeah. The port was shut down for just about a week——

Mr. SZABO. Yeah.

Mr. SIRES [continuing]. Basically, so no matter how many railroad cars he brings down, you are not going to get—thank you very much.

Thank you, Mr. Chairman.

Mr. DENHAM. Thank you.

Mr. Webster.

Mr. WEBSTER. Thank you, Mr. Chairman, for bringing this panel together.

I have a question of Mr. Lewis. You mentioned having a national freight policy. And we can't do earmarks, OK, so that would be the easiest way to do it. So now we can't do that. So does AASHTO have any sort of recommendations how we can maintain the States' flexibility, which we give a lot of flexibility in much of the planning from, you know, highways and other means of transportation? We give you lots of flexibility. And yet with this, if we are going to do something regionally, we might be squeezing down on that flexibility. So my thought is, do you have any recommendations?

Mr. LEWIS. Sure. Congressman, I think it is a great question. I think, first of all, we can't talk about a national policy unless we are all talking collectively with all modes. And I think the Northeast Corridor Commission that Mr. Szabo talked to, it is a good model; smaller scale, but it is all of the States in the Northeast Corridor getting together, recognizing that working together, each of their interests are being served, that working with the freight railroads, working with USDOT, working with Amtrak, we have a common interest. There are different areas, each one of us have our own concerns, but there is a common interest, and it doesn't work unless we are all working on those common interests.

I think on a Federal level, we at AASHTO do espouse greatest flexibility for decisionmaking of transportation of States, but we all recognize that we all work as an overall system. The Interstate Highway System only works because there is connectivity, so that

you can take goods that come in from the Port of Long Beach and they can drive across Wyoming and end up in Providence, Rhode Island. That is the system, that is how the system works.

We view the freight policy needs to be the same. It needs to incorporate the ports, it needs to incorporate inland waterways, it needs to incorporate the highways and railroad. It is all part of the system, and I think that is what we are supporting.

Mr. WEBSTER. OK. So should that be formalized in that, OK, they have—what they have done is somewhat voluntary. Should we formalize that as Federal policy? I mean, we require metropolitan planning organizations to build from a local-up plan. Should we engage ourselves in doing some sort of requirement for regional compacts of some sort——

Mr. LEWIS. Requirements, I am not sure. On behalf of AASHTO——

Mr. WEBSTER [continuing]. Versus voluntary. I mean, but voluntary is a little risky.

Mr. LEWIS. But voluntary, it is—going to the NEC Commission, the Commission is requirement, the outcome is not. We have to voluntarily work together to get a result.

I think that there is an opportunity. I think there is a recognition across the country that we need to work as systems, as a system. I think the States recognize that. The States recognize that there is interdependency. And so I am loathe to say I am supporting requirements in that vein, but I wouldn't rule it out if we don't reach success.

Mr. WEBSTER. Somebody else want to——

Mr. SZABO. Congressman, if I may add. Again, if you go back and look at our proposal, one of the key things we talk about in there is enhancing regional planning for passenger and freight rail projects, and that, in essence, we would like to see some kind of duplication of the Northeast Corridor Commission in other key regions, understanding that whether we are talking about moving people or goods, in most cases it doesn't stop at the State lines and that it needs to be looked at regionally.

Mr. WEBSTER. So do you think, though, that should be a more formal request by us through legislation or is that something that could be done voluntarily?

Mr. SZABO. It is kind of hard. I think we have to talk about that a little bit. I think it needs to be strongly encouraged. I am not sure it is appropriate to mandate it. As Director Lewis said, the NEC works——

Mr. WEBSTER. Let me ask you this, what if we funded those that decided to do it?

Mr. SZABO. Yeah. And I think those are the parts of the way that you encourage it. Good planning has to be the foundation of everything that we do. And so, yes, to be eligible for funding, having a regional entity that is doing the appropriate planning and coordinating the project I think would be appropriate.

Mr. WEBSTER. Thank you very much.

Mr. DENHAM. Mr. Lipinski.

Mr. LIPINSKI. Thank you, Mr. Chairman.

I want to start by following up on Mr. Barletta's questions about RRIF because I think RRIF could be of much greater value if we

are able to get more of that money out to the railroads. A couple of things I would like to ask Mr. Szabo, do you know how many active formal applications are currently being worked on?

Mr. SZABO. I can get you that for the record.

[The information follows:]

Nine RRIF applications are currently in process.

Mr. LIPINSKI. OK. And you are saying that once everything is in, that it is meeting the 90 days?

Mr. SZABO. That is correct.

Mr. LIPINSKI. So I wanted to ask, how much of a role does OMB play here? Does the role of OMB lead to any delays in this process?

Mr. SZABO. It is a complex process. I mean, obviously there is the work and due diligence my staff has to do. And then there is a process through OST. And then there is a process with OMB for ultimate approval. And obviously, all of them are trying to ensure that we do not place the Federal taxpayers in a position of any undue risk and to make sure that it is a loan that can reach the determination of repayability, which is statutorily required. And so it is a multiple step process.

Mr. LIPINSKI. Well, I am looking forward to having a discussion about what we can do, especially legislatively here to make the program more functional, get more of that money out the door, more of those loans out the door. And I certainly do like the idea of a grant program, although you know, as we all know, how difficult that is these days.

Mr. SZABO. And what, Congressman, I would offer is that in some of these cases, we see these apps come in from some of these small railroads, and they desperately need the money, and yet they can't qualify for the loan. So if we don't find them way to get them capital, we run the risk of losing that service.

Mr. LIPINSKI. I would 100 percent agree with you on that. It is something that we need to be working on further.

I want to move on to Mr. Hamberger. We were sitting here less than 24 hours ago in these same places. At that point, you were testifying for the Panel on 21st-Century Freight Transportation. And we talked about at the time the CREATE program in northeast Illinois and how important it is to the freight network of the country. I am not sure how many times we have sat in these seats and have talked about CREATE. But I am very happy that CREATE has been moving forward, although not as quickly as any of us would like to see. But $1.2 billion has been committed to the program that contains about 70 projects.

What I have been more concerned about, recently, the bigger projects are not getting done. And these are projects that really impact two of the things that we are talking about here, passenger rail and safety. The rail flyovers are—you know, one of them, Englewood flyover, has received funding. It is in the process of construction now. So rail flyovers really help for passenger rail, especially freight also. But I want to focus more on a safety aspect, which is the highway-rail grade separations. We have made tremendous progress on the rail corridor but only two of the 25 grade

separations are complete. There are three or four others that have the funding, but that is not too far along with the 25.

So I want to ask, because these are important for safety, obviously, how high of a priority are these projects for the railroads? And how do we move better, more quickly in getting these projects done?

Mr. HAMBERGER. I am not sure I have an answer to the second part. The first part is a very high priority. We have committed in a letter from me to Illinois DOT Secretary Ann Schneider additional funding for all of the grade crossings consistent with State and Federal law that are part of CREATE. We have also committed additional money for the 75th Street CIP. So we see these as high priorities. We want to continue to work with the city and the State. And I go back to Mr. Webster's question about planning. This is a very great example of voluntary planning among a variety of parties—the Federal Government, the State, the city of Chicago, and the private sector. So it is working on a voluntary basis.

Mr. LIPINSKI. Well, I would just like to add, I appreciate that, but I would certainly like to see my constituents and the people—the area would like to see more committed to those grade separations, and we can continue to talk about that.

Mr. HAMBERGER. Well, as you know, Congressman, all of those projects have been put on a chart and are planned in cooperative fashion with Secretary Schneider and her staff, the Commissioner of Chicago, and the freight railroads and Amtrak and Metra. So we appreciate knowing you are there.

Mr. DENHAM. Mr. Williams.

Mr. WILLIAMS. Yes. Thank you, Mr. Chairman.

I wanted to thank all of you for being here today. You represent a great industry and one where, in my house, we still run Lionel trains for 60 years. And also, Mr. Tolman, I appreciate your comment about jobs. I am from the private sector. I am from Texas. And I am all about jobs and business. So thank you for those comments.

What I would like to ask—I guess Mr. Hamberger touched on it earlier—Mr. Szabo, and we talked about, in 2008, Congress enacted the posit train control mandate, which it is an unfunded mandate that makes freight railroads and passenger railroads comply, such as that in my district, Austin's Capital Metro system. It sounds to me, from what I have heard and seen, that nobody but possibly BNSF will achieve implementation of this on an on-time basis. And in Austin, the commuter rail system was started entirely with private funding just a few years ago. And the cost to deploy this technology is going to be about one-third of the cost to build the entire line.

So my concerns are that unfunded mandates discourage both private and local infrastructure investment. And I understand there has been efforts to delay the implementation. We have heard about this today from some of the others, up to 2018. And my question is, would you support that? And is it realistic? Is 2018 a realistic date?

Mr. SZABO. Our goal is to ensure that PTC is implemented as timely as possible while understanding the complexities of that timely implementation. The report that we provided to Congress

last year clearly indicates that the industry will achieve partial deployment by the congressionally mandated deadline of December 2015. But that full deployment is virtually impossible for most of the carriers.

The approach that FRA recommended in our report to you—ultimately this decision belongs to Congress—but we think that there has to be a balance between ensuring that due diligence is maintained to implement as timely as possible while also recognizing those very real technological and programmatic challenges that most carriers are facing. That is why we recommend, rather than a blanket extension, that you grant to us authority to work with each carrier to amend their implementation plan. So, on a case-by-case basis, we can understand both the due diligence that that particular railroad has made in their good-faith effort as well as the legitimacy of all of those challenges that are out there, and then customize an implementation plan for each railroad.

Mr. WILLIAMS. All right.

I guess the next question I have will be to you, Mr. Hamberger. You talked about safety concerns with attempting on the implementation of PTC by 2015. On the safety concerns, is 2018 achievable? Does that give us enough time?

Mr. HAMBERGER. We believe, by 2018, we will be substantially—85 to 90 percent implemented. We say that with a 70-percent degree of confidence because there are still some unknowns. The major challenge right now is the back office software which will allow the dispatch centers of each of the railroads to talk to everybody else's dispatch center and everybody else's locomotive, as locomotives traverse over other rails. We have to make sure that we are interoperable with all APTA members, with Amtrak. And that back office software has not yet been delivered. We hope to see it some time this summer, test it in the labs, and then get it out on the road for testing hopefully by the end of this year.

You may find this hard to believe, but not all software that is first written is 100 percent reliable. So we are concerned—and I would draw your attention to the GAO, which submitted testimony to the Senate Commerce Committee last week. They drew the Senate Commerce Committee's attention to the fact that we are striving so much to meet that 2015 deadline that they are concerned that some of this may be deployed without adequate testing. They believe that could be a safety issue. We think that, unlike the Administrator, there needs to be some certainty; there needs to be an extension of the deadline by at least 3 years; and in that regard, we also believe that there needs to be some regulatory forbearance until the entire system is certified as up and safe.

Mr. WILLIAMS. Thank you for your testimony. I yield back.

Mr. DENHAM. Mrs. Napolitano.

Mrs. NAPOLITANO. Thank you, Mr. Chair.

Mr. Szabo, in the 2008 rail safety bill, there was a requirement that the 10 States with the most grade crossing accidents develop and submit their 2-year department or agency action plans for reducing the accidents. Do we have a status of that? And how is your agency monitoring the implementation of the plans?

Mr. SZABO. We will give you a full status report for the record. But let me say this, we continue to execute that. We think it is

very important. Some of the States have had their plans submitted and approved. Others have submitted and were still working with them on approval. But if you take a look at the safety risk that is out there, while we have seen continuous improvement in the rail industry over the past decade, a better than 40-percent reduction in accidents and injuries for the industry as a whole, grade crossing safety and pedestrian safety continues to be a vexing challenge. There have been improvements, but we have got a lot more work to do.

Mrs. NAPOLITANO. And I understand. But certainly we would like to see what States are supporting. And I would like for this committee to get a copy of those replies from the States and what States are moving up the line to get it implemented.

Mr. SZABO. We will get you a full and complete status report on that for the record.

Mrs. NAPOLITANO. Mr. Chairman, for the record, a copy of the action plan of the 2008 requirements, the report for the States that have the highest accident rates to this committee and what is happening with the action plan. And he has that.

Mr. DENHAM. We would ask that that be submitted for the record.

Mr. SZABO. Yes, Mr. Chair.

[The information follows:]

> Nine of ten States have completed action plans for grade crossing safety. Alabama is in the process of completing their plan, in conjunction with our staff.

Mrs. NAPOLITANO. Thank you, sir.

And then there is an issue of the safety. As you know, we have had the Alameda Corridor-East through my former district that has—well, 54 grade crossings and only about 20 have been separated or half of them are separated. One of my cities requested the quiet zone at a great expense. Other communities are looking at that and are wanting it implemented, but they cannot bear the cost. Do we have any idea of how we are going to be able to help those communities be able to protect the residents? And partly, some of them are concerned with the rail horns going right through. As you know, California is separated by streets, the cities, so that some of these rail crossings go right through either commercial, industrial, city halls, et cetera.

And then some of the communities who have some of those safety concerns are worried about their children if the quiet zone is established, and they don't have a warning for crossing pedestrians.

Mr. SZABO. Yes, Congresswoman. Let me start by saying I understand this firsthand. As the former mayor of a community that had five railroads slicing through it, including two major freight rail yards——

Mrs. NAPOLITANO. Downtown.

Mr. SZABO [continuing]. Through the entire community. So if you take a look at what we have proposed in our budget submission, we explicitly set aside a pot of money for what we call community mitigation.

Mrs. NAPOLITANO. Right. And that includes some of the raising of the medians and it includes quad gates and all of that.

Mr. SZABO. Absolutely. Absolutely. So it would help communities construct their quiet zones. More importantly, it would really help with the sealing of corridors. The safest grade crossing is one that doesn't exist at all. So how do we work with communities to better design the closing of crossings with the strategic placement of overpasses and underpasses that are going to enhance rail safety, vehicle safety, and pedestrian safety.

Mrs. NAPOLITANO. How should we address this issue in the next railroad safety bill then?

Mr. SZABO. I am sorry?

Mrs. NAPOLITANO. How should we address this in our next railroad safety bill?

Mr. SZABO. Approve our budget proposal.

Mrs. NAPOLITANO. Which includes the funding?

Mr. SZABO. Yes, ma'am.

Mrs. NAPOLITANO. Is there any chance to be able consider helping communities that cannot afford quad gates or——

Mr. SZABO. This would be a pot of money that they would be eligible to apply for under competitive grants. So it is all about the public benefits that would be achieved and the safety that would be advanced.

Mrs. NAPOLITANO. OK. Then the other question, California has three of the top five busiest State-supported service roads in the country, the Surfliner, the Capitol Corridor, and the San Joaquin Corridor. And section 209 requires the State to pay for the losses. Although California and other States don't like the provision, they have accepted it. But a letter from Amtrak recently—and as far back as April—indicated that they would have to pay more, $40 million to be exact.

Do you see this new guidance as a problem to discontinue State-supported passenger service routes? And what is the assessment, and concerns, and a resolution?

Mr. SZABO. We need to make sure that the States and Amtrak end up in a good place, that there is full transparency of the numbers, a clear understanding of the services that the States are purchasing. And that is why we have now taken leadership to help mediate those discussions between the States and Amtrak. In fact, we were with David Kutrosky, who runs one of your operations up in California, this week. The feedback David gave to me was actually very positive on the progress he believes that is being made. But there are issues that we have to help the parties work through.

Mrs. NAPOLITANO. Thank you, Mr. Chair.

Mr. DENHAM. Thank you.

Dr. Bucshon.

Dr. BUCSHON. Thank you, Mr. Chairman.

First of all, I am going to comment on the overall Federal budget. Again, we are at a hearing talking about discretionary spending being pinched. And the elephant in the room is that this Congress, this Government is not addressing the entire pie of Federal spending. We all know it. And as our mandatory spending continues to drive our national debt, we are going to continue to see discre-

tionary spending programs tightened to the point where we have issues like we are talking about today. I wanted to make that clear.

Mr. Hamberger, so I was interested in your comments about your tower construction. On one hand, the Government, the Congress has mandated PTC, but then you made a comment about how, on the other hand, an agency of Government has stopped tower construction. That is going to significantly slow the process, is it not?

Mr. HAMBERGER. We have determined and have advised the FCC that if we can get this worked out here in 2013, we think it will not slow us down any further. But some of these approvals and environmental assessments in the past have taken 2 or 3 years just for one tower. There are resource issues at the FCC. We are hitting them with 22,000 applications. So we are looking and working with them, again with the support of DOT and FRA, to try to come up with some way to handle them in a more batched group, if you will. And what we are trying to get across is that for those that are on our rights of way—and that is about 95 percent; these are just poles going up on our rights of way—maybe there should be some sort of a categorical exclusion for those. We have not yet gotten buy-in on that but we are working on it.

Dr. BUCSHON. Do you have any idea why the FCC—is this something new? I mean, they all of a sudden came out and said, we need this review and——

Mr. HAMBERGER. No. They have regulations in place which we, over the years, have been abiding by in a more informal fashion. That is to say, the railroad would go out, hire a consultant, who would come back and say, there are some issues here that you need to deal with. The major challenge is the State Historical Preservation Office and Native American tribes. If there are issues that need to be brought to those entities, we go to them and work through possible mitigation measures. With this big program, the FCC seems to think that maybe there should be a more formal role for them which will, again, we think slow things down. They understand the issue. They are working with us. But I did want to get this on your radar in case we need to come back to you for assistance.

Dr. BUCSHON. Well, I mean, this is only just my opinion. I mean, it may go along with the major speech that the President gave and the overall view I think of these issues as it relates to this current administration.

The other question I have for you is—I mean, it is very important to have the interaction between Amtrak and the infrastructure of your members. The Amtrak on-time train situation and how if there are issues related to that, how that works and how that gets resolved in general.

Mr. HAMBERGER. In the past, the individual freight host railroads and Amtrak negotiated contracts that included both penalties and incentives for on-time performance. And the major focus is freight train interference in achieving on-time performance. There are a lot of reasons an Amtrak train may not be on time. And Mr. Sires talked eloquently about scheduling a railroad when you have Hurricane Sandy coming your way. There are a lot of issues, including Amtrak's own locomotives perhaps not performing up to standard.

There are a lot of reasons for on-time performance not to be at 100 percent. Our focus is on delays caused by freight train interference.

So we have negotiated—I say "we"—the individual railroads—have negotiated contracts with Amtrak. We think that is the way it should be. Under the 2008 PRIIA Act, Congress dictated that there should be a role for Government to mandate an 85-percent on-time performance, that the FRA and Amtrak should promulgate such regulations, and that the STB should enforce them. We have challenged the constitutionality of the regulations put out by Amtrak and FRA. That litigation was heard earlier this year and we expect a decision on that case very soon. Should we not win that litigation, we will probably be back here asking you to change that legislation to, again, put it back in the category of bilateral discussions between Amtrak and the freight railroads. We think that is a much better way to go. One of the big issues we have is, what is the database for determining the cause of the Amtrak delay? Right now, it depends upon conductor delay reports. The conductor is back with the passengers punching tickets. It is hard for he or she to know exactly the cause for a delay.

Mr. DENHAM. Thank you, Mr. Hamberger.

Mr. Cummings.

Mr. CUMMINGS. Mr. Tolman, you have referenced several safety features and procedures in your testimony that were once under fire because of costs and political considerations. Now that we are living under sequestration, are there any policies or safety measures that you feel are particularly at risk of this particular of indiscriminate cost-cutting?

Mr. TOLMAN. Off the top of my head, nothing in particular. But I would like to comment—everybody has been speaking about PTC. I have a lot of heartburn with PTC being pushed back 3 more years after a 7-year process from 2008 to present not to implement PTC. And now they want to go into a 10-year—you know, an additional 3 years when we all know that the National Transportation Safety Board recommended PTC to be implemented as early as the late 1970s. I mean, come on, we knew this was coming. We need to respond in a more practical manner to address the safety issues. It is very troubling for our members to, once again, not to see this being implemented.

And the big, big question that I have: Amtrak has been sorely underfunded for so many years, yet they have had to form a PTC in the Northeast Corridor since 1996. It behooves us to figure this one out.

And the other one is, why can one Class I railroad implement PTC by the 2015 deadline and the rest of the freight railroads can't? And where are they in the process? It troubles me, Congressman. Thank you for the question.

Mr. CUMMINGS. Thank you.

Mr. Szabo, we all know that the American rail industry was once a world leader in innovation and efficiency. Clearly, our claim on that title has been lost as a result of decades of failure to invest in essential rail infrastructure. In terms of planning for the reauthorization of PRIIA, what role should the Federal Government

play in bringing us back to the forefront of this industry? And what can this committee do to support those goals?

Mr. SZABO. I think if you take a look at our budget proposal, you will see there is a very heavy element in there for research and development. And our goal is to once again make ourselves the world leader in exporting both intellectual property and talent as well as actual rail supply goods. As we take a look at the role we believe rail has to play in meeting our Nation's transportation challenges, we know we need to grow this expertise just to achieve that here at home. But again, we want to be a world leader.

And, Congressman, if I may, I do want to come back and talk about on-time performance just for a second. I think it is very important to note that since PRIIA in 2008 and the statute that required the establishment of those metrics and standards, that on-time performance has improved each year. And this past year was the best that it ever has been.

As an old conductor, I know that the conductor has full knowledge of what is going on with his train. You have got the radio in your ear. You are hearing all transmissions from the dispatcher. You know what is going out there on that railroad. Certainly, there may be the opportunity to improve data. We think that is an important goal and, in fact, are working with the industry as well as Washington State on a pilot project to do that. Our goal is to make sure that this is not about placing blame but is about doing good root cause analysis to understand whatever is causing a particular delay and then coming up with fixes.

Mr. CUMMINGS. And last question, Mr. Szabo.

Can you comment on the status of the national rail plan? And can you specifically address how uncertainty in funding for rail may impede the development of the national rail plan?

Mr. SZABO. We continue to provide a series of rail planning documents kind of working off a list that holistically taken together would generate a national rail plan. And I think it is important to note that it is not one document. It is never going to be one document. It will continue to be a series of documents that will continue to evolve as our Nation's transportation needs also evolve.

Mr. CUMMINGS. Thank you very much. I yield back.

Mr. DENHAM. Mr. Hanna.

Mr. HANNA. Mr. Szabo, it is not hard to imagine that you can approve things in 90 days when something—when actually the clock almost never starts ticking because it is so difficult to get to that 90-day point. And it is easy to understand that grants are easier than loans that are backed by security. It is easy to give money away. And I am sure there are plenty of people who will take it.

But as a practical matter, these are private companies that arguably supply a public good. And in this environment, it is going to be increasingly difficult to justify an out and out grant, even though it is nice to talk about. And the fact that these companies have to pay such enormous amounts of money relative to their cash flow and their worth to get to these loans, I mean, you know so much more about this than any of us because you have dealt with it directly. What are those things that cause the RRIF loan not to be used? Why would you expect someone to pay a lot of upfront

money for a loan that may never happen? And why not clean up that process rather than do anything else first? Because it sounds like, you know, we have got money to loan, but we have made a process that is a catch-22. So, with all due respect, what would you do if you were that bank?

Mr. SZABO. Yeah. I think we need to really do all of the above. As I said before, there are certain short lines that provide important service but are never going to be able to qualify for a loan. So in those cases where there are clear public benefits, I do believe the grants are important.

The second thing that we can do—and we are doing now—is to help applicants better understand up front what is going to be required of them so we can make sure we have that complete application much more quickly and get them through the process that much more quickly.

But third, I think as we get into reauthorization, we do have to have a conversation on those things statutorily that we might be able to do to help in particular the small railroads, the short lines get through the process. I know Mr. Melaniphy from APTA had some suggestions talking about some of the ways that TIFIA works, and perhaps we need to explore some of the approaches in TIFIA and see if it may apply to RRIF, particularly if we are talking about small loans.

The big boys can get through the process. The Class I's can get through. We put Kansas City Southern through on a loan in record time. But they are the ones that less need the program. They have other financing options that work for them. The challenge really is meeting the needs of the small Class II's and Class III's.

Mr. HANNA. So, just directly then, is it in any way realistic this whole RRIF program? And is there anything about it that is workable in the real world? And is it in any way practical to charge somebody hundreds of thousands of dollars potentially for a loan they may never see?

Mr. SZABO. There are those that have used the program and used it well and gotten through the process in a timely manner. I am talking about Class II's now. A couple of railroads up in Iowa that have used the program several times. Again, they understand what the process is, what it takes to get through it, and they have been able to use it successfully. They are happy borrowers, and they come back. So I think part of our goal is to make sure that we can get all the mom and pops to that place, so at least if they qualify for a loan, they can expeditiously get through the process.

Mr. HANNA. What are the creditworthiness standards that you use? Because it sounds like most of these companies are not capable of doing this without this type of law. So isn't that also a catch-22? What have you seen in——

Mr. SZABO. It is a challenge. But certainly you expect me—you expect me to make sure that when I make a loan that there is the statutorily required finding of repayability. And the last thing I want to do is be the Administrator sitting here in front of this committee talking about defaults. So we have to balance every day on these loans trying to get capital to the railroads that need them while also protecting the taxpayers of America.

Mr. HANNA. So that basically we have established a system of loans that doesn't work to a bureaucracy that has a responsibility that, by meeting it, it almost guarantees that the system fails. Is it fair to say then that a lot of these smaller railroads are just never going to be viable in the sense that they meet these loans, but yet we need to have a bigger conversation about the overall public good of what they do to decide whether or not we are——

Mr. SZABO. No. I think the record shows that there are several short line railroads that can and do, in fact, use this program, use it successfully, and are very, very pleased with the results. Now, certainly, there is another pool that have challenges. So we need to take a look at how we help them with all of those challenges. I believe that there are many more short lines that we can help successfully get through the program in a timely manner. But there are also those that we have identified that are never going to achieve that repayability requirement. And so if the service is deemed to have sufficient public benefits, grants are appropriate.

Mr. HANNA. Thank you.

Mr. DENHAM. Ms. Titus.

Ms. TITUS. Thank you, Mr. Chairman.

I would like to just shift gears a little bit and address this question to Mr. Hamberger, since you do freight rail, but also, Mr. Lewis, your insight into this I am sure would be valuable.

We are hearing a lot about inland ports and how they are opening up opportunities for economic development by bringing all modes of transportation together. I think it worked well in Dallas. Well, I represent Las Vegas. And that seems to me an area that has potential for developing into an inland port. We have the six busiest airports in the country and a lot of people in seats coming for tourism. But there is a lot of space to haul other things underneath as well. I–11 has been designated as an interstate highway. We have got to get it funded, but that is moving forward with cooperation from Arizona. So I wonder how you see this development of inland ports fitting in kind of with the future of railroads, what benefits you see might be coming for railroads as well as for communities, and what we might be able to do to kind of facilitate that process?

Mr. LEWIS. Congresswoman, let me take a first stab at that. I think that one of the things that a discussion around a national freight policy is going to reveal, the opportunities for inland ports and others. Where does it make the most sense to use the infrastructure that we have and that we can enhance in a most cost-effective way so that we are not overly relying on one system, one mode over another? But I think that provides a dialogue at a national level among all modes to be able to decide where it makes sense and where it doesn't because we all know how scarce the resources are and are going to be. We need to put it where it makes most sense.

Ms. TITUS. What can we be doing now to move that process forward?

Mr. LEWIS. Well, I think first is to engage all of us with the national freight dialogue. And I think we just had a meeting of the Secretary's committee this week just to kick it off. And I think that

is a great opportunity along with the work that the committee does as well. So I think that is a venue to begin that dialogue.

Mr. HAMBERGER. I would agree with that. I am not sure I understand in my own mind the intricacies of what an inland port designation means. But if I could expand it to just address, for example, intermodal yards. One of the things that we discussed yesterday in Mr. Duncan's committee is the length of time it takes to get through the environmental regulatory process. And I think you are aware of the 8-year travails of one of our members in trying to get a near-dock intermodal yard in southern California. It has been 8 years and $50 million in legal and environmental studies. And they are now in court for probably another couple years. That is a pretty egregious example. But that kind of thing happens around the country as you try to put in an intermodal yard which takes advantage of each mode's strengths. So that kind of streamlining of environmental permitting that occurred in MAP–21, we would like to see continued in the next rail bill as well.

Ms. TITUS. Well, we are anticipating an expansion on the Panama Canal, more goods coming in from Asia. The ports in California are getting filled up. They are going to need someplace to go kind of as a starting point, and Las Vegas would be well suited for that.

Mr. Szabo, would you——

Mr. SZABO. If you go back and take a look at our budget submission, part of what we are talking about there is community mitigation. And it is helping the railroads and the communities have the tools that they need. You know, as freight rail's role grows, as we try to site these intermodal centers that there are dollars that can be provided to mitigate the negative impacts, whether it is noise, whether it is traffic flow, allow for the construction of overpasses, underpasses and you know those things that would just allow the intermodal centers to live in harmony with the community.

Ms. TITUS. Thank you, Mr. Chairman.

Mr. DENHAM. Thank you. Mr. Mica.

Mr. MICA. Well, thank you, Mr. Chairman.

And a couple of questions. Starting out with Mr. Szabo, as we rewrite PRIIA, we had some provisions in there for developing high-speed rail that need to be updated. I had an opportunity to work in authoring that. One of the things that I am interested in is opening competition for passenger rail. Do you favor that?

Mr. SZABO. I think the key is, for the public or for the private sector to take a look at investing, there needs to be certainty. Obviously the private sector is motivated by profit motivation and that is fair. It makes our——

Mr. MICA. You don't have a problem with opening——

Mr. SZABO. We believe that there are absolutely opportunities for privatized operations.

Mr. MICA [continuing]. Long distance, high speed?

Mr. SZABO. Not necessarily for long distance, sir. No. I think that is a whole different animal.

Mr. MICA. It is not an animal. It is a dog, and it is costing us lots of money.

You are aware of the increasing losses. Every one of the three major long-distance service routes increased their loss from the last

recorded year to the previous recorded year, you are aware of all of those increased losses in long-distance service?

Mr. SZABO. I am aware of the fact that Amtrak's financials are the strongest that they have ever been last year.

Mr. MICA. It has nothing to do with long-distance service. And we are still dumping a billion and a half dollars into it. And through the Disney Fantasyland map, they will tell you that they are making money maybe on the Northeast Corridor. The best returns are on the State partnerships. Is that not correct?

Mr. SZABO. Those returns are on the Northeast Corridor. The best returns are on the Northeast Corridor followed by State corridor service.

Mr. MICA. The Northeast Corridor is a joke in the world of international high-speed rail service. You are aware of the speed from here to New York City, the average speed of Acela?

Mr. SZABO. I am aware of how our project is continuing to improve that speed and reliability.

Mr. MICA. Eighty-three miles an hour is a dog. And then from New York City to Boston, you are aware of the speed, is it not 68 miles an hour on average?

Mr. SZABO. I am aware of how our projects continue to improve the speed and reliability of service.

Mr. MICA. Even I think by our statute, I think we define around 110 miles an hour. The world is about 120. But most high-speed trains an are going 140 to 150 miles an hour, average speed; is that correct?

Mr. SZABO. Yeah, 186 miles per hour is pretty much the international standard. But our good work through the NEC——

Mr. MICA. Most of the trains travelling in Europe and the trains that are built today in Asia are going 140 miles an hour on average on the major routes, 120 to 140. I will even give you that. It is 68 miles an hour. We don't even begin to realize the potential of it. So, please, don't tell me that the Northeast Corridor is a success. And again, most of the capital money we are dumping into it. The only track that we own, really the only substantial track that we own is the Northeast Corridor. And I just was made aware of your return on nonrail revenue is about $100 million a year, is that right, for the Northeast Corridor? The right of way using the return——

Mr. SZABO. Are you talking about Amtrak's return?

Mr. MICA. Yes.

Mr. SZABO. We will provide you an answer for the record.

Mr. MICA. I will tell you, it is about $100 million. I was told by the private sector that they could get a 10 to 12 times better return if you could give that up. So, in our national policy, we should be looking at turning some of that over to the private sector.

How many RRIF loans have been given so far—well, we will say last year?

Mr. SZABO. We will provide it for the record, Congressman.

Mr. MICA. Half a dozen? A dozen?

Mr. SZABO. We will provide it for the record.

Mr. MICA. How many RRIF—the joke was, there have been more FRA Administrators at one point than there were RRIF loans.

Mr. SZABO. No. That is far from the truth. I am number 12. And there have certainly been a lot more RRIF loans than that. I would say the number is close to 40.

[The information follows:]

> Thirty-three RRIF loans have been given in the history of the program. Two were given in 2012.
> Nine RRIF applications are currently in process.
> Amtrak has told FRA that its nonrail revenue in FY 2013 was $584.4 million.

Mr. MICA. RRIF, which we tried to do in the transportation bill with the rail section. And that needs to be done. Obviously—Mr. Hamberger, your folks aren't interested so much, and they just want the Government basically out of their business, has been my take in talking to your executives. The big lines don't necessarily use RRIF. And the small lines I heard you give some grants to because they don't qualify.

Mr. HAMBERGER. I believe KCS is the only Class I that I am aware of that has a RRIF loan.

Mr. MICA. Well, we need to look at that in the future.

Are we going to go a second round? I am ready.

Mr. DENHAM. Absolutely. Thank you.

Mr. Szabo, going back to the PTC discussion, Ms. Brown and I have been going back and forth on our discussions on what we feel is a suitable extension or philosophy thereof. But you bring up a new point on a case-by-case basis. Certainly, Ms. Brown and I, after traveling the United States, we have been putting together a pretty good idea of some of the challenges with PTC. I think we would like the authority to do it on a case-by-case basis. Is that something FRA would support, giving this panel the authority to do that on a case-by-case basis?

Mr. SZABO. This panel? You know, Congressman, I would question the wisdom of allowing it to become a political decision. I believe that it is best vested with those safety experts that clearly can understand——

Mr. DENHAM. So the Administration wouldn't look at issues like this from a political standpoint?

Mr. SZABO. Oh, no. Absolutely not. This is about understanding the due diligence, the legitimacy of the effort that has been made to date while also taking a look at those complexities, those very real challenges that are out there working together with the carrier to come up with an implementation plan. It is a document that is already out there. So it is just a matter of amending the implementation plans that exist today.

Mr. DENHAM. On a case-by-case basis, FRA would like to have that authority to be able to pick winners and losers out there within freight railroads or even with different metro or commuter rails.

Mr. SZABO. It certainly isn't about winners or losers. It is about ensuring—no. It is about ensuring public safety.

Mr. DENHAM. Well, there are some that are closer to completion than others.

Mr. SZABO. That is correct.

Mr. DENHAM. But those that are closer to completion, if they implement in 2015 or 2016 and others are allowed to do it in 2018 or 2019, there is certainly a competitive advantage or disadvantage depending on what side of the issue you are on. So rather than going to a blanket extension in a bipartisan way, if we gave that authority to FRA to pick on a case-by-case of basis, you would then be picking winners and losers, would you not?

Mr. SZABO. No. We would be assessing very real facts. And those facts would be——

Mr. DENHAM. It is a real fact though that if one freight rail—we will use freight as an example—if one freight rail is able to take the burden of extra cost early and every other freight rail is then able to do it with a 3-year, 4-year, 5-year extension, whatever FRA decides is fair, I guess, you would be picking winners and losers.

Mr. SZABO. We would be assessing the facts. And nobody gets a free ride out of this. In fact, what we are talking about is ensuring full accountability. And to make sure that good-faith effort is being met and then assessing the legitimacy of the challenges that are out there, and many of them are real. And they are actually somewhat different from property to property. So this really allows us to make sure it is implemented as timely as possible to start achieving those safety benefits for the public as soon as is practical.

Mr. DENHAM. So if you had a freight rail that was ready to implement quicker than the rest of the industry, would they reap some type of benefit under your case-by-case scenario?

Mr. SZABO. Well, they certainly get the safety benefits much more quickly, but then the questions that we would have to comfortably have answered through the amendment process would be the legitimacy of the effort of the other carriers to date and making sure that it is well documented, it is clearly understood, and that there is no free ride for anybody. The challenge, Congressman—listen, ultimately, we execute whatever you legislate. But the challenge to a blanket extension is, are we going to be sitting here 3 years from now facing the same challenge that the people feel they got a little bit you know of a breather here and so the intensity of the effort lets up? That is the risk. And so there is a lot to balance here.

Mr. DENHAM. If FRA was put in charge of PTC, what would happen on the other side of the spectrum for some of the commuter rails that would not be prepared to enter into something like this? We were just in Chicago, for example. Now Chicago is having its own challenges financially with furloughs. And this may not be an area that they are prepared—I am not trying to speak for them—but may not be prepared on their highest priority level to fund this huge expense. Do you fund it for them? Do you bail them out? Do you shut them down? What would be your future outlook on a case-by-case basis?

Mr. SZABO. Two things. Shame on anybody if it hasn't been their highest priority since the deadline that the Congress has established has been very, very clear, since PRIIA was established in 2008. So it has been very, very clear to everybody that the deadline is December 31, 2018.

Mr. DENHAM. So if somebody doesn't have the money, if they don't have it as a priority, if they are looking at their city or county or a State in a bankruptcy-type issue, do you shut them down?

Mr. SZABO. First off, if you take a look at our budget submission, we are willing to help fund the cost of PTC implementation for the commuter railroads as well as Amtrak. We believe that there are sufficient public safety benefits to warrant public funding.

Mr. DENHAM. Not freight rail. Not the private.

Mr. SZABO. Not private sector. That is correct. That is correct. Obviously, if there is a case where somebody is failing to meet the deadline, we have to do due diligence to determine the facts. And based on those facts, it allows us to determine whether we use discretionary enforcement or whether we have to take an enforcement action. But the facts lead us there.

Mr. DENHAM. Thank you. This is an important topic I am going to come back to. I know you have got quite a bit to add to this, Mr. Hamberger.

But let me recognize Mr. Mica first for a second round.

Mr. MICA. Thank you, Mr. Chairman.

OK. Let's go back. Mr. Hamberger, how fast does the average freight train travel in the United States? I heard it was only 20-some miles or something.

Mr. HAMBERGER. That is what we have on the Web site. The way that it is calculated, it includes movements through terminals as well. But over the line, the maximum speed on a Class V track is 79 miles an hour.

Mr. MICA. Yeah. But the average speed of most freight is pretty slow because it goes through urban corridors. Most of those corridors were developed some time ago. One of the smartest things Florida ever did was some rail relocation. I think the PRIIA bill should have—well, first of all to get more vehicles and also trucks—trucks do the most damage to our highways—off the road and onto rail, that makes sense for us as an investment, it makes sense for moving heavy commodities, whatever it is or items.

But the rail relocation in Florida is the kind of model that we need to do. Get the freight rail out of the urban corridor. So, Mr. Chairman Denham and others, I think a major rail relocation effort is going to be something I would like to see us push. And that can be done. It was done so wisely. We are using now that urban corridor. It is going to be converted to passenger, primarily. And the speed I am told will double or triple. It will take more trucks off of Interstate 95, Interstate 75 and Interstate 4 in the next 50 years and probably save us money and, again, reshuffle the deck as far as transportation. Has anyone talked about that today?

Mr. HAMBERGER. No, sir. You are the first.

Mr. MICA. OK. Well, I am talking about it. I want to see your proposals from your association on how we do that and how that is done. We need to get you out of those urban corridors where it makes sense and re-use those. So that is one thing. Mr. Szabo is living in another era. Again, staff—where is the staff? I want them to distribute. Come on. Don't take your time. I have a limited amount of time.

These are the top three money-losing routes or long-distance routes. They all lost more money year to year. It is getting worse

than rather than better. And you told me you wouldn't want to put that up for private competition; is that right?

Mr. SZABO. First off, Congressman, if I may, take a look at our budget proposal. We are in fact proposing dollars for rail line relocation. We agree with you that it is an important priority.

Under our proposal and by breaking it down into business lines, we believe that through the preparation of 5-year plans and our aggressive monitoring of these 5-year plans that——

Mr. MICA. Long-distance service, when you put it up——

Mr. SZABO [continuing]. We continue to achieve efficiencies for long-distance service.

Mr. MICA. It is getting worse. And I just got news of the chef conclaves that they are holding, preparing gourmet meals.

Mr. SZABO. The volunteers? You are talking about the volunteers?

Mr. MICA. They are volunteers. But it still adds costs, and I am trying to get that. We will investigate that on my other subcommittee. Very soon, you will see that. But I am telling you that the losses are getting worse rather than better. Even in addition to the top three long distance, Auto Train is $122 a passenger loss, and that has increased. That is in my district. That has got to stop.

That actually was run as a private sector money-making proposition. I talked to the guy that set it up. They had two crashes. And liability killed them, and that is when you took it over. But it needs to go back to the private sector. I would like to see a recommendation from you as to how we can help with liability for passenger service so that——

And he shook his head, the record will reflect, in a positive manner.

So here for the record, too, Mr. Chairman, I submit all these money losers, including the one to my Auto Train to my route.

[The information follows:]

Long Distance Transportation Costs Per Passenger

Route Names	California Zephyr	Southwest Chief	Sunset Limited East
Route	Chicago to San Francisco (Emeryville)	Chicago to Los Angeles	New Orleans to Los Angeles
Loss Per Passenger (2011)	$165.80	$177.50	$375.10
Loss Per Passenger (2012)	$182.40	$183.40	$404.00
Amtrak Price (Reserved Coach Seat)	$250.00	$324.00	$201.00
Travel Time (Train)	52 hr, 10 min	43 hr, 15 min	46 hr, 35 mins
Flight Route	Virgin America ORD-SFO Nonstop	United ORD-LAX Nonstop	Delta MSY-LAX Nonstop
Flight Cost	$196.90	$191.90	$239.90
Travel Time (Air)	4h 40m	4h 18m	4h 9m
Greyhound Bus Price (Standard Fare)	$228.00	$229.00	$214.00
Travel Time (Bus)	50 hrs, 0M	46 hrs, 35M	45 hrs, 5M
Departure Date	July 26, 2013	July 26, 2013	July 27, 2013

Auto Train Losses

	Route	Loss per Passenger (2011)	Loss per Passenger (2012)
Auto Train	Lorton, VA to Sanford, FL	$108.90	$122.60

Mr. MICA. I guess tax credits would be one of the things that could help you the most for investment, Mr. Hamberger and your folks.

Mr. HAMBERGER. At one point, as you know, Chairman Mica, we were pushing that very aggressively. More recently, it appears both in the administration and in Congress that there is a desire to broaden the base and lower the rate. So we have signed on to the concept of broadening the base and lowering the rate. We are one of the highest effective taxpaying industries in the country.

Mr. MICA. But that would help you——

Mr. HAMBERGER. We believe that lower rates would be very helpful.

Mr. MICA [continuing]. Not need to rely on Government programs.

Mr. HAMBERGER. Yes, sir.

Mr. MICA. Last, Mr. Tolman, you represent the hard workers—and there are a great many people who are employed in Amtrak and freight rail. It is my understanding that people at Amtrak, there are many positions for which they are paid less, their benefits are less than the private sector. Do you represent both? And is that the truth, the whole truth, and nothing but the truth?

Mr. TOLMAN. There is a variety of different wages throughout the industry.

Mr. MICA. But the brothers and sisters in passenger rail under Amtrak, I am told, in many instances are paid less for comparable positions in freight rail.

Mr. TOLMAN. In some freight railroads, yes, that is absolutely true. In some areas, that is untrue.

Mr. MICA. That is unfair to them. And we privatized freight rail way back in 1970 when we started to do something with Amtrak. And we have left it to a monopoly that is a Soviet-style train operation. And it is a national joke and disgrace. It costs the taxpayers a fortune, which has to stop.

Thank you, Mr. Chairman. I will yield back the balance of my time.

Mr. DENHAM. Mr. Hamberger, back on PTC.

Mr. HAMBERGER. Thank you, Mr. Chair.

Mr. DENHAM. Well, first of all, let me ask you, case-by-case basis, do you think the House and Senate ought to just give authority to the FRA on a case-by-case basis, seeing as how this Obama administration is not very political in dealing with various items like this?

Mr. HAMBERGER. Mr. Chairman, with all due respect, I think the fewer safety mandates Congress gets involved in, the better. Our view with respect to the system—a 3-year extension versus a case-by-case basis—you put your finger right on it. It would not be a railroad-by-railroad basis. It almost would have to be evaluated on a corridor-by-corridor, city-by-city basis. I don't understand how it could be done if, for example, a freight railroad is equipped, but a Metra train isn't; or one freight railroad is equipped and a short line railroad working in the Chicago zone is not. Because of the interoperability issues, it has to be a blanket extension so that everybody can get there.

Let me make two related points. Number one, I do not for a moment impugn the professionalism of the FRA. They are dedicated, highly trained professionals interested in safety. At the same time, I think this would be an incredible resource demand on them. Each of our railroads will have some PTC up and running. It would almost have to be corridor by corridor, and I think it would just be impossible to do from a practical standpoint.

Secondly, I agree with Mr. Tolman's statement that there needs to be transparency, and that is why we presented last Wednesday to the Senate Commerce Committee the update of our progress report. I did not attach it to this testimony, because we were more focused on PRIIA. But let me submit that for the record.

[The progress report, entitled "PTC Implementation: The Railroad Industry Cannot Install PTC on the Entire Nationwide Network by the 2015 Deadline—May 2013 Update," also appends the Association of American Railroads response to a question for the record and can be found on page 136.]

Mr. HAMBERGER. It details railroad by railroad what each has done in terms of progress in a variety of areas and what still needs to be done.

And the last point I would like to make, and I tried to head this off in my opening statement, Mr. Chairman, but I am sick and tired of people saying: "we need to keep the pedal to the metal," or "we have to make sure that the railroads don't walk away from this," or "they are going to be back here in 3 years asking for another extension."

We are committed to this. We are not asking for the deadline to be repealed. We are going to get it done. The sooner it gets done, the sooner we can begin to reap the safety benefits, and begin to see whether or not there are business benefits. So we don't need anybody putting their boot on our throat. We are committed to getting it done.

Mr. DENHAM. Mr. Hamberger, it is my understanding that some of the freight rails are further ahead than others——

Mr. HAMBERGER. Yes, sir.

Mr. DENHAM [continuing]. As well as some of the commuter lines, some of them are further ahead than others. From a freight perspective, would the freight rails be supportive or opposed to doing a—assuming we did some type of extension, whether that is a 1-year, 2-year, 3-year or more extension, if this body, working with the Senate, agreed to some type of extension, would freight rails be able to give an updated timeline——

Mr. HAMBERGER. Yes, sir.

Mr. DENHAM [continuing]. On where we were?

Mr. HAMBERGER. Yes, sir. And that is why we submitted this. And, again, I apologize for not putting it on as an attachment to this, but I will be glad to submit it. It is very detailed, getting down to the number of locomotives, for example.

Mr. DENHAM. Would that——

Mr. HAMBERGER. Wayside interface units, railroad by railroad. It does not include the commuter trains represented by APTA.

APTA, I think you did yours last year. I don't know if you have updated it for 2013.

Mr. DENHAM. And would that not also ensure that if we had a timeline and you could see transparency——

Mr. HAMBERGER. Yes, sir.

Mr. DENHAM [continuing]. On a——

Mr. HAMBERGER. I would be glad to be back here every 6 months, every quarter, every year, whatever—however many times you want me here——

Mr. DENHAM. So that would ensure that——

Mr. HAMBERGER [continuing]. To talk about it, that is right.

Mr. DENHAM [continuing]. You wouldn't need another extension beyond——

Mr. HAMBERGER. That is right.

Mr. DENHAM [continuing]. Every 2 or 3 years, whatever the extension would be——

Mr. HAMBERGER. Yes, sir.

Mr. DENHAM [continuing]. Necessary.

Mr. Melaniphy, in your testimony, you mentioned that there is a critical state-of-good-repair backlog of over $80 billion. The PTC mandate is forcing a choice between critical safety, maintenance projects and PTC.

Can you provide some examples of the choices your members are going to have to make or are making today dealing with safety upgrades versus PTC?

Mr. MELANIPHY. Mr. Chairman, as you are aware——

Mr. DENHAM. As well, what type of extension do you think that we ought to see in PTC?

Mr. MELANIPHY. Thank you, Mr. Chairman. As you are aware, our members remain committed to safety on all levels. And while PTC is an important component of the safety infrastructure, it is not the only component of the safety infrastructure. We must invest in our rail bed, in our signaling, all the systems that go along with making the rail system safe.

As you may have seen in a Wall Street Journal article, SEPTA in Philadelphia had to make a choice in its safety systems and is going to have to close one of their bridges because they can't afford to replace the bridge and balancing the costs of all the safety systems they have to implement. Those are some of the choices they have to make.

We are seeing that across the Nation. And the unknown costs for things like spectrum availability and radio system availability and testing, it is going to take some times and some funds to do that. So there are tough choices they have to make each and every day, and that is why we have asked for 80 percent support on the cost of the PTC implementation and free access to the spectrum needed for those public sector entities for the safety component.

And APTA's position with respect to extension is that we would support a full 3-year extension for the commuter railroads, not in any way letting off on moving forward with the railroads that are in a position to move forward more quickly, to implement more quickly. We support that. We continue to support that and we support that position all the way along. We have railroads that are further along than others. We want to see all of them implemented as quickly as they can, safety systems that enhance the safety and meet the spirit and intent of the law.

Mr. DENHAM. Let me ask each of you, starting with Mr. Szabo: We all want to get PTC done. We want to have the safest rail in the world. It is important, but it is also important to get it done right and in the process, not only not pick winners and losers, but making sure that regionally—I mean, our job here is making sure we have got a rail system that is the top in the world. We need to make sure we can do that regionally as well, and so one of the things that I would ask each of you is on a timeline, not just specifically to freight or to APTA, but also from a regional perspective, because this is going to be a regional issue. There are certain rails that are ready and certain that aren't. The region doesn't get it done. So, Mr. Szabo, starting with you first, how would we put together a timeline based on a regional ability, which would conform not only to commuter rails but the freight rails?

Mr. SZABO. That is part of the reason why we have proposed revisiting each individual implementation plan, to be able to take into account those differences that do, in fact, exist from region to region. I think Ed hit it on the mark that, you know, there is going to be different challenges in each region based on spectrum availability. And that is more of a regional issue, at least for the commuters.

Mr. DENHAM. But FRA is well aware of the spectrum issues and the variety of different issues——

Mr. SZABO. Right.

Mr. DENHAM [continuing]. That we have by region.

Mr. SZABO. Right.

Mr. DENHAM. Would you put together a timeline?

Mr. SZABO. On a region-by-region basis?

Mr. DENHAM. Or even the capabilities of each region so that——

Mr. SZABO. I mean, certainly, if I dedicate staff resources to it, you know, we can better determine the challenges in each given region. Now, what I would question, though, is whether that is, in fact, the best use of my limited resources for my PTC team, whether we should, in fact, continue to dedicate those resources towards implementation versus research and writing a report.

Can we? Yes. I am not sure it is the best approach, but if you want that information, certainly we will attempt to make it available.

Mr. DENHAM. Mr. Melaniphy?

Mr. MELANIPHY. Were a report to be put in place to have regional discussions, our members would be more than happy to participate in that process and provide the information available.

Mr. DENHAM. Mr. Hamberger?

Mr. HAMBERGER. In fact, I have got to give FRA kudos here. We are working with them to try to change the implementation plan requirements from a railroad-by-railroad implementation plan. So much of the railroad traffic is interlined and involves commuter traffic as well. Statute and regulations now require a railroad-by-railroad implementation plan. But we are working with the FRA to try to put together the kind of information that I think you are seeking—what is the rollout going to be in different areas around the country? That is, will the interchange partners be ready together?

For example, if one railroad—say Norfolk Southern—is going to be lit up in Cincinnati, and CSX, their interchange partner, is not, well, it doesn't do much good, does it? There needs to be a lot more coordination. As this gets rolled out and working with FRA staff, we are trying to figure out how that will proceed, but that is an ongoing discussion regarding the implementation plan. Right, Joe?

So we will have some taste of that outlook, if you will. I don't know how detailed it will be, but I think we can get some information back to you in the not-too-distant future.

[The information follows:]

> FRA required that each railroad submit a PTC implementation plan by April 16, 2010. The implementation plans contained the railroads' initial views on their sequence for rolling out PTC.
>
> Since that time, it has become evident that the railroads need to revisit their plans for making PTC operational. A key consideration is that from the perspective of both safety and operational efficiency, it makes sense to roll PTC out first in less complex areas so that system "bugs" can be addressed in areas where any problems that develop will pose a comparatively lesser risk of adverse safety and operational consequences. Less complex areas are those where there are comparatively smaller amounts of railroad traffic and fewer railroads operating.
>
> The railroads will work with FRA on revised implementation plans that provide for PTC to be implemented in areas of less complexity first. Furthermore, the railroads will coordinate their approach to implementation to ensure that the individual implementation plans assign the same priority to each region.

Mr. DENHAM. We would ask you for that information. In fact, this committee will ask a formal request after this hearing of each of you to be able to establish the greatest need as well as timeline throughout the Nation regionally.

Mr. LEWIS. Mr. Chairman, I would just add from the States' perspective, we would be willing to participate in any way we can to help facilitate that discussion on a State-by-State or regional basis as well.

Mr. DENHAM. Thank you. Mr. Tolman.

Mr. TOLMAN. And, Mr. Chairman, we, too, believe that your comments about a timeline is absolutely necessary in order to—if this extension is granted, that is absolutely imperative. If it wasn't for Congress, I don't think we would be sitting here even discussing PTC. And I applaud Congress in 2008 for pushing this forward. And it absolutely needs a timeline, and I would say 60 to 90 days, personally.

Mr. DENHAM. OK. Thank you.

Mr. TOLMAN. Thank you.

Mr. DENHAM. Thank you.

Mr. Lewis, could you please give us some examples from your members of issues you all have with FRA environmental reviews?

And Mr. Melaniphy, I would ask you to follow up after.

Mr. LEWIS. I think from the States' perspective, we, again, work very closely with FRA and the rest USDOT modes.

I think that one of the areas that a sister mode has implemented and works very well and we would like to see spread across the other modes is Federal Highway Every Day Counts initiative. It is a way of getting all agencies together to work on expediting project delivery. And I think that there are some lessons to be learned from that, from other modes, but I think part of it is a resource issue, I think, within the agency, but I think that, clearly, Mr. Szabo is there at the table when he needs to be. And the willingness is there. I think there is a resource issue that is maybe slowing down the process.

Mr. DENHAM. Mr. Melaniphy.

Mr. MELANIPHY. Mr. Chairman, I want to tag on some of the things that Secretary Lewis touched on, and that has to do with if there was a commonality of DOT rules across all of DOT, it would make limitations more easy to adopt.

As we look at multimodal facilities, intermodal facilities with multiple modes, multiple funding sources, one of the challenges with our different regulations from different sub-areas within DOT, if there was a commonality among the rulemaking, it would make it easier for us to create a common set of CE's and establish a joint FTA–FHWA set of rules for NEPA approvals would certainly simplify and expedite product delivery for all service transportation projects and minimize duplicative and mode-specific requirements.

Mr. DENHAM. Thank you. I just have one final question.

Do you have anything to add, Mr. Szabo?

Mr. SZABO. No. Just that to summarize, say we are all for it. And certainly we think that not only—there are some good things that have been done with the categorical exclusions that we have created over the past year, but some good things in MAP–21 that can serve a little bit as a pattern. But as we get into reauthorization, those things that would expedite project delivery, ensure strong planning on the forefront, we are all for.

Mr. DENHAM. Thank you. Mr. Szabo, you said something earlier: We execute what you legislate. What about 208, section 208 from the last PRIIA bill? That was——

Mr. SZABO. Historical preservation? Yeah. Report is completed and posted on the Internet.

Ms. DENHAM. FRA contract with a qualified independent entity to develop objective methodologies for Amtrak route decisions.

Mr. SZABO. Yeah.

Mr. DENHAM. FRA requested funding in 2010. We have had four——

Mr. SZABO. Right.

Mr. DENHAM [continuing]. Budgets since then.

Mr. SZABO. We requested the funding, and we have written Congress three times indicating that funding has not been made available. We have got Volpe prepared to move forward. We have been prepared to move forward since 2010. If you would supply the requested funding, we believe that we can generate a document that would provide good value to all of us to make sure we are making market-based decisions as we grow our rail network.

Mr. DENHAM. So you do want to do the study?

Mr. SZABO. Absolutely.

Mr. DENHAM. And why haven't you requested funding over the last 4 years?

Mr. SZABO. We have written Congress three times now indicating that funding has not been available, and it was a formal part of our 2010 budget request. We have since rewritten and reported to Congress the fact that the funds are not available. We think it is one more tool that can be helpful in doing good planning and ensuring we are making market-based decisions.

Mr. DENHAM. So you couldn't do it with existing resources?

Mr. SZABO. That is correct.

Mr. DENHAM. But yet you——

Mr. SZABO. We have asked the resources be provided.

Mr. DENHAM [continuing]. Took it out of the 2011 budget.

Mr. SZABO. I am sorry?

Mr. DENHAM. But you took it out of the 2011 budget, the request for funding.

Mr. SZABO. We made the request in 2010. You didn't fund it. Like I say, we have written three times. We have written Congress three times indicating that the funding has not been made available. We have got Volpe engaged and ready to go. Provide the money, we will start on the report.

Mr. DENHAM. Thank you. I will follow up with that, because I am not sure I am getting the response that I am looking for.

Ms. Brown.

Ms. BROWN. I can tell you that I am not getting the responses that I am looking for, either, from my colleagues.

Mr. Szabo, I mean, and I want all you to answer this question, because we are having a serious debate in Congress about privatizing or contracting out the services of Amtrak, and some people are under the illusion that if we privatize it, they are going to run faster. They can't run faster on the existing tracks. Contractor services. So can you respond to that? And I definitely want Mr. Hamberger to respond to it, because you all have the freight lines and the private-owned freight lines. What are your views about it? So I would like for everyone to respond to it, starting with you, Mr. Szabo.

Mr. SZABO. Yeah. The key, whether you are talking about private or the public sector, the key to success is going to be a predictable and sustainable source of funding to make the capital investments that are going to be necessary to ensure that safe, reliable and efficient service. And without that certainty and that predictability, the private sector will never consider coming in. The private sector requires absolute certainty. If there is, you know, one—the private sector is absolutely risk-averse, so whether we are talking about improving service through the private sector or through our existing public sector, where it is done for the public good, there has to be a dedicated, sustainable source of funding.

Ms. BROWN. And that is true with rail, but that is also true with aviation. It is also true with highways. Yes, sir.

Mr. SZABO. Absolutely.

Mr. MELANIPHY. Ms. Brown, certainly long-term funding is absolutely critical, no question about that. We also must look at competition, as soon as we substitute private sector for competition. If

we look at in the large basis and as we talk about how we compete these services, sometimes the private sector and sometimes the public sector is better positioned based on the risk availability, and under the enabling legislation, Amtrak enjoys some benefits with respect to identification of its State partners, who are not available in the private sector. So we ask that you look at all of the pieces that enable for a level playing field and how a risk is balanced for public and private. And there are times when the public sector has also shown that it is able to provide an equal level of service at a good cost if all the pieces are put in place. So that is what you look at on a competition basis as opposed to just saying just private sector. It is all about balance.

Ms. BROWN. Mr. Hamberger.

Mr. HAMBERGER. Obviously, there is a role for the private sector. As you so well know in your own State, All Aboard Florida is a totally private passenger service that hopefully will be opening in the next year or two from Miami to Orlando.

With respect to the Amtrak intercity long-distance trains, we have a 40-year partnership with them, and we support continuing that partnership.

Ms. BROWN. Uh-huh. But when you look at All Aboard, it is a private——

Mr. HAMBERGER. That is correct.

Ms. BROWN. It is also working with public and with other stakeholders. Nothing is completely private.

Yes, sir, Mr. Lewis.

Mr. LEWIS. I think in response to your question, under PRIIA 209 and the progress that has been made to date with the State support on short-distance routes, I think that provides an opportunity on specific areas for the States to privatize where it makes sense. And the States have to evaluate that on a case-by-case basis. Where is the market there? Is there a market available in the private sector? And then when is it most cost-effective for them to do so? But I think this is an opportunity to enhance that review.

Ms. BROWN. Mr. Tolman.

Mr. TOLMAN. Thank you. As we all know, there is no rail passenger system in the world that makes money. And I don't think that is going to change, and I don't see the private—the return on investment when you have to build a new tunnel through New York City to increase the speeds or whatever it may be. The Government has to stay in the business of the rail passenger system. There is no question in my mind that it has to stay in there.

There are many, many—there are many studies that have been done in Europe of the failures of privatization of rail passenger systems that we all could learn from and should have learned from. And I just absolutely disagree with that. It is certainly not the way to go, in my eyes. Thank you.

Ms. BROWN. I do want to say that the Senate has just confirmed the new Secretary of Transportation, so we have a new Secretary of Transportation. And I am looking forward to working with him, but clearly, if we are going to move forward, as far as this committee is concerned, that will mean working together on a very bipartisan basis, and it will not be top down. We need to talk with

you all, the stakeholders, and we need to work together to make sure we can move forward together.

So I am looking forward to working with the chairman. I am excited about the hearings that we have had, because we have been getting very important feedback that is very important for Members that have not been on this committee like I have for 21 years and understand the nature of what we have had but this has broken down in the last couple of years because of some leadership problems that we have had on this committee.

This committee has always been bipartisan, always, and we have always worked together. I don't care who the chairman was or who the President of the United States was, we have always understood that for every billion dollars we invested, we generated 44,000 to 47,000 permanent jobs, and I am hoping that we can continue to move forward.

And I want to thank you all for your presentation.

And I yield back the balance of my time.

Mr. DENHAM. Thank you, Ms. Brown.

And thank you to all of our witnesses this morning. As we continue to work in a bipartisan fashion to get this PRIIA reauthorization bill done, each of these different hearings have been very insightful and helpful. We will follow up with a number of different questions, and we certainly appreciate the discussion about PTC this morning.

And as we have traveled around the Nation, we will continue to do that, it has been very obvious to us that the Northeast Corridor has its challenges with some of the safety upgrades and the amount of money that is spent on infrastructure there, as well as most recently in Chicago, we would like to see higher speed rail there, but we have got to fix the challenges with Chicago as well.

And then in my home State of California, looking at high-speed rail, we certainly need private investors there to be able to get that project moving forward and hopefully eventually someday completed.

So we will continue to travel, because as we have seen, whether it is PTC or improving infrastructure, each region is different, they have their own different challenges. They have their own different freight issues, as well as commuter issues, and it is our job to work in a bipartisan fashion to help to solve some of those issues as we move forward with the PRIIA reauthorization and PTC and a number of other issues.

So we thank you for your responses this morning. We will follow up again with a number of other questions.

At this time, I would like to ask unanimous consent that the record of today's hearing remain open until such time as our witnesses have provided the answers to those questions that will be submitted to them in writing, and unanimous consent that the record remain open for 15 days for any additional comments and information submitted by Members or witnesses to be included in the record of today's hearing.

Without objection, so ordered.

I would like to thank our witnesses again for their testimony. And if there are no other Members that have anything to add or questions, the committee will stand adjourned.

[Whereupon, at 12:29 p.m., the subcommittee was adjourned.]

WRITTEN STATEMENT OF
THE HONORABLE JOSEPH C. SZABO,
ADMINISTRATOR, FEDERAL RAILROAD ADMINISTRATION,
U.S. DEPARTMENT OF TRANSPORTATION

BEFORE THE
SUBCOMMITTEE ON RAILROADS, PIPELINES, AND HAZARDOUS MATERIALS,
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
U.S. HOUSE OF REPRESENTATIVES

June 27, 2013

Chairman Denham, Ranking Member Brown, and Members of the Subcommittee, thank you for the opportunity to appear before you today on behalf of Secretary LaHood to discuss the Administration's ideas for the next phase of rail policy and investment programs. The Federal Railroad Administration's (FRA) mission is to enable the safe, reliable, and efficient movement of people and goods for a strong America, now and in the future. In this testimony, I will provide an overview of FRA's priorities for fulfilling that mission moving forward, summarize our recent accomplishments, and describe the details behind our preliminary reauthorization proposals.

BUILDING ON PRIIA AND RSIA

The Passenger Rail Investment and Improvement Act of 2008 (PRIIA) and the Rail Safety Improvement Act of 2008 (RSIA) were bipartisan, game-changing pieces of legislation. This Committee did important work in a collaborative and forward-thinking way that has had far-reaching effects in the rail industry. The rail industry has changed dramatically since these two landmark acts were passed with broad bipartisan support in 2008. Calendar year 2012 was the safest for the rail industry on record. It also saw record ridership, reliability, and financial performance for Amtrak all across its network. The freight rail industry has never been stronger. Historic levels of public and private investment have been made in passenger rail equipment, corridor upgrades, freight capacity, and safety improvements. Dozens of planning studies, environmental reviews, and engineering analyses are underway, creating a strong pipeline for future projects.

To date, FRA has obligated more than $10 billion in grant funding provided by Congress for the High-Speed Intercity Passenger Rail (HSIPR) Program through the American Recovery and Reinvestment Act of 2009 and annual appropriations for FY 2009 and 2010. Interest in this program is strong: 39 States, the District of Columbia, and Amtrak have submitted more than $75 billion worth of applications–well in excess of the available funding.

This portfolio of investments is having a substantial impact on the Nation's rail system: six thousand corridor miles are being improved, 30 stations are being upgraded, and hundreds of new passenger cars and locomotives are being procured. These projects will improve the

customer experience by reducing trip times, improving reliability, adding additional frequencies, and making stations and equipment more comfortable and accessible.

Good Federal policymaking contributed greatly to these accomplishments, and FRA is proud of the job we have done implementing the policies laid out by Congress. These achievements do not mean we can declare victory–much more needs to be done to rebalance the Nation's transportation system after decades of serious Federal underinvestment in rail. With those two authorizations from 2008 expiring, it is time to make forward-thinking, bipartisan rail policy again.

The Administration's FY 2014 budget lays out a comprehensive multi-year reauthorization blueprint for moving forward. The fundamental goal of this 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 track is privately-owned and carries a mix of passenger and freight trains; safety is improved through regulations and inspections, but also through capital investments; rail congestion chokepoints often hinder the efficient movement of intercity, commuter, and freight trains.

This budget proposal, while in many ways transformational, is rooted in ideas and solutions that have received extensive discussion and debate in recent years. It builds on the core principles of PRIIA and RSIA, while reflecting "on-the-ground" experiences of recent years. It is based on the evolving needs of rail stakeholders, and acknowledges that demographic, economic, and environmental changes will continue boosting the market demand for rail for decades to come.

The proposal sets five key priorities:

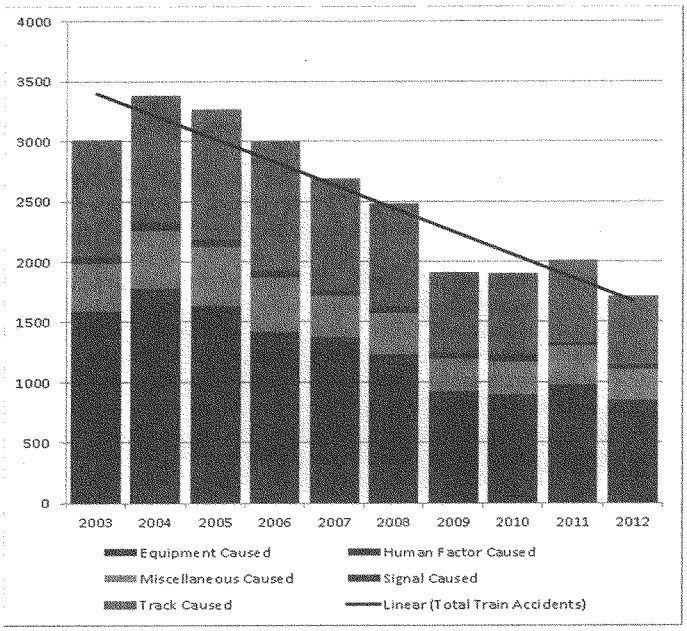
1. Enhancing America's world-class rail safety.
2. Modernizing our rail infrastructure.
3. Meeting the growing market demand.
4. Promoting innovation.
5. Ensuring transparency and accountability.

PRIORITY #1: ENHANCING AMERICA'S WORLD-CLASS RAIL SAFETY

2012 was the safest year on record, but FRA is committed to continuously improving rail safety. That commitment produces results, which is why, since 2003:

- Total train accidents have declined by 43 percent.
- Total derailments have declined by 41 percent.
- Total highway-rail grade crossing accidents have declined by 34 percent.

Statistical Accident Reductions since 2003:



FRA approaches rail safety comprehensively. We are building on research and development, continuing to establish minimum safety requirements, conducting outreach and collaborating with stakeholders, performing compliance inspections and audits, and implementing and administering enforcement policies in an effort to drive railroad accident/incident rates to further record lows.

FRA's multidimensional safety strategy is intended to foster a railroad safety culture. Innovative tools such as hazard analysis and close call programs can lead to a continual process of safety improvement. Positive Train Control (PTC) systems will be the technology backbone that promotes safety improvement through the reduction of certain human-factor-related incidents and should complement FRA's implementation of safety Risk Reduction Programs (RRP) and other safety efforts. Nevertheless, better safety performance is imperative, and with innovative safety practices and new technologies, the railroad industry can achieve this goal.

Policies contributing to this priority include:

- **Successfully implementing PTC**— RSIA mandates that PTC be implemented across a significant portion of the Nation's rail network by December 31, 2015. With limited exceptions and exclusions, PTC is required to 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.
    - In all, approximately 70,000 miles of track and 20,000 locomotives will have to be equipped with interoperable PTC technology. While some railroads will meet the deadline, many are likely to be challenged by technological and programmatic barriers.
    - In a report to Congress last year, FRA detailed obstacles faced by the industry, and FRA outlined mitigation strategies for Congressional consideration, including the extension of the PTC implementation deadline and alternative methods of mitigating the risks prevented by PTC systems.
    - FRA's report also highlighted radio frequency spectrum challenges that could impact timely PTC system implementation. In addition, the railroads must secure licensing approval from the Federal Communications Commission to install the approximately 22,000 antennas necessary to implement PTC.

- **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 and railroad safety would benefit from the same enhanced authority to regulate the hours of service of other employees including train employees, signal employees, and dispatching service employees. FRA would like to evaluate the benefits and costs of applying fatigue-science-based hours of service regulations to these additional employee classes.

- **Analyzing highway-rail grade crossing issues and opportunities**—FRA would welcome the opportunity to work with Congress to establish an appropriate framework for addressing grade crossing issues related to blocked crossings and commercial motor vehicle accidents and incidents at crossings.

- **Harmonizing railroad operating rules**—FRA plans to evaluate the benefits and costs of harmonizing certain railroad 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 multiple different operating rules in order to operate safely in a single tour of duty. Harmonizing these rules will likely reduce unnecessary confusion and create a safer working environment.

- **Improving protection of Risk Reduction Program and System Safety Program analyses with respect to property damage claims**—For a risk reduction program to be effective, FRA must have confidence that railroads are conducting robust analyses to accurately identify risks present. FRA will continue to work to balance the interests of

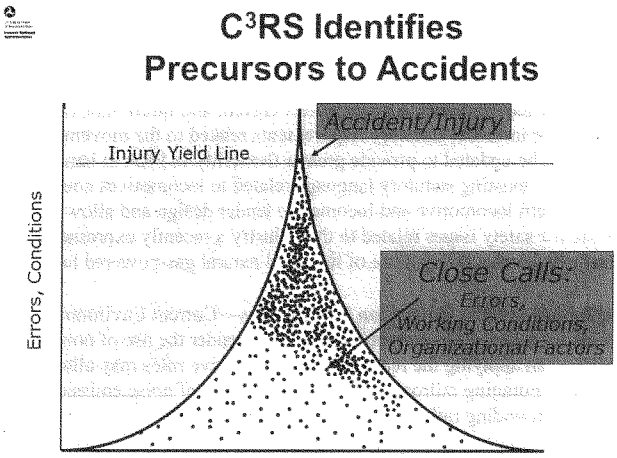
safety and the public interest with respect to the litigation protection afforded the railroads in conducting these analyses.

- **Modernizing statutory requirements**—FRA would also like to modernize certain existing statutory requirements to better reflect current and future innovations and technologies. For instance, statutory requirements related to the movement of defective equipment could be updated to provide greater flexibility to FRA in handling such issues. Similarly, existing statutory language related to locomotives could be revised to account for modern locomotive and locomotive tender design and allow FRA to more readily tackle the safety issues related to the industry's recently expressed desire to achieve fuel efficiencies through use of liquefied natural gas-powered locomotives.

- **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.

- **Expanding FRA-sponsored research, development, and technology**—To date, FRA's research has centered on core rail safety issues such as hours of service and train control systems. The President's vision for rail includes expanding passenger service across the Nation and increasing train speed. While developing a modern rail system, FRA must continue to ensure that rail remains an extremely safe mode of transportation. Consequently, FRA must undertake a new line of research that solves the technical and associated issues necessary for implementing a comprehensive high-performance rail system. FRA proposes a new Research Development and Technology Program, funded at $55 million in FY 2014. Through this program, FRA will make upgrades to the Transportation Technology Center in Pueblo, Colorado that will allow new rail equipment to be tested. This will result in stronger safety standards and early identification of reliability issues, saving maintenance costs over the long run, developing a domestic workforce for rail initiatives, and ensuring better passenger service.

- **Nationwide rollout of C^3RS** FRA is implementing a voluntary, Confidential Close Call Reporting System program (C^3RS) for railroads and their employees to report close calls without receiving disciplinary action. The FY 2014 Budget proposes expanding the C^3RS from a limited pilot project to a nation-wide rollout. Experience at C^3RS pilot sites has contributed, we believe, to a nearly 70-percent reduction in certain accidents at one of the most mature pilot sites. Reductions in accidents come from a proactive culture of safety that uses real data far beyond that which can be pulled from accident investigations on a reactive basis. Effective safety oversight is helped by having accurate data. The magnitude of the information provided from proactive programs like C^3RS in comparison to traditional data from accidents and injuries is illustrated below:



PRIORITY #2: MODERNIZING OUR RAIL INFRASTRUCTURE

Past generations of Americans invested heavily in building the infrastructure we rely on today. Most segments of the Northeast Corridor (NEC or Corridor) were built more than a century ago, for example. Maintaining and modernizing these assets will lower long-term costs and result in a safer, more reliable rail system.

Policies contributing to this priority include:

- **Fully funding Amtrak**— This is not the time to cut back on our responsibilities to invest in America's rail infrastructure. Demand for passenger rail across the United States continues to rise, as evidenced by Amtrak carrying a record 31.2 million passengers in FY2012. These record ridership levels are in spite of decades of underinvestment in the Nation's rail system, which has resulted in a backlog of needed maintenance and repairs on the Northeast Corridor that is approaching $6 billion. Addressing this backlog is critical to maintaining and improving current passenger rail services. Similarly, Amtrak's long-distance routes continue to play a vital role in our Nation's broader transportation network, providing a needed transportation alternative to both urban and rural communities.

- **Improving access to the Railroad Rehabilitation and Improvement Financing (RRIF) program**—The FY 2014 Budget does not propose changes to the RRIF program. However, as FRA looks forward to reauthorization, the agency is exploring program ways 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

(NHPRS) program. FRA is working to ensure that all financial assistance programs (both grants and loans) work together in a cohesive and comprehensive manner to improve the Nation's passenger and freight rail networks through an integrated investment portfolio. FRA is ensuring a wider range of borrowers can more readily take advantage of the RRIF program by reviewing eligibility requirements, application processes, administrative provisions, technical assistance, or other program elements.

- **Replacing the nation's obsolete equipment**—Many of the rail cars and locomotives in service across the country are operating at or past their useful lives, leading to higher maintenance costs and reduced performance levels. FRA and Amtrak have started to replace this aging equipment through HSIPR grants and RRIF loans, however, a significant need still remains. New rolling stock will not only lower operating and maintenance costs, but also result in better reliability, improved passenger comfort and amenities, and ultimately better position rail services for long-term economic success.

- **Ensuring all Americans can access rail stations and trains**—FRA would like to study the feasibility, including the benefits and costs, of standardizing passenger station platform heights to better enable level-boarding platforms. Access to transportation is a civil right, and FRA is committed to seeing that fulfilled on the nation's railways.
-

PRIORITY #3: MEETING THE GROWING MARKET DEMAND

With 100 million more Americans expected by 2050, the national transportation system must be prepared to handle substantial increases in the movement of people and goods. Given the existing capacity constraints on other modes, rail will play an increasingly vital role in balancing America's transportation system, resulting in public benefits such as reduced reliance on foreign oil, reduced air pollution, increased safety, and additional travel options.

Policies contributing to this priority include:

- **Establishing a dedicated funding source for Federal rail investments**—An overarching issue that runs across all of these priorities is the need for sustained and long-term funding, similar to enacted legislation currently in place for highways, transit, and aviation. It is difficult and inefficient to make large-scale infrastructure investments on a year-to-year basis. Every other rail system in the world has been planned and developed through a predictable multi-year funding program. The Administration is proposing to offset the cost of the program described below from the savings generated by capping the Overseas Contingency Operations activities; however, beyond the five-year reauthorization window, we look forward to working with Congress to identify other solutions to this important challenge.

- **Taking an integrated approach to passenger and freight rail improvements**—Rail is a unique mode that operates on unique infrastructure, and rail investments and policies must be considered holistically. FRA is constantly looking for ways to improve the safety, reliability, and efficiency of both passenger and freight rail through

good data and science, including innovative R&D and planning to accommodate all forms of rail development. FRA seeks to address major chokepoints and congestion issues that reduce freight and passenger train reliability on shared-use infrastructure through its Congestion Mitigation program. The Freight Capacity program would improve the competitiveness of the Nation's intermodal freight rail by upgrading facilities and adding capacity. The program would also address the needs of local communities, through funding for mitigation of the local safety, environmental, and noise impacts generated by the presence of rail, and for rail line relocation and grade crossing improvement activities.

- **Creating a governance framework for the NEC that can efficiently meet current and future market needs for intercity, commuter, and freight transportation**— The NEC is one of the most important transportation assets in the nation, carrying more than 250 million people per year and an average of 50 freight trains per day. As the backbone to the highest concentration of population and economic activity in the country, there is naturally a large number of stakeholders with a vested interest in the future of the corridor, including the States, Amtrak, local commuter authorities, freight railroads, local governments, business, and others. Through the NEC Infrastructure and Operations Advisory Commission established under PRIIA, FRA has worked with these varied stakeholders to develop an inclusive planning process to establish the framework for future investment in the Corridor. Moving forward, FRA will continue working with all stakeholders to develop policy ideas for addressing NEC governance issues.

- **Creating a governance framework for efficiently managing the Nation's rail equipment**—With FRA's participation, the Next Generation Equipment Committee has developed and approved specifications for single- and bi-level passenger cars, diesel locomotives, train sets, and diesel multiple units. In turn, these specifications have been or will be used in several procurements by States and Amtrak that will result in increased interoperability and lower unit costs. FRA is committed to continuing to explore options to pool equipment in order to improve flexibility and performance of passenger rail services, further lower costs, and ultimately stimulate domestic manufacturing and supply industries.

- **Creating a governance framework for development of multi-State rail networks**— The Administration's goal for a modern rail system that connects communities within America's "megaregions" will inevitably require corridors to cross several State boundaries. Development and implementation of these corridors can be a challenge due to the number of State and local jurisdictions involved in the process. FRA, in consultation with key stakeholders, is exploring various institutional options for efficiently planning and coordinating the implementation of multi-State corridors. Additionally, FRA will encourage groups of States to develop unified plans for rail networks that connect and integrate their regions.

PRIORITY #4: PROMOTING INNOVATION

FRA's vision is for the domestic rail industry to be again world-leading. We want U.S. companies to develop patents for state-of-the-art rail technology, to supply rail operators throughout the world, and to employ the best engineers and railway workers. The United States should be exporting intellectual capital and rail products, not importing them.

Policies contributing to this priority include:

- **Investing in America's workforce**—The RD&T program in FRA's FY 2014 budget proposal goes beyond the safety benefits delivered by FRA's existing R&D program. It prepares the Nation for high-performance rail by developing new technologies and testing facilities. It also seeks to ensure growth in the railroad industry is supplied through domestic sources and jobs, strengthens collaboration with universities and others working on research projects, and helps address the future demands for an educated and qualified railroad workforce.

- **Investing in America's rail technology**—Research and development of high-speed rail equipment, as well as state-of-the-art inspection and safety techniques can build a knowledge base in America for the rail industry for generations to come. The PRIIA Section 305 Next Generation Equipment Committee has been doing excellent work to grow the manufacturing base in the United States for technologically advanced rolling stock. The California High-Speed Rail Authority and Amtrak announced a joint high-speed rail equipment procurement that will follow the pooled purchasing model to improve interoperability and increase purchasing power to make taxpayer dollars go as far as possible on rolling stock purchases.

- **Strengthening "Buy America" provisions**—FRA seeks to strengthen the "Buy America" requirements in current law by ensuring uniform applicability to all of FRA's financial assistance programs.

PRIORITY #5: ENSURING TRANSPARENCY AND ACCOUNTABILITY

Accomplishing the priorities described above can only occur if these programs are managed through a transparent process that makes it clear what public benefits and service improvements the American people are "buying" with their investments. The roles and responsibilities of the Federal government, States, Amtrak, freight railroads, and other stakeholders must be clear and based on sound public policy.

Policies contributing to this priority include:

- **Organizing financial support for existing passenger rail services by "business lines"**—This structure improves transparency and accountability for taxpayer investments in rail. This is a new strategy that aligns costs, revenues, and Federal grants

to business lines to better ensure that our investments are advancing the Nation's goals and objectives for rail services

- FRA does not support changing the current grant structure under the baseline funding levels. This new system only works under the higher funding levels proposed in FRA's FY2014 budget proposal.

- **Clarifying roles and responsibilities**— Accomplishing the priorities envisioned under this proposal can only occur if these programs are managed through a transparent process that clearly illustrates the benefits that the American people are buying with their investments. The Administration's proposal establishes clear and specific roles for the Federal government, states, Amtrak, freight railroads, and other stakeholders to help ensure the long-term success of the National High Performance Rail System.

CONCLUSION

Thank you for the opportunity to appear before you to begin a dialogue on the future of rail in America. The President's FY 2014 budget and reauthorization proposal chart a bold new course for transportation infrastructure investment in the United States. We look forward to working with Congress to put people back to work building a balanced transportation system that is safe, reliable, efficient, and able to meet the growing demand and changing travel habits of America's population. I will be happy to respond to your questions.

###

Questions for the Record from a Hearing before the
Subcommittee on Railroads, Pipelines, and Hazardous Materials
Committee on Transportation and Infrastructure
U.S. House of Representatives
6/27/13
"National Rail Policy: Examining Goals, Objectives, and Responsibilities"

The Honorable Joseph C. Szabo
Administrator – Federal Railroad Administration
United States Department of Transportation

DENHAM

1. **During the June 27th hearing, Chairman Denham requested information from each witness concerning a timeline for implementing Positive Train Control (PTC) by region, as the railroad system is an integrated network, operated by different corporations. Please provide information to the Committee concerning the progress, the challenges and obstacles, and overall timeline for implementing PTC, by region.**

   The Federal Railroad Administration (FRA)'s August 2012 Report to Congress "Positive Train Control: Implementation Status, Issues, and Impacts" summarized the major technical and programmatic challenges and obstacles associated with PTC implementation that FRA had identified so far. As you know, FRA's report listed the following seven types of technical obstacles to complete PTC implementation: (1) lack of necessary radio frequency spectrum; (2) lack of necessary radios; (3) lack of necessary design specifications; (4) lack of necessary back office servers (which contain the mechanism that enables interoperability of PTC systems between different railroads) and lack of necessary dispatch systems; (5) need for verification of track databases with accuracy more precise than that needed in a non-PTC environment; (6) need for engineering related to the installation of PTC system components; and (7) need for proof of the reliability and availability of installed PTC systems in order both to provide the desired level of safety and to minimize any adverse impact on the railroad's operations. In addition, FRA's report noted two types of programmatic issues: (1) issues related to budgeting and contracting (e.g., the tightening of public-sector budgets and the need to comply with procurement regulations) and (2) issues related to an insufficient supply of qualified personnel and essential PTC system components, since railroads subject to the PTC mandate are all competing for a limited set of these resources.

   Subsequently, the Government Accountability Office's (GAO) June 2013 report on PTC implementation cited "the numerous, interrelated challenges caused by the breadth and complexity of PTC," including a major additional challenge involving antennas/towers that need to be installed. GAO pointed to the need for system integration and field

testing of PTC components, "many of which are first-generation technologies being designed and developed[,]" underscored its concern about the adequacy of FRA resources related to oversight of PTC implementation, and highlighted that some key PTC components are still in development. Perhaps most important, GAO stressed that the installation of PTC components "is a time- and resource-consuming process" and gave the example of the Federal Communications Commission's (FCC) request that railroads halt their construction of PTC-related antennas "to ensure proper installation procedures were being followed including consulting with either the tribal or state historical authorities prior to . . . installation."

I'd like to focus on the antennas/towers issue, the most recently identified major obstacle to full PTC implementation. As background, PTC systems are a safety technology based on the Global Positioning System (GPS) and require an extensive communications network to operate. This nationwide PTC-related communications network requires 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 construction of any of the 22,000 antennas/towers may proceed, and in the past FCC has processed only 2,000-3,000 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's assessment of the status of PTC implementation is in Tables 1, 2, and 3. Table 1 identifies railroads required to implement PTC. Table 2 identifies FRA assessment of regional railroads' progress. Table 3 identifies FRA assessment of Class I railroads' progress.

The reporting marks of Table 1 are used to identify the railroads in Tables 2 and 3. In Tables 2 and 3, the columns marked "PTC miles to be equipped," and "PTC miles equipped," "Locomotives to be equipped," and "Locomotives equipped" are self-explanatory. The column marked "Field test request Filed" indicates if the railroad in question has made a filing under 49 CFR 236.1035 to begin field-testing with FRA oversight. The column marked "Field testing started" indicates if the railroad has actually begun testing after having submitted a 49 CFR 236.1035 formal filing to test and received FRA approval. The mileage totals reflect track miles. In some cases, for example, there may be a subdivision of 150 miles that has 2 main lines, each of which would require PTC installation, which equates to 300 miles.

In Table 3, for Amtrak, the field test request is under a waiver, and not the requirements of 49 CFR 236.1035. For CSX Transportation, Inc. and for Norfolk Southern Corporation railroads, the testing is Verifications and Validation (V&V) of the track database information.

This data does not reflect expenses associated with "pre-requisite work" (signal system upgrades, radio spectrum procurement, communication backbone upgrades, and

installation of other wayside equipment, and design of the PTC system). These expenses are business sensitive, and the data may possibly be available to you directly from the individual railroads, the Association of American Railroads, the American Public Transportation Association, and the American Short Line and Regional Railroad Association as appropriate. In addition, Class I railroads' R-1 reports to the Surface Transportation Board (STB) may contain some data on PTC costs. STB has required that such costs be included in future R-1 report submissions.

Table 1: Railroads Required to Install PTC, and their Reporting Marks

Railroads Required to Install PTC
Alaska Railroad (ARR)
Amtrak (ATK)
Belt Railway Company of Chicago (BRC)
BNSF Railway Co. (BNSF)
Canadian National Railway (CN)
Canadian Pacific Railway (CP)
Capital Metropolitan Transportation Authority (CMTY)
Central Florida Rail Corridor (CFRC)
Conrail Shared Assets Corporation (CRSH)
CSX Transportation, Inc. (CSX)
Denton County Transportation Authority (DCTA)
The Kansas City Southern Railway Co.(KCS)
Kansas City Terminal Railway (KCT)
Long Island Rail Road (LI)
MARC Train Service (MACZ)
Massachusetts Bay Transit Authority (MBTA)
Metro-North Commuter Railroad Co. (MNCW)
Nashville Regional Transportation Authority (NRTX)
New Jersey Transit Rail Operations (NJTR)
New Mexico Rail Runner Express (NMRX)

Norfolk Southern Corporation railroads (NS)
North County Transit District (SDNX)
Northeast Illinois Regional Commuter Rail Corp. (NIRC)
Northern Indiana Commuter Transportation District (NICD)
Peninsula Corridor Joint Powers Board (PCMZ)
Port Authority Trans-Hudson (PATH)
Portland & Western Railroad (PNWR)
Regional Transit District Commuter (RTDC)
Sounder Commuter Rail (SCR)
South Florida Regional Transportation Authority (SFRV)
Southeastern Pennsylvania Transportation Authority (SEPA)
Southern California Regional Rail Authority (SCAX)
Terminal Railroad Association of St. Louis (TRRA)
Trinity Railway Express (TRE)
Union Pacific Railroad Co. (UP)
Utah Transit Authority FrontRunner Commuter Rail (UFRC)
Virginia Railway Express (VREX)

Table 2: FRA Progress Assessment--Regional Railroads

FRA Region	Passenger/Commuter Railroads	Field Test Request Filed (Y/N)	Field Testing Started (Y/N)	PTC Miles to be equipped	PTC Miles Equipped	Locomotives to be Equipped	Locomotives Equipped
1	CRSH	N	N	11	0	76	0
1	LIRR	N	N	508	0	589	0
1	MBTA	N	N	553	0	170	142
1	MNCW	N	N	703	0	375	12
1	NJT	N	N	573	0	501	0
1	PATH	Y	N	37	0	220	96
Totals				2385	0	1931	250
2	MARC	N	N	3.2	0	53	10
2	SEPTA	N	N	215	0	331	0
2	VRE	N	N	0	0	41	0
Totals				218.2	0	425	10
3	CFRC	N	N	61.35	0	23	0
3	SFRC	N	N	71.2	0	45	0
3	NRTX	N	N	32.4	0	6	0
Totals				164.95	0	74	0
4	BRC	N	N	6	0	5	0
4	NICD	N	N	90.3	0	73	0
4	NIRC	Y	Y	421.2	0	513	184
Totals				517.5	0	591	184
5	CMTY	N	N	32	0	6	0
5	DCTA	N	N	23.2	0	11	0
5	TRE	N	N	33.8	0	17	0
5	NMRX	N	N	109.8	0	18	0
Totals				198.8	0	52	0
6	RTD	N	N	40.2	0	50	0
6	KCT	N	N	25.69	0	6	0
6	TRRA	N	N	13.12	0	17	0
Totals				79.01	0	73	0
7	PCMZ	N	N	56.6	0	67	0
7	SCAX	Y	Y	227.9	0	109	56
7	SDNX	N	N	60.3	0	71	0
7	UFRC	N	N	38.6	0	56	0
Totals				383.4	0	303	56
8	Alaska	N	N	476	0	54	0
8	PNWR	N	N	15.3	0	33	33
8	Sounder	N	N	9.4	0	29	0
Totals				500.7	0	116	33
Grand Totals				4447.56	0	3565	533

Table 3: FRA Progress Assessment--Class I Railroads

Class 1 Railroads	Field Test Request Filed (Y/N)	Field Testing Started (Y/N)	PTC Miles to be equipped	PTC Miles Equipped	Locomotives to be Equipped	Locomotives Equipped
BNSF	Y	Y	15,451	1124	2,000	917
UP	Y	N	21,150	0	6,000	2449
CP	Y	Y	2,736	0	563	163
CN	N	N	3,720	0	1,000	58
Amtrak	Yes (Waiver not 1035)	Y	1433	625	422	183
CSXT	Y	Yes (V&V only)	16293	0	3600	811
KCS	N	N	1975	0	467	148
NS	Y	Yes (V&V only)	12,815	0	3411	1383
Totals			75,573	1749	17,463	6112

2. **Does FRA believe there are any remaining efficiencies to be realized in the current long-distance route system? If so, please describe efforts Amtrak could take to reduce losses, given the existing network and resources.**

Amtrak created and is currently implementing a Performance Improvement Plan for each long-distance route, as required by Section 210 of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA). Incremental improvements have already been made and additional efficiencies are expected with the implementation of pending initiatives (targeting enhanced reliability, customer service, connectivity, and financial performance

One such initiative is the introduction of 130 new passenger rail cars to the single level long-distance fleet—six routes that operate on the Northeast Corridor (NEC)—between the end of 2013 and 2015 at a cost of $298.1M. Amtrak forecasts that these new dining, baggage, sleeping, and combination baggage/dormitory cars will improve financial and on-time performance by adding revenue capacity, alleviating maintenance burdens, and reducing trip time.

Specifically, new dining and baggage cars will replace the mechanically-unreliable and expensive Heritage series equipment, which are the oldest cars in Amtrak's fleet. The new railcars will also allow these trains to operate at a higher speed on the NEC than the speed-restricted Heritage cars, reducing travel time improving on time performance. New sleeping and combination baggage/dormitory cars will add as much as double the current revenue-sleeping car capacity on the *Cardinal, Crescent, Lake Shore Limited, Silver Meteor and Silver Star* routes with minimal staffing changes.

Furthermore, FRA increased its Amtrak oversight efforts in fiscal year (FY) 2013 by

hiring a Long-Distance Passenger Train Oversight Manager. FRA believes that increased oversight coupled with continued implementation of Amtrak's Performance Improvement Plans will result in greater efficiencies and reduced losses for the current long-distance system. However, while these efforts are important steps towards achieving better financial performance on these routes, FRA believes that more work needs to be done.

3. **What provisions or policies does FRA recommend we undertake to better incentivize public-private partnerships for intercity passenger rail capital projects?**

FRA believes (and as mentioned elsewhere in this document) that while the private sector and State and local governments have a significant role to play in funding passenger rail improvements, those entities will make far more substantial investments if they have a reliable and predictable Federal partner. Sustainable Federal support is critical to generating and sustaining the confidence necessary for all parties to continue investing in America's rail industry.

While FRA has funded investment projects that have independent utility to maximize the federal dollar, FRA has strongly supported projects that are able to attract additional investment to complement the federal funding. As one example, HSIPR funding totaling $38.4 million was awarded to the Downeaster Portland North Project, enabling Downeaster service to Brunswick, Maine. In short order, this initial investment attracted private investment of more than $30 million for a complex that includes a train station, restaurants, retail shops, office space, medical center, plus a 52 room inn. By 2030 this total project is estimated to bring in $7.2 billion in new development in total, creating 10,000 new jobs, and generating $75 million in annual tax revenues.

4. **What role can passenger and commuter rail fees have in helping fund infrastructure projects?**

The President's FY 2014 budget proposes a bold new course for transportation infrastructure investment in the United States that will improve the safety, reliability, and efficiency of both passenger and freight rail.

The Budget recommends creating a new Rail Account in a new Transportation Trust fund to provide a dedicated and on-going funding source for FRA's infrastructure investment programs. It would be funded from the savings generated by capping the Overseas Contingency Operations activities.

The Administration looks forward to working with Congress to reauthorize FRA's programs and to exploring options for securing long-term, dedicated funding for rail, a practice which has served other transportation modes well.

5. **The Administration issued a report on streamlining the 106 and section 4(f) processes; could you identify which suggestions for legislative changes you believe would realize the most benefit for streamlining those processes.**

A proposed legislative option for effective streamlining would modify the definitions of "use" and "historic site" for railroads in Section 4(f), as follows:

- The term "use" shall not apply for rail-transportation use of existing or former railroad or rail-transit property.
- The term "historic site" shall not include railroad and rail transit lines or corridors that were historically used for transportation of goods or passengers.

DOT would no longer need to apply Section 4(f) to most facilities used by railroads for transportation when making rail transportation improvements, but would not affect the original intent of Section 4(f) to avoid conversion of non-railroad historic sites to transportation use. In addition, Section 106 would continue to apply, except where otherwise exempted, thereby protecting eligible railroad historic sites. While FHWA and FTA would need to amend their Section 4(f) regulation, the measure could be implemented immediately by other operating administrations including FRA.

BROWN

1. **What are the Administration's views on the House Appropriations Committee-approved Amtrak funding levels?**

The Administration views these funding levels as wholly inadequate for meeting the needs of the Nation's passenger rail system. These funding levels do not:

- provide enough capital funds to keep up with basic maintenance requirements, and do not address any of the substantial backlog of repair and replacement needs on aging or obsolete assets throughout the system;
- allow for any progress towards achievement of compliance with the Americans with Disabilities Act at intercity passenger rail stations;
- provide any operating margin to accommodate unanticipated events, such as a natural disaster, that could negatively impact ridership or revenue; or
- allow Amtrak to exercise early buy-out options on equipment leases, which would save taxpayers $107.5 million in future years.

These funding levels will have a tangible impact on the reliability and efficiency of passenger rail operations throughout the Nation. In particular, the 12 million Amtrak and 235 million commuter rail passengers who rely on the vital Northeast Corridor will experience reduced service quality. Additionally, as part of the implementation of Section 209 of PRIIA, States will now be assuming a greater financial burden in supporting the Nation's rail system. Dramatically reducing Federal support at this time would indicate that the States do not have a reliable and dependable partner. Dependable

Federal support is critical to generating and sustaining the confidence necessary for States to continue investing in America's rail industry.

These cuts are also bad economics. Less reliable service will in turn lead to lower ridership and higher costs, harming the future financial performance of the system. Additionally, these funding levels will require Amtrak to focus solely on urgent maintenance repairs, which is far less efficient and economical than making systematic upgrades through a sustained multi-year maintenance program. Furthermore, without funding to replace aging infrastructure and equipment, Amtrak will be forced to maintain those assets until funding is available for full replacement, leading to unnecessary capital costs in the interim.

Passenger rail ridership is higher than ever, after a solid decade of strong growth trends. Now is the time to be improving the network, so that rail can continue filling an important role in the Nation's overall transportation system.

2. **You mention that Congress should restructure Amtrak's authorizations into business lines - Northeast Corridor, state-supported routes, and long distance, but in the same sentence state this should NOT be done if we are working under current funding levels. Why?**

   FRA's FY 2014 budget request provides the full funding needed to effectively deliver passenger rail services in each business line, plus additional funding to clear the substantial backlog of infrastructure repair and equipment replacement needs. At this funding level, managers within each business line would have the necessary flexibility and accountability to make investment decisions based on long-term planning and strategic service objectives.

   However, current funding levels are not sufficient to fully meet the needs of each business line, requiring Amtrak to make trade-offs and essentially fund the most critical needs each year. If Amtrak was locked-into business line-based appropriations at current funding levels, managers would not have sufficient flexibility to make these decisions, or to adequately respond to natural disasters or other unanticipated events which may disproportionately affect certain business lines over others.

3. **You stated that historic levels of public and private investment have been made over the last several years in passenger rail equipment, corridor upgrades, freight capacity, and safety improvements. What do you think the proper role of the federal government is when it comes to funding passenger rail?**

   Every successful rail system in the world has been developed through a sustained funding commitment from the national or federal government of the country involved. Likewise, America's world-class highway, aviation, maritime, and other transportation systems were all developed through substantial Federal funding over many decades. Safe, reliable, and efficient transportation is the backbone of our national economy, and thus it is imperative that the Federal Government continue to play a key role in building and

improving our infrastructure.

While the private sector and State and local governments also have a significant role to play in funding passenger rail improvements, those entities will only make investments if they have a reliable and predictable Federal partner. Sustainable Federal support is critical to generating and sustaining the confidence necessary for all parties to continue investing in America's rail industry.

4. **FRA issued a report in August 2012 which highlights a number of issues that need to be addressed for the successful implementation of Positive Train Control (PTC). For example, you state that the availability of spectrum continues to be an issue. What are FRA's recommendations for extending the PTC implementation deadline?**

As I discussed in answer to Chairman Denham's earlier question, the myriad technical and programmatic challenges and obstacles associated with PTC implementation that FRA described in its August 2012 Report to Congress, "Positive Train Control: Implementation Status, Issues, and Impacts," still persist. Concerns about spectrum availability remain particularly acute for passenger rail systems, including commuter rail systems. Since that report, one major additional challenge has arisen.

PTC systems are communications-based and require an extensive communications network to operate. This network requires the installation of approximately 22,000 antennas/towers. The FCC must comply with the National Environmental Policy Act of 1969 and the National Historic Preservation Act before antenna/tower construction may proceed, and in the past FCC has processed only 2,000-3,000 applications for such approval each year. The review and approval process under those laws has the potential to delay the railroad's 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.

The extent to which these challenges affect individual railroads varies greatly among railroads. Because of this disparity in impact among the different railroads, FRA believes extensions on a case-by-case basis that reflects each individual railroad's technical and programmatic challenges would be more appropriate than a blanket extension of the deadline for all railroads beyond 2015.

5. **You state that Congress should consider providing the Secretary with the authority to allow railroads to implement alternative methods of mitigating the risks prevented by PTC systems. What do you mean by this, and would these alternative methods be applicable to just routes where toxic-by-inhalation hazardous materials are transported or are you also suggesting this would be appropriate for passenger routes as well?**

Alternative technologies do not implement the full functionality or provide the same level of risk mitigation as PTC systems that comply with the Rail Safety Improvement Act of

2008 (RSIA) and should only be used on appropriate low-risk lines. However, these alternative technologies, when coupled with certain railroad operating rules and used on already low-risk rail lines, can result in significantly more cost-effective improvements in safety than PTC. It should be noted that FRA estimates that PTC has costs about 20 greater than its benefits. The money that is spent on PTC could be spent on safety improvements elsewhere, so there is an opportunity cost to spending on PTC

To illustrate what I mean by an alternative protection strategy that would provide some of the functionality of an RSIA-compliant PTC system, an example would be a cab signal system with automatic train control, together with operating rules, such as temporal separation between train operations and the establishment of roadway work zones. In this example, the cab signal system provides the locomotive crew an onboard indication of route conditions ahead in nearly real time that does not require visibility of any wayside signals by the crewmembers before an appropriate response may be taken. A cab signal system with automatic train stop functions provides an onboard audible alarm when any condition ahead becomes more restrictive (when the cab signal downgrades to a more restrictive indication) and enforces a full service brake application of the train's air brake system bringing the train to a stop if that change is not "acknowledged" by the crew within not more than eight seconds. A cab signal system with automatic train control functions provides essentially the same as automatic train stop with additional audible warning and enforcement of speed limitations.

Cab signal and automatic train control equipment has been available since the 1930s and is a proven technology. Its installation has been a Federal requirement for any line where trains operate faster than 79 miles per hour. Since freight trains do not operate at these speeds, removal of the systems occurred over time when passenger traffic ceased in the 1950s. The systems subsequently fell into disrepair during the years before the passage of the Staggers Rail Act of 1980, where rail's portion of intercity freight had dropped to 35 percent (from 75 percent in the 1920s), and 40 percent of the freight rails were owned by bankrupt companies.

The application of the authority to approve the use of alternative technologies on low-risk lines would be appropriate to both passenger routes as well as freight track over which toxic by inhalation (TIH) material is moved. .

6. What does FRA need in a reauthorization bill to ensure the work you are doing under NEC FUTURE continues?

FRA believes that regional, multi-State planning conducted in consideration of the overall surface transportation program is critical to the successful improvement and development of the Nation's rail system. Nearly all current or potential passenger and freight rail corridors cross multiple States, and the performance of any individual route is based in large part on how that route fits within a broader regional network. FRA would like Congress to establish standards and provide incentives for the development of multi-State rail plans like NEC FUTURE, as well as to create a grant program to fund these activities, similar to the planning program proposed in FRA's FY 2014 budget request.

Continuation of NEC FUTURE, specifically, is dependent on additional Federal funding. Work currently under contract covers activities through August 2013, and FRA is currently working on scope and budget that will support activities through February 2013. The additional funding needed to complete NEC FUTURE is $21 million. It is critical to keep the momentum going on this important and historic project. Thousands of people–from the public to local elected officials to business leaders–are engaged in this effort, and it is imperative we keep it moving forward without delay.

TESTIMONY OF

MICHAEL P. MELANIPHY

PRESIDENT

AMERICAN PUBLIC TRANSPORTATION ASSOCIATION

BEFORE THE

HOUSE TRANSPORTATION AND INFRASTRUCTURE SUBCOMMITTEE ON RAILROADS, PIPELINES AND HAZARDOUS MATERIALS

ON

"NATIONAL RAIL POLICY: EXAMINING GOALS, OBJECTIVES, AND RESPONSIBILITIES"

SUBMITTED BY

American Public Transportation Association
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June 27, 2013

The American Public Transportation Association (APTA) is a nonprofit, international association of nearly 1,500 public and private member organizations, including transit systems and commuter, intercity and high-speed rail operators; planning, design, construction, and finance firms; product and service providers; academic institutions; transit associations and state departments of transportation. APTA members serve the public interest by providing safe, efficient, and economical public transportation services and products. More than ninety percent of the people using public transportation in the United States and Canada are served by APTA member systems.

INTRODUCTION

Chairman Denham, Congresswoman Brown, and members of the Railroads, Pipelines, and Hazardous Materials Subcommittee, on behalf of the American Public Transportation Association (APTA) and its more than 1,500 member organizations, I thank you for this opportunity to testify on the development of the next passenger rail authorization bill. My name is Michael Melaniphy, and I am the President and Chief Executive Officer of the American Public Transportation Association. We understand that the committee intends to focus on legislation to replace the expiring Passenger Rail Investment and Improvement Act (PRIIA) and we are also submitting our views as they relate to the requirements to implement positive train control (PTC) on the nation's commuter railroads under the Rail Safety Act.

APTA believes that the nation needs an integrated network of passenger rail services, including high-speed rail where appropriate, that connects with the existing Amtrak system, and with commuter rail and transit operations. Such a system should be part of a multi-modal, inter-connected national transportation system that enables the nation's air, rail, bus, ferry and highway systems to function more efficiently. Travelers using this system should be able to make seamless connections between modes and between major metropolitan regions linked by rail service. As our population and these regions grow, we will need more intercity passenger rail, including high-speed service, as an alternative to both the air and highway systems, which in some places are already operating at close to capacity. As the nation's population swells by nearly 150 million people between 2000 and 2050 we need to make investments in our transportation infrastructure that provide transportation choices and serve national goals.

Rail, both passenger and freight, offers unique opportunities and benefits that warrant a strong federal commitment to fund and implement policies that will allow for expansion. Rail is energy efficient and environmentally beneficial. The permanency of rail corridors has the power to focus economic activity and development. Rail's contributions to more efficient mobility not only enhance the productivity of the regions it serves, but also our nation's economic competitiveness.

ABOUT APTA

The American Public Transportation Association (APTA) is a nonprofit international association of more than 1,500 public and private member organizations, engaged in the areas of bus, paratransit, light rail, commuter rail, subways, waterborne services, and intercity and high-speed passenger rail. This includes: transit systems; planning, design, construction, and finance firms; product and service providers; academic institutions; transit associations and state departments of transportation. APTA members serve the public interest by providing safe, efficient and economical transit services and products. More than 90 percent of the people using public transportation in the United States and Canada ride APTA member systems.

PRINCIPLES ON HIGH-SPEED AND INTERCITY PASSENGER RAIL

To meet the rapidly expanding needs of an ever-growing and highly mobile population, the United States must develop a fully integrated multimodal high-speed and intercity passenger

rail system. It is more important than ever for the U.S. to invest in its infrastructure as the efficient movement of people and goods is essential for sustained economic growth and recovery. Investing in intercity and high-speed rail projects will produce new passenger rail networks that will create hundreds of thousands of private sector, construction and manufacturing jobs as well as stimulate domestic business growth that will generate additional jobs in related consumer-driven industries. According to a study done by Glen Weisbrod for APTA, expenditures for high-speed rail construction are estimated to support 24,000 jobs for each billion dollars of investment.

In support of this vision, APTA's Legislative Committee recently adopted principles for a federal high-speed and intercity passenger rail (HSIPR) policy. These call for new dedicated revenue sources other than those currently supporting the Highway Trust Fund, a streamlined National Environmental Protection Act (NEPA) review process, and an efficient combination of private and public sector leadership in the development of new rail service. APTA's recommendations call for significant private sector participation in the planning, construction, and financing of new rail infrastructure. Such projects should be financed through a combination of federal, state, local, regional and private funding.

We fully recognize the current fiscal pressures that our country faces and the challenges that creates for Congress in identifying and allocating financial resources and setting priorities across the federal budget. We do not make these funding recommendations lightly. However, we also believe that investments in infrastructure, including passenger rail, are among the highest value investments the nation can make. We know this committee recognizes the importance that transportation investment holds for our nation's economic competitiveness and prosperity, and whether we talk of high-speed rail, higher speed rail, high performance rail, or other intercity passenger rail, APTA and its members believe that these investments will produce tremendous economic, environmental and mobility benefits.

Expansion and improvement of our current intercity passenger rail system will require a commitment of federal, state, local and private resources – a combination of funding AND financing strategies that will not only pay for projects, but also speed their planning, design and construction. APTA recommends an authorization of $50 billion over six years to facilitate the development of a HSIPR system. There should be a dedicated and indexed federal revenue source for planning, design and construction of these projects, other than the current motor fuels excise taxes that fund the Highway Trust Fund. We also suggest that, to attract greater private capital, deliver projects more quickly, and ensure shared risk, the use of public private partnerships, along with a full breadth of finance, tax, and revenue approaches, should be promoted. Programs such as the Railroad Rehabilitation & Improvement Financing (RRIF) program should be streamlined with application decision time periods reduced and flexibility encouraged through deferred debt payments and subsidized interest rates and/or credit risk premiums. Finally, APTA believes intercity passenger rail projects and other public transportation projects that reduce air pollution emissions in areas designated as air-quality non-attainment areas should be eligible for funding from the Congestion Mitigation and Air Quality (CMAQ) program beyond any limitation of years whenever such benefits can be shown to increase over time as ridership grows.

Corridors and Projects

The national programs for high-speed and intercity passenger rail should be based on defined and agreed-to passenger rail corridors that will meet specified criteria and increase the speed, utilization and efficiency of passenger rail transportation to achieve travel time reductions and increased frequency of service. Projects should be allocated sufficient funds drawn from a dedicated and predictable federal funding source so that they can be completed on a reasonable schedule. The program should also include the Northeast Corridor and recognize the costs of bringing the Northeast Corridor into a state of good repair and to assure capacity for growth. Projects, travel time reduction and frequency improvement objectives should be defined at the state and local level, but should be consistent with national goals and objectives. The planning process should determine the type of project currently most appropriate for the particular region and market while the map should be the result of a consultative process with federal, state and local governments. State rail plans should address state level funding issues, service integration issues, short and long-term sustainability, and shall establish the terms of private sector involvement consistent with the National Rail Plan.

Reduce Barriers, Restrain Costs, And Streamline Project Delivery

While funding and financing options are certainly key, we also urge the committee to ensure that barriers to project planning and development, and to the operation of services are controlled if not reduced. Issues such as liability insurance, operator licensing, project approvals and environmental reviews should be limited to what is necessary and applied in the most flexible and least restrictive manner where they are required.

If we truly want the nation's population centers connected by an efficient and effective passenger rail network, then we must work together to ensure that the planning, environmental, procurement and grant processes are streamlined and manageable. Regulatory requirements that do not have essential operational, environmental and safety purposes should be avoided whenever possible to ensure that projects can advance in the fastest manner and with the lowest cost. A commitment to this approach would provide encouragement to states, transportation authorities and private financing partners.

The federal grants review process should be kept simple, while work in pre-approved corridors should proceed with minimal grant review. Accountability should be enforced through self-certification and post-delivery reviews, rather than through a burdensome process that holds up projects by requiring extensive documentation up-front. However, the U.S. DOT should provide initial reviews and screening as to whether applications or applicants comply with express requirements of grant statutes before grants are released.

Given the significant project acceleration and environmental streamlining provisions for transit and highway projects in MAP-21, corresponding changes to environmental approval processes also may be needed for rail projects, so that they would not be comparatively disadvantaged. We believe DOT should pursue common or standardized rules on NEPA and categorical exclusions across all modes for the efficient administration of provisions of the

National Environmental Protection Act (NEPA) and such rules should be consistent with the streamlining provisions of MAP-21. Permits and review should be expedited, with reviews coordinated in a concurrent manner and not handled sequentially. While FRA has made progress with expanded categorical exclusions, an expanded system of categorical exclusions should be developed and widely applied. Furthermore, efforts similar to the process for waiving non-statutory requirements when needed to expedite projects should be established for HSIPR projects, as it currently exists for Federal Highway Administration (FHWA) projects under the SEP-15 program, should be pursued to accelerate agency decision making and approvals.

Competition, Insurance and Licensing

APTA also supports federal policies that facilitate competition among operators. The federal and state supported HSIPR program should be designed to encourage open, strong and fair competition among competing pre-qualified operating and rail service companies. To ensure fair competition, all competing companies must comply with all federal railroad laws. APTA membership is incredibly diverse and the roster of those interested in high-speed and intercity rail ranges from Amtrak to AIPRO to Labor to small, mid-size and large cities, states, transit authorities and private sector organizations. This diversity of interest makes a case for policies that ensure options for project and service sponsors.

For commuter rail operations, as well as potential new passenger rail services, APTA continues to recommend against unnecessarily costly minimum levels of liability insurance for all passenger rail operators, or any requirement that those operators be specially certified by the Surface Transportation Board (STB) before providing passenger rail transportation. Risk profiles of individual passenger railroads are unique and based on a combination of factors and should not be subject to a uniform liability for every agency and operator, large and small. Congress dealt with this issue in the Amtrak Reform and Accountability Act of 1997 (ARAA, P.L. 105-134) by setting a liability cap of $200 million per accident.

The existing $200 million cap on liability should apply to all claims against high-speed and intercity rail operators, sponsoring agencies, host railroads, and commuter railroads and should apply consistently regardless of the operating entity or its contractor. Without such statutory limits, the cost of obtaining insurance and the cost of rail passenger operations will become prohibitively costly. Currently, state and regional passenger railroad service sponsors enter into agreements with passenger rail operators through detailed contracts which take into account qualifications and legal requirements, and additional requirements will unnecessarily increase costs for public passenger railroads.

Further, granting broad new authority to the STB to set up licensing requirements as deemed appropriate would create unneeded regulatory hurdles to entry into the passenger rail market. The safety of passenger railroad operations is already well regulated by the Federal Railroad Administration (FRA), which requires operators to comply with specific safety standards.

RAIL SAFETY

First and foremost, APTA is unequivocally committed to safety: passenger and employee safety is the number one priority on our nation's commuter railroads. Since its inception, APTA has been a vocal advocate and active instigator for safety improvements. In the mid-1990's, APTA developed the Passenger Rail Equipment Safety Standards (PRESS) program to develop safety standards for commuter rail cars. More recently, our commitment to safety was heralded by the rail industry regulator, Federal Railroad Administrator (FRA) Joe Szabo, who announced safety statistics citing that 2012 was the safest year in railroad industry history. With that said, we are always working to make our industry safer.

APTA consistently supported the concept of positive train control (PTC) long before the Rail Safety Improvement Act (RSIA) of 2008, provided that proven technology, resources and radio spectrum necessary were available to put PTC into practice. We are working with our member railroads to meet the law's requirements that all of the nation's commuter railroads have federally approved systems that help protect against accidents. We urge the committee to focus on how to best install these still developing systems on an enormous and complicated network of interconnected railroads in a way that maximizes all of an operator's safety considerations while efficiently moving toward implementation. Commuter systems provide important transportation in and around many of our metropolitan regions, and demand for service and ridership continues to grow.

Commuter rail safety has improved in recent years, but we continue to strive for improved safety. Commuter rail ridership has grown by 42 percent since 1990, going from just under 328 million trips then to more than 466 million trips in 2012, and safety on the nation's commuter systems has improved. Over the past 10 years, fatalities have declined from just above 0.9 per 100 million passenger miles to 0.5 per 100 million miles in 2011. While commuter rail operators will always seek to improve and enhance safety, it is clear that travel by commuter railroad is among the safest modes of travel in the U.S.

Culture of Safety

While we address in this testimony a very significant element of the RSIA in the requirement to implement PTC, it is important that we make clear that PTC is but one element of an overall integrated approach to system safety. An effective safety culture is more important than any one specific procedure or technology. It begins with the commitment of the organization and senior leadership, working in collaboration with employees and labor in adopting common safety goals and expectations. It involves recognition that responsibility for safety lies at all levels and with all staff. One way our commuter rail agencies demonstrate their commitment is by having a comprehensive safety plan in place. It includes having sound policies and procedures, training, maintenance practices that include asset management and state of good repair considerations, data tracking for monitoring trends in operational, equipment, and infrastructure performance, and systems in place for auditing and assessing that performance. The transit and commuter rail industries have been leading on safety improvements over a 20 plus year evolution during which a great deal of attention and effort has been directed toward

development of standardized systems and approaches to the delivery of safe service and work environments.

As an example, all commuter rail agencies have developed Safety Management Program Plans, the framework of which was based upon APTA's Safety Audit Program. The APTA Safety Audit program is a voluntary, comprehensive program developed over a decade ago when a number of North American rail transit systems requested APTA to develop and implement a standardized format for rail system safety and to provide an auditing service that would enable a transit system to determine the degree to which the standardized elements for rail transit system safety were being addressed. By way of the adaptation of existing industry best practices and system safety standards from the aerospace industry, the APTA Rail Safety Audit Program was inaugurated in 1989. This program was subsequently adopted in 1996 by the U.S. Department of Transportation Federal Transit Administration as the base guideline for its federal state safety oversight requirements.

Currently there are dozens of rail transit systems and bus transit systems participating in APTA safety audit programs. These systems include mass transit/subway systems, light rail systems, automated guide-ways, heavy rail commuter systems, and bus transit operations across North America and Asia. Modal programs have been developed that are specific to urban rail, commuter rail, and bus safety management processes. The benefits derived from participation in the APTA Safety Management Program include:

- Adoption of safety management practices that have been established as an industry standard;
- Building and enhancing safety management processes for service delivery and workplace safety;
- Providing a tool for demonstrating transit system diligence for safety; and
- Providing a mechanism for continual improvement of system safety

An effective safety program implementation includes policies and procedures on: Facilities Maintenance and Inspection; Vehicle Maintenance, Inspection and Repair; Rules and Procedures Review; Training and Certification; Emergency Planning and Response; Workplace Safety Program; Passenger and Public Safety; Rail Corridor Operational Study; and Environmental Management Programs. These are just a portion of the lengthy list of considerations with which our agencies are involved in ensuring a safe system.

Additionally, industry developed standards (such as PRESS and others) are contributing greatly to ongoing safety improvement. APTA has written over 270 standards and recommended practices, 71 of which address particular safety needs for mainline rail equipment, and over 111 for rail transit alone. Standards help improve the safety of public transportation systems by addressing vehicle crashworthiness, passenger door systems, emergency lighting and evacuation, and new standards to improve the safety of vehicle interiors including seat attachment strength and safer workstation tables. APTA has initiated new efforts within its standards body to improve current standards on vehicle design affecting derailments and has initiation new studies to better understand the potential for derailments at slow operating speed. Standards also define safe operating practices, inspection and maintenance of equipment, train control maintenance

requirements, electrical propulsion system design, catenary electrical distribution wire maintenance, and wheel and axle assembly procedures among many other areas of a general nature including cyber and physical security, railcar procurement, tunnel ventilation, and sustainability.

Finally, APTA partners with the FRA, AAR and labor in developing rules to help design, build and operate safe transportation systems. In this regard, APTA is very active as an industry representative within the Rail Safety Advisory Committee (RSAC). Recently FRA and industry have collaborated on the development of language for new safety rules particular to high speed rail equipment. The public transportation industry and especially our commuter rail agencies will continue to maintain a strong emphasis on safety.

Positive Train Control

As the members of this committee know, the Rail Safety Improvement Act (RSIA) of 2008 mandated that PTC technology be implemented on passenger railroad and certain freight railroads by December 31, 2015, and it authorized funding of $250 million over five years to assist with implementation. As defined in the statute, a positive control system is a "system designed to prevent train-to-train collisions, over speed derailments, incursions into established work zone limits, and the movement of a train through a switch left in the wrong position." When the RSIA was drafted in 2008, there was no off the shelf technology capable of achieving these safety objectives for all railroads – as is still the case today. Yet many commuter railroads have long made use of collision avoidance systems that would have protected against accidents that have occurred in recent years. Since the enactment of RSIA, APTA and its commuter rail members across the country have aggressively pursued the funding and technology necessary to implement this safety mandate by the current statutory deadline. However, challenges beyond our control have presented obstacles to implementation.

The initial conservative estimate for PTC implementation on commuter railroads was more than $2 billion, with more than 4,000 locomotives and passenger cars with control cabs and 8,500 track miles to be equipped. Since this initial estimate, as commuter railroads have begun their contracting and technology acquisitions, the estimated costs of implementation have risen well beyond the initial $2 billion estimate. These estimates do not include costs related to the acquisition and operation of the radio spectrum necessary to meet the interoperability requirements set forth under RSIA and they do not include costs associated with operating PTC systems.

To date, Congress has only appropriated $50 million of the total authorized amount. At a time when critical State of Good Repair backlogs are creeping above nearly $80 BILLION on our nation's public transportation systems, commuter railroads are being forced to choose between performing critical system safety maintenance projects and implementing PTC by 2015. Insufficient funding is a significant impediment to implementation for publicly funded railroads.

Key components of PTC systems are still in the developmental phase, such as software upgrades and revisions, and roadway worker protection. Absent these essential elements, full implementation by 2015 will be impeded, even for those railroads that have secured the

necessary funding. Moreover, the inability of most commuter railroads to acquire necessary radio spectrum is also impeding full implementation by 2015. The FCC has not responded to APTA's requests to make available spectrum available as a public safety imperative and insisted that the necessary bandwidth can be purchased on the open market. One railroad purchased spectrum only to have it now held up while the courts decide who owns the rights to sell the spectrum.

In 2011, after several years of working towards implementation and complying in good faith with FRA reporting requirements on PTC implementation plans, the APTA Commuter Rail CEOs committee concluded that the industry would not be able to fully implement interoperable PTC systems on all commuter railroads by the current deadline. Thus, APTA approved a policy position recommending that the deadline for PTC implementation be extended to December 31, 2018. APTA's position also states that extending the deadline shall not inhibit efforts to implement PTC on some commuter railroads prior to the existing deadline and in fact urges Congress to prioritize funding for those efforts. The hope was that lessons learned from early implementers would serve to facilitate and expedite implementation for other commuter railroads. Other APTA positions adopted in 2011 included recommendations that Congress appropriate federal funding to cover 80 percent of PTC implementation costs for commuter railroads and direct the Federal Communications Commission (FCC) to provide radio spectrum, without cost, required for PTC implementation by publicly funded commuter railroads.

I should note that representatives from commuter rail systems across the nation and APTA staff have conducted numerous meetings with Members of Congress and staff from congressional committees of jurisdiction to explain APTA's views and the challenges faced trying to implement PTC. While we have always expressed a commitment to implement PTC technologies, industry experience indicated that it would be difficult, if not impossible, to implement PTC on all of the nation's commuter railroads by the 2015 deadline. We believe we acted responsibly by coming to Congress well before the deadline, rather than waiting for the deadline to become imminent.

Further, in January 2012, APTA shared a report with Congress which documented the technical challenges of implementing PTC. This report, which was written jointly with the Association of American Railroads (AAR), also outlined the technical challenges that freight railroads are experiencing in their effort to implement PTC and reached the shared conclusion that implementing a fully interoperable PTC network was not achievable by December 31, 2015.

CONCLUSION

Thank you again for the opportunity to testify today on national rail policy, including passenger rail and rail safety.

We look forward to working with the committee as it drafts legislation to succeed the Passenger Rail Investment and Improvement Act. We hope to work with this committee to develop a federal program that works with state and local governments, and the private sector to develop a national system of intercity passenger rail corridors, including high-speed rail, that

connect the nation's growing population centers. We firmly believe that such a system would enhance the effectiveness and efficiency of all of the modal elements of our existing transportation system and better prepare the country to compete in the international economy as our population soars.

We also want to reiterate the industry's commitment to advancing the safety of our riders, employees and communities. We urge this subcommittee to continue its work to assist commuter railroads as they work to implement PTC by extending the implementation deadline to 2018, authorizing at least 80 percent of the more than $2 billion in implementation costs, and working with the FCC to establish a set aside for PTC spectrum purposes.

On behalf of APTA and its members we look forward to continuing to work with this Committee on this and many other common issues that face public transportation agencies.

Responses of the American Public Transportation Association (APTA)
to the
Transportation and Infrastructure Subcommittee
on Railroads, Pipelines, and Hazardous Materials
Hearing on "National Rail Policy: Examining Goals, Objectives, and Responsibilities"
June 27, 2013
Questions for the Record

Questions from Rep. Denham:
During the June 27th hearing, Chairman Denham requested information from each witness concerning a timeline for implementing Positive Train Control (PTC) by region, as the railroad system is an integrated network, operated by different corporations. Please provide information to the Committee concerning the progress, the challenges and obstacles, and overall timeline for implementing PTC, by region.

APTA Response: While there may be a rationale for refocusing the approach to implementation of Positive Train Control (PTC) on Class I railroads in a regional manner, the implementation of PTC on each of the nation's commuter railroads is currently being considered and undertaken on a local/regional basis. As many commuter railroads already have PTC implementation plans which are dependent upon the decisions and progress of their host railroads, any change to the approach of the host railroads would have implications for the commuter railroads. Those commuter railroads that are not dependent upon a host railroad would be unaffected (or minimally affected) by a change toward regional implementation.

APTA has surveyed its member commuter rail agencies numerous times over the last several years asking for information on implementation plans, costs, needs, and obstacles. Attached with this response is our latest survey response which details the costs, spectrum needs, and specific issues and challenges each of the commuter rail agencies is facing as they work in good faith to implement the PTC mandate.

How important is the Northeast Corridor to America's commuter railroads, and how can we have them better partner with Amtrak financially and programmatically to tackle the growing backlog of capital needs?

APTA Response: Eight commuter railroads operate within the Northeast Corridor (NEC) and its connected service area, and for those eight agencies and their states, the relationship with Amtrak is very important. Decisions over operations, and infrastructure capacity and improvements should be made with all parties involved having input into what will meet the service requirements of their riders and communities, as should the connected operations of local transit services . NEC states and commuter rail agencies are active partners in the process being undertaken by the Northeast Corridor Infrastructure Advisory and Operations Commission.

Today, throughout the NEC, there is already good coordination on operational and infrastructure based decisions, although local and state interests vary. Many infrastructure investments are already collaboratively planned and financed. APTA member agencies and their states have long provided significant capital investment into stations and right-of-way throughout the NEC region, including those areas that provide rail connectivity to the main line of the NEC. In some cases, the commuter rail agency or state is the primary owner of facilities that are shared with Amtrak. States such as

Connecticut, New York and Massachusetts own portions of the corridor, with other states owning significant portions of the connected rail corridors.

APTA is interested in the direction the Northeast Corridor Commission takes and will look forward to the results of its work in the future.

What are some of the MAP-21 or other streamlining provisions for FHWA and/or FTA that would be most valuable for your members if applied to the FRA? Are there other specific streamlining provisions you would like to see applied to rail projects that are not inMAP-21?

APTA Response: APTA's PRIIA legislative principles call for (1) common standards for NEPA approvals across all US DOT agencies, (2) streamlined approval measures for rail projects that are consistent with MAP-21's project acceleration provisions for highway and transit projects, and (3) development of an expanded system of categorical exclusions (CEs) for projects that do not have a significant effect on the human environment.

- Common Rules DOT-Wide: With the demand for multi-modal projects increasing, and with project sponsors often relying on funding from multiple federal sources, creating a common set of CEs and establishing joint FTA/FHWA/FRA rules for NEPA approvals would simplify and expedite project delivery for all surface transportation projects and minimize duplicative, mode-specific requirements. There may be limited cases where modal necessities may validate differences, but those differences should be limited and readily justified. There may also be certain circumstances where the current FRA approach is preferable to that utilized by FHWA and FTA, and may be recommended as the approach for the other agencies. For example, the Tiered EIS clearance approach of the FRA (general clearance on mode and alignment, with more specific environmental clearance on specifics to follow) may be preferable to the FTA and FHWA approaches. However, generally speaking, standardization across modes is ultimately preferable.

- Expanded CEs: We welcome FRA's seven newly adopted CEs, understanding that some of these seven were modeled after CEs currently available for projects funded by FHWA and FTA. But we believe FRA can do more to ensure parity among rail, transit, and highway project CEs. Specifically, FRA should consider adopting categorical exclusions like those in the FTA's regulations that broaden agencies' ability to acquire or preserve rights-of-way prior to completion of environmental reviews, where such acquisitions would not prejudice NEPA decisions. A categorical exclusion under one modal agency is likely to be equally appropriate for the other, given the nature of categorical exclusions.

- Given the significant project acceleration and environmental streamlining provisions for transit and highway projects in MAP-21, corresponding changes to environmental approval processes also may be needed for rail projects, so that they would not be comparatively disadvantaged.

  The Subtitle C provisions of Title I of MAP-21 should be applied consistently to passenger rail projects. These provisions apply to highway or public transit projects, but, despite "multimodal" language and intent, they do not apply to projects receiving grants and oversight through the FRA. For instance, Section 1308 which reduces the time period for claims to be brought against projects from 180 days to 150 days does not similarly apply to rail projects. In fact, it is our understanding that no limitation currently applies to rail projects.

- Accelerated Decisionmaking: Traditionally, a record of decision (ROD) on a project cannot be issued until 30 days after the issuance of a final environmental impact statement (FEIS). One improvement MAP-21 made to speed decisionmaking in environmental reviews of transit and highway projects was to require the use of a *single* document -- comprising both the final environmental impact statement and the record of decision -- as the final NEPA document. Rail projects should also be included in this straightforward approach to removing procedural hurdles without compromising environmental safeguards.

- Finally, a process for waiving non-statutory requirements when needed to expedite projects should be established for HSIPR projects, as it currently exists for Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) projects under the FHWA SEP-15 program. Permits and review shall be treated in an expedited manner, with reviews coordinated in a concurrent manner and not handled sequentially.

APTA is interested in continuing to work with the Committee on specific recommendations to encourage expedited project reviews.

What policies would APTA like to see in the next rail bill to encourage private sector participation in the planning, construction, and financing of passenger rail infrastructure?

APTA Response: The private sector is currently fully engaged in the planning, design and construction of major capital infrastructure projects throughout the country. APTA supports efforts to encourage expanded utilization of private sector financial capital in the development of future intercity passenger rail, and all infrastructure projects. Private capital that may be sitting on the sidelines right now still looks for the public funding in order to be certain of the commitment and to ensure the control of risk in their investment.

- Federal funding will attract private investment: A reliable, dedicated federal funding source for passenger rail is essential not only to maintaining and improving to our national passenger rail network and but also to catalyzing private sector participation in the delivery and financing of major capital rail projects. P3s are premised upon private sector participants receiving a reasonable return on investment in exchange for assumption of certain public sector project risks.

- Reestablish tax credit bonds: The strong success of infrastructure tax credit bonds in FYs 2009 and 2010 proved there is great private sector appetite for investment in infrastructure. The creation of a limited-volume tax credit bond for surface transportation projects could attract significant private sector investment, while reducing state and local issuers' borrowing costs, as issuers would be responsible for repayment of the principal while the federal government would cover the interest portion of the bonds, in the form of annual tax credits to bondholders (*not* a direct Federal payment to issuers).

- Promote value capture: Rail projects generate significant economic benefit to surrounding communities in the form of increased property values; partnering with private sector businesses to boost transit-oriented development at rail stations generate revenues that benefit both public and private sector participants. We are exploring opportunities to take full advantage of value capture as an additional revenue source at the local level, including reexamining rules governing right-of-way acquisition and use.

APTA would also like to make additional recommendations regarding reform of the RRIF program. We have attached these recommendations separately following the responses to these QFRs.

With regard to liability insurance levels, how do you respond to those who claim that since the cap for an accident is $200 million, each commuter railroad should carry that much insurance?

APTA Response: Within an affirmative context of safety, the existing $200 million cap on liability as established in the Amtrak Reform and Accountability Act of 1997 should apply to all claims against high-speed and intercity rail operators, sponsoring agencies, host railroads, and commuter railroads and should apply consistently regardless of the operating entity or its contractor. Without such statutory limits, the cost of obtaining insurance and the cost of rail passenger operations will become prohibitively costly. Ideally, clarity over the application of the statutory cap should discourage host railroads from requiring liability coverage in excess of the cap. New and existing high speed and intercity passenger rail programs and projects should be unencumbered by new, additional requirements for operator licensing or insurance. Currently, state and regional passenger railroad service sponsors enter into agreements with passenger rail operators through detailed contracts which take into account qualifications and legal requirements, and additional requirements will unnecessarily increase costs for public passenger railroads.

In current practice, shared use agreements and the related insurance requirements are determined on a case-by-case basis. In some cases, those agreements are already committing commuter rail agencies to meet higher cost insurance requirements. However, Federal law should not force the application of a high insurance standard through a one-size fits all approach. In some cases, state law may establish a lower limit than the $200 million, as is the case in Pennsylvania.

Further the scope of services does have an impact on risk exposure. Amtrak, for instance, has a $200 million insurance cap when providing nationwide service. This cannot compare, and should not be applied in the same manner to smaller commuter rail operations such as the 29 mile Rail Runner Express in New Mexico or the 32 mile Music City Star in Nashville, TN.

In recent years, several commuter rail systems have faced challenges in renewing liability coverage, finding it difficult or impossible to obtain insurance in the domestic markets, forcing them to go overseas for coverage, where they paid more for less coverage. Difficulty in procuring liability insurance may also impede emerging high-speed and intercity passenger service, as increased liability limits will ultimately affect their operations. With such a great public need, we must work together to ensure that our commuter trains can continue to run and keep our country moving.

High insurance requirements threaten to preclude the continued growth of additional commuter rail services throughout the country. Limits on insurance are important to keep costs down and provide assurance to states and regional entities that may be interested in establishing new service. Any move to apply a higher limit will have the unintended consequence of raising costs for all commuter railroads without recognizing the impact on the riders who will pay higher ticket costs or the taxpayers who finance commuter rail in America.

Many of the issues facing commuter rail agencies and their liability insurance requirements were covered in a 2009 GAO report on the subject. While costs and specific agreements have changed since this report was produced, the issues and concerns remain the same.

Improvements to the RRIF Credit Assistance Program

1. Streamline and reform US DOT's application process and improve program management:

   - Increase transparency in the application process by requiring an annual report to Congress, detailing where each applicant is in the approval process and describing the risk-scoring methodology on all loan applications, and the assessed credit risk premium and funding source(s) used to pay such premium on each approved loan.

   - Consistent with the TIFIA program, authorize DOT to establish, collect, and spend fees assessed on borrowers for DOT's administrative costs of providing and servicing RRIF credit assistance, not simply for application evaluation as currently permitted under 45 USC §823(k). Alternatively, set aside a portion of any RRIF program authorization to cover these administrative costs.

   - Establish a time period, after submission of an application, during which DOT must determine whether an application is complete.

2. Revise RRIF's credit risk premium provisions to be consistent with the Federal Credit Reform Act (FCRA):

   - Repeal the provision rebating credit risk premiums after repayment of cohort of RRIF loans (45 USC §822(f)(4)); structure funding of credit risk premium and loan disbursements consistent with FCRA (e.g., like TIFIA).

3. Remove barriers to Federal funding of credit risk premiums, once RRIF program is consistent with FCRA:

   - Cease the annual THUD Appropriations Act limitation on the use of Federal funds for RRIF program credit risk premiums.

   - Consistent with the TIFIA program, make the subsidy cost of Federal credit assistance under the RRIF program an eligible use of TIGER program funds.

   - For a project receiving credit assistance under RRIF that would also meet the project eligibility definition at 23 USC §601(a)(12) for credit assistance under TIFIA[1], make the subsidy cost of the RRIF project an eligible use of the funds authorized for the subsidy cost of TIFIA projects.

4. Authorize Federal funding for credit risk premium of RRIF program.

   - A $50 million annual authorization would support at least $3 billion in RRIF loans over six years. Over the past 11 years since the program made its first loan, DOT has executed 33 loans worth $1.7 billion, with an average loan size of $52 million.

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[1] Projects meeting the eligibility standards of both the RRIF (45 USC 822(b)(1)) and TIFIA (23 USC 601(a)(12)) credit programs include intercity passenger rail, Amtrak, and certain intermodal freight rail transfer facilities.

APTA Member Survey

Commuter Railroad PTC Compliance

June, 2013

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Purpose

In response to inquiries from Congress on industry progress toward and challenges in achieving implementation of Positive Train Control on the nation's commuter rail systems, APTA surveyed its members in May of 2013. Survey responses were provided between May and June of 2013. Additional information on PTC spectrum was collected in a separate inquiry.

Question Set

1. What is your currently projected completion date?

2. What is your currently projected total price tag for PTC implementation?

3. In round numbers, how much has your agency invested thus far, and what have been the sources of those funds?

4. If you are not on target to meet the December 2015, what specifically stands in your way? What do you have, what do you need, and/or what stands in the way of acquiring the needed:
    a. Dollars
    b. Spectrum
    c. Integrator
    d. Vendors
    e. Other

5. Are you experiencing any NEW, unforeseen challenges we should call to the attention of FRA and Capitol Hill? What have been the consequences to your implementation timeline and budget?

6. Please quantify in dollars your SOGR needs.

Denton County Transportation Authority (DCTA) Lewisville, TX

1. Based on our analysis of the full process of procurement, implementation and testing, DCTA is at least 9 months behind due to technical issues/challenges.
2. Left Blank
3. Left Blank
4.
    a. Left Blank
    b. Spectrum acquisition is a key challenge. Spectrum available for purchase in our area will require significant waivers from the FCC, additional interoperability testing and certifications, and the owners are embroiled in many legal issues. Discussion has begun on leasing spectrum.
    c. The procurement of a system of this nature does not lend itself to a partial implementation. The contract needs to be under a full design– build-integrate model. For an agency to have any reasonable assurance of a successful system, the contractor must be able to make promises they can keep without the luxury of pointing fingers at the "other guys" on the job. Too many unknowns are present for this to be true.
    d. Left Blank
    e. A key unknown is the manufacturing capability of the industry and the ability of DCTA to gain a place in the process queue to gauge a date of equipment availability. There is an effective monopoly on many key elements. This will limit the ability to see improvements in the technology to avoid the potentially dramatic restrictions on operations and material availability. Everyone, to include the FRA and the Class I's, are in "discovery learning" mode. We are all being positioned to make the same mistakes at the same time with no benefits from the lessons learned. It is our fear that new regulatory requirements and barriers we do not even know of will restrict our ability to meet a time certain for operation.
5. Left Blank
6. Left Blank

Dallas Area Rapid Transit (DART) Dallas, TX
Trinity Railway Express (TRE) Fort Worth/Dallas, TX

1. September 30, 2016
2. Between $34,800,000.00 and $44,800,000.00 depending on service plans under review.
3. $1,000,000.
4.
    a. Federal funding on hand is: $12,500,000.00 Additional Federal Funding Required is between $16,000,000 to $24,000,000 depending on service plans.
    b. DART/TRE has tried to purchase spectrum without success. DART is on its third attempt to negotiate for spectrum to support the three commuter railroads in North Texas (TRE, DCTA, and the future TexRail, Fort Worth T's future commuter rail service). The first two attempts were unsuccessful because the license holders were not capable of executing a transaction due, in one case to bankruptcy proceedings and in the other case the license was held by a company that could not authorize and sign an agreement due to internal business issues. Few options remain to purchase spectrum on the open market without paying a significant premium over what we believe the value is to the three transit authorities. DART/TRE is evaluating lease options but believe there are risks involved with leasing including long-term pricing and lack of options for equipment vendors is forcing a sole source scenario.
    c. There are three commuter railroads in North Texas (TRE, DCTA, and the future TexRail, Fort Worth T's future commuter rail service) , we have formed an alliance to address PTC as a fully integrated and shared solution. A new cost estimate, schedule and technical feasibility study have been completed and are under review by the commuter rail alliance partners. A regional specification is being developed for an Integrator to design and install a regional solution. We anticipate the specification development and award process to completed in early 2014 and follow on design, install, integration and testing process to complete in 2016. Lack of proven integrators in sufficient technical depth and quantity to afford competition and ensure scalability increases technical, project and financial risk. Concerns whether Integrators will be able to scale and deliver against multiple projects and clients.
    d. Lack of technical readiness, lack software readiness, lack of equipment availability, lack of competition and lack of equipment maturity are significant barriers to expedite completion of the project.
    e. By working together to implement PTC as a regional solution, there is significant opportunity to achieve economies of scale, to optimize a technology solution that is interoperable and cost effective. However, time is needed to coordinate, plan, design, build, implement and commission a regional solution. As a result of these issues and as an unfunded mandate, PTC will divert funds from other state of good repair programs causing deferment of capital programs needed to maintain existing and critical assets.

5. As mentioned above, DART has spent over 2 years trying to purchase spectrum and even obtained board approve to purchase spectrum but have not been able to purchase a license. Considering radio spectrum is a vital technology, and many barriers exist, the FRA and Congress should consider collaborating with the FCC to make spectrum available to commuter railroads. The current process is not working, is very expensive and time consuming and has not yielded results. The alternative is to lease spectrum from PTC 220 LLC and purchase radios from Meteorcomm which are both entities that are owned and managed by the Class 1 railroads. This currently represents a sole source requirement and the cost of the technology is high and there is no guaranty that the technology is going to work or will be well supported.
6. The TRE has recently completed a state of good repair assessment which calls for approximately $14 million annually to maintain the agencies existing capital assets in a state of good repair or $280,000,000 over 20 years. This is exclusive of SOGR for PTC once implemented.

New York Metropolitan Transportation Authority (NYMTA) New York City, NY

1. We are not on target to meet the December 2015 deadline for a variety of reasons.
2. We estimate it will cost the NY MTA $800 - $1 billion to install PTC.
3. To date, we have budgeted nearly $500 million for PTC installation, but we do not have enough funding for full installation at this time.
4.
    a. Left Blank
    b. First, we do not have all of the spectrum required for a PTC operation. The NY MTA needs spectrum for 13 counties. We have purchased spectrum for 9 of these 13 counties. We still do not own spectrum in 4 counties in which Metro-North operates. We are in negotiations with a potential vendor for the remaining 4 counties, but this is not a done deal by any means. We are concerned that a technical review may show that we have significant additional interference issues with license holders in adjoining counties resulting in the need to return to the market to purchase additional license rights in at least two counties. Long story short, we do not have all of the spectrum that we need for a successful PTC operation and we have received no assistance from the FCC. PTC 220 has been of no use for the MTA.
    c. We still need to bring on a system integrator and develop a system that works in conjunction with our existing cab signal with automatic train stop system, as well as being interoperable with Amtrak. We are moving forward but there a number of complicating factors, many of which are beyond the control of the MTA in meeting the December 2015 deadline. Other challenges include the limited market place/availability for PTC components, the magnitude of the PTC effort from development, prototyping, reliability and functional testing to final configuration and system-wide retrofits and installations (while providing reliable levels of OTP and service availability).
    d. Left Blank
    e. Last fall, Superstorm Sandy caused unprecedented damage to the MTA. Hundreds of millions of corrosive saltwater flooded our system. For the second time in its 108 year history, the MTA, which serves as the lifeblood of the nation's largest regional economy, completely shut down. Left in Sandy's wake were eight subway tunnels and vehicular tunnels flooded with corrosive salt water; twelve subway stations with major damage or completely destroyed; an entire bridge and rail line serving the Rockaways in Queens is gone; fifteen miles of damages or destroyed signaling; and rail yards and maintenance shops under-water and damaged. Most of our system is back up and running but we're now seeing another reality - a fragile system that's safe but extremely vulnerable. The MTA estimates $4.755 dollars in immediate repair and restoration needs left in Sandy's destructive wake, and billions more in mitigation project needs to protect the system from future flooding. Sandy will certainly have any impact in our ability to meet the December 2015 deadline.
    We're in strong support of FRA's language calling for the use of alternative risk

mitigation technologies (which should include, but not limited to Cab Signaling with Automatic Train Stop Technology) in lieu of a PTC system on specified line segments.

5. Left blank
6. Left blank

Long Island Rail Road (LIRR) Jamaica, NY

1. While our latest Implementation Date estimate is 12-31-18, the LIRR and MNR PTC Systems Integrator solicitation process is ongoing with many unknowns until a contractor is selected and the procurement is completed.
   As described in the PTCIP, LIRR is basing its design on Amtrak's Type Approved ACSES II, PTC system.
   Under the compressed implementation timeframe, use of ACSES II provides LIRR with the best possibility of providing the requisite PTC functionality within the implementation deadline. However, the ACSES II system is currently being revised to meet the requirements of high-density commuter operations. The high traffic volumes, close headways and reliability demands of commuter service with low tolerance for delay, complex track configurations with close switching areas, precision stop enforcement necessary for operations and multiple-unit rail vehicle configurations continue to be of concern to the LIRR and currently present unknown risks.
   The PTC data radio system needed to handle the demands of commuter rail operation and integration of ACSES require significant development and testing for use in commuter rail operation. Many of the onboard, wayside, back office and communication subsystems have not been fully developed and tested for the demands of high-density commuter operation. Many risks and challenges faced by LIRR in implementing a complete PTC system, which, coupled with the enormity of the undertaking, render meeting the December 2015 Implementation deadline unrealistic, despite LIRR's continuing due diligence and best efforts. In this regard, LIRR is situated similarly as many other commuter and freight railroads, who have stated publically that the December 2015 date cannot be met.
   The critical path for LIRR's PTC Program includes successful implementation of a pilot program consisting of two segments, one cab signal segment and an ABS/CMB segment. The pilot program will provide a full functional test and validation of all PTC system wayside, office and onboard hardware and software. FRA Certification of the LIRR PTC pilot and approval of the PTC Safety Plan is also critical to moving forward with full implementation of the PTC system. Considering the research and development required to implement the necessary functionality to utilize ACSES II in LIRR's complex system and address interoperability, the pilot program is expected to be a lengthy and difficult challenge. Interoperability itself poses a significant challenge, as no national standards have been developed – leaving each and every railroad property to negotiate a path to interoperability on its own. To meet the contemplated December 31, 2018 implementation Date, LIRR/MNR will likely have to incur additional risk related to modifying our Specification to allow the System Integrator/Supplier to deliver certain components prior to completion of the pilot testing.
2. $400M. This estimate does not include monetary contingencies related to a risk assessment, which indicated up to 50% additional costs.
3. Approximately $30M . Federal/State/Local funding.
4.
   a. Left Blank

b. Left Blank
c. It has been a major challenge to produce a preliminary design of an interoperable ASCES II compliant system such that LIRR, in conjunction with MNR, could proceed with an RFP for a System Integrator. The density and complexity of the LIRR and MNR systems outstrip most if not all other railroads in this country. Moving forward, adapting ASCES II systems to our operations will pose challenges and create the potential for unanticipated difficulties as LIRR and MNR select a Systems Integrator and begin final design and implementation. Vendor and industry resources are stretched to the limit, and vendor interactions are hamstrung by proprietary roadblocks. Our joint effort with MNR to obtain usable radio spectrum, still ongoing, has raised further obstacles and created delay. Despite these numerous challenges, LIRR and MNR expect to award a contract for the Systems Integrator in the summer of 2013.
d. Left Blank
e. In addition, the significant scope of installations, both wayside and on-board, coupled with limited labor resources and the demands on those same resources posed by other critical projects, constrains the ability of LIRR to fully implement its PTC system by the 2015 deadline. Significantly, Super Storm Sandy inflicted major damage to parts of the LIRR wayside signal system infrastructure including the Long Beach Branch, and West Side Storage Yard and other parts of the system. LIRR will be replacing infrastructure in these areas including signal, and substation and other components over the next several years. The manpower needed for this work will reduce the personnel available for PTC work. This further impacts the railroad's ability to meet the PTC deadline.
Combining technology risks, pilot program testing, interoperability and spectrum issues, Super Storm Sandy and other labor and resource challenges (as well as the scarcity of funding), notwithstanding LIRR's continuing due diligence and best efforts, full PTC Implementation will not likely be achieved until significantly after the current December 2015 deadline. LIRR supports extending the deadline for commuter railroads to December 31, 2018.

5. We support legislative efforts granting the FRA the authority to approve on a case by case basis additional extensions of the PTC deadline.
6. The SOGR dollars (percentages) below represent the total SOGR Infrastructure investments made or planned during each capital program. Rolling stock and other Administrative costs are not included in the Total Infrastructure investments.

Capital Program	*SOGR Funding*
2005 -2009	$1.3B (80%)
2010 - 2014	$794M (44%)
2015 – 2019 (unconstrained SOGR need)	$1.2B (55%)

MTA Metro-North Railroad (Metro-North) New York City, NY

1. Latest Implementation Date estimate is 12-31-18.
2. $409M. This estimate does not include monetary contingencies related to a risk assessment, which indicated up to 50% additional costs.
3. Approximately $40M . Federal/State/Local funding.
4. As described in the PTCIP, Metro-North is basing its design on Amtrak's Type Approved ACSES II, PTC system. Under the compressed implementation timeframe, use of ACSES II provides Metro-North with the best possibility of providing the requisite PTC functionality within the implementation deadline. However, the ACSES II system is currently being revised to meet the requirements of high-density commuter operations. The high traffic volumes, close headways and reliability demands of commuter service with low tolerance for delay, complex track configurations with close switching areas, precision stop enforcement necessary for operations and multiple-unit rail vehicle configurations continue to be of concern to Metro-North and currently present unknown risks.
   The PTC data radio system needed to handle the demands of commuter rail operation and integration of ACSES require significant development and testing for use in commuter rail operation. Many of the onboard, wayside, back office and communication subsystems have not been fully developed and tested for the demands of high density commuter operation.
   Many risks and challenges faced by Metro-North in implementing a complete PTC system, which, coupled with the enormity of the undertaking, render meeting the December 2015 Implementation deadline unrealistic, despite Metro-North's continuing due diligence and best efforts. In this regard, Metro-North is situated similarly as many other commuter and freight railroads, who have stated publically that the December 2015 date cannot be met.
   a. Left Blank
   b. Left Blank (Referenced in 4(e) as an issue, but not specified)
   c. The LIRR and MNR PTC Systems Integrator solicitation process is ongoing with many unknowns until a contractor is selected and the procurement is completed. It has been a major challenge to produce a preliminary design of an interoperable ASCES II compliant system such that both MTA railroads could proceed with an RFP for a System Integrator. The density and complexity of the LIRR and MNR systems outstrip most if not all other railroads in this country. Moving forward, adapting ASCES II systems to our operations will pose challenges and create the potential for unanticipated difficulties as LIRR and MNR select a Systems Integrator and begin final design and implementation. Interoperability itself poses a significant challenge, as no national standards have been developed – leaving each and every railroad property to negotiate a path to interoperability on its own. To meet the contemplated December 31, 2018 Implementation Date, LIRR/MNR will likely have to incur additional risk related to modifying our Specification to allow the System Integrator/Supplier to deliver certain components prior to completion of the pilot testing.

d. Vendor and industry resources are stretched to the limit, and vendor interactions are hamstrung by proprietary roadblocks. Our joint effort with the LIRR to obtain usable radio spectrum, still ongoing, has raised further obstacles and created delay. Despite these numerous challenges, LIRR and MNR expect to award a contract for the Systems Integrator in the summer of 2013.

e. Combining technology risks, pilot program testing, interoperability and spectrum issues, Super Storm Sandy and other labor and resource challenges (as well as the scarcity of funding), notwithstanding Metro-North's continuing due diligence and best efforts, full PTC Implementation will not likely be achieved until significantly after the current December 2015 deadline. Metro-North supports extending the deadline for commuter railroads to December 31, 2018. In addition to this extension, we support legislative efforts granting the FRA the authority to approve on a case by case basis additional extensions of the PTC deadline.

   The critical path for Metro-North's PTC Program includes successful implementation of a pilot program consisting of two segments on the New Haven Line and on the Hudson Line. The pilot program will provide a full functional test and validation of all PTC system wayside, office and onboard hardware and software. FRA Certification of the PTC pilot and approval of the PTC Safety Plan is also critical to moving forward with full implementation of the PTC system. Considering the research and development required to implement the necessary functionality to utilize ACSES II in Metro-North's complex system and address interoperability, the pilot program is expected to be a lengthy and difficult challenge.

   In addition, the significant scope of installations, both wayside and on-board, coupled with limited labor resources and the demands on those same resources posed by other critical projects, constrains the ability of Metro-North to fully implement its PTC system by the 2015 deadline. Significantly, Super Storm Sandy inflicted major to parts of the Metro-North wayside signal system infrastructure along the Hudson Line. The manpower needed to replace these damaged systems will reduce the personnel available for PTC work. This further impacts the railroad's ability to meet the PTC deadline.

5. Left Blank
6. SOGR and Normal Replacement - $412 million for 2010-2014; estimated $225 million in 2015-2019 (not funded yet).

New Jersey Transit Corporation (NJT) Newark, NJ

1. Projected completion date is 2016.
2. Projected Capital for PTC is $225,000,000; anticipate annual additional operating cost of $2.5 million.
3. $24 million spent to date; all state funded.
4. Left blank
    a. Left blank
    b. Left blank
    c. Left blank
    d. Left blank
    e. Have not yet acquired spectrum. Also, our costs are $225M not $255M as indicated on your form. One unforeseen issue is Super Storm Sandy – NJ Transit has $400M in damage to rolling stock and infrastructure and another $1 billion in projects to harden the system in case of another storm of that magnitude; this may cause NJT to re-prioritize capital dollars once it is determined how much of these needs will be covered by insurance, FTA and FEMA.
5. Left blank
6. If not for PTC we would have additional capital available to do things to enhance the quality of service delivered or to consider service expansion.

Northstar Commuter Railroad (Northstar) Minneapolis, MN

Northstar will be utilizing BNSF's system. We are awaiting their implementation on the corridor. They have delayed the implementation (originally scheduled 2012 now 2014).

1. Mid 2014
2. $2million
3. $450,000 (50%Federal - Northstar FFGA and 50% local)
4. Left blank
    a. Left blank
    b. Left blank
    c. Left blank
    d. Left blank
    e. Left blank
5. Left blank
6. None

Southeastern Pennsylvania Transportation Authority (SEPTA) Philadelphia, PA

1. 12/31/15.
2. $150 Million for ATC and $150 Million for ACSES = $300 Million.
3. $130 Million of State and Federal funds.
4. Freight Interoperability on one six mile shared corridor that we have with CSX remains a problem. CSX is the owner and SEPTA the tenant. A $39 Million separation project requires funding that SEPTA does not have in order to resolve this dilemma.
    a. Left blank
    b. Left blank
    c. Left blank
    d. Left blank
    e. Left blank
5. Are you experiencing any NEW, unforeseen challenges we should call to the attention of FRA and Capitol Hill? What have been the consequences to your implementation timeline and budget? Things have otherwise gone somewhat smoothly for SEPTA but the lack of federal funding for PTC work has greatly hurt our overall Capital Program.
6. We have a $5 Billion backlog of SOGR.

Denver Regional Transportation District (RTD) Denver, CO

RTD has a commuter rail project and future system in the final phases of design and early stages of construction, with opening planned in 2016. Denver Transit Partners is the DBFOM contractor and within the team, which has completed signal design to roughly a 60% level, is Wabtec/Xorail who are responsible for PTC design, integration, and implementation. We currently have no PTC delays on the project schedule and have no new challenges, in fact we recently convened a new IETMS Working Group (which APTA's Lou S. attended in Denver) to improve coordination within the subset of those agencies using IETMS. RTD does not have a spectrum issue as we will use 700MHZ band from RTD's inventory (also part of a state emergency system) and any future radio needs would be ancillary and localized. We have no updates from the SOGR survey but share industry concerns about sufficient component supplies and testing timeframes. As versus other agencies, we are fortunate that Xorail has recently opened a development/lab facility in Englewood (near Denver) which allows for convenient local product and office test reviews.

Alaska Railroad Corporation (AKRR) Anchorage, AK

1. Left Blank
2. Left Blank
3. Left Blank
4.
    a. Lack of funding
    b. 220 MHz frequency – negotiating with PTC 220, LLC but AKRR does not have the insurance required to lease from them. We are negotiating with the PTC220, LLC but have made little progress since AKRR lacks the required insurance required by PTC220 LLC. First difficulty is the insurance requirement for PTC220 LLC.
    c.
    d. Lack of experienced contractors in implementation of the I-ETMS solution. The contractors are needed from the wayside to the office and locomotives. This system has an impact on all areas of a railroad operations and maintenance. ITC I-ETMS requirements continue to evolve that have delayed the software and hardware solution from Wabtec for both the back office and the locomotive.
    e. AKRR is attempting to work with the State of Alaska first responders to seek frequencies is this reserved range similar to the final ruling last month for the State of Maine. This is a long process that if Congress could say that railroad safety is included in public safety would open up in many state some frequency needed for PTC.
5. Nothing new or unforeseen but continue to see delays from Wabtec the prime contractor from I-ETMS that have continued to delay our project implementation.
6. Left Blank

Illinois Regional Transportation Authority (Metra) Chicago, IL

1. Left Blank
2. Left Blank
3. Left Blank
4.
    a. One impediment to meeting the 2015 deadline is the slow start we got due to the lack of funding in the early years. We did not have funds to hire enough signal design consulting firms to complete the project designs and write the specifications for equipment to keep on schedule. Most of that work is now completed, but it will take many months to publicly bid and award the contracts. A related factor to being behind schedule was not having adequate "in-house" signal engineers to manage the project, including reviewing the consulting engineer's design.
    Another major factor is competing priorities for funding.
    b. Metra has prepared an IFB to acquire frequency spectrum, but has not released it while it investigates its options relative to the consortium known as PTC-220, LLC. The process put in place by the federal government makes it very difficult for a property such as Metra to obtain 220 Mhz frequency spectrum. To date, the FCC has refused to provide commuter rail properties the 220 Mhz frequency spectrum they hold and want to auction. To date, Congress has not developed legislation that would force the FCC to provide that spectrum to the commuter rail properties. Frequency spectrum is not as simple as just purchasing spectrum on the open market and dropping it into the bucket for use in the Chicago terminal region. Given the complexities of the terminal, there must be carful coordination with a number of freight properties that all converge in this region. The result is the high potential that Metra will have to work through the freight railroad consortium known as PTC-220, LLC in order to obtain coverage for both its own property and its share of the properties Metra runs on. Again, the result could be the inability for Metra to control its costs in this area and unknown licensing and maintenance costs perpetually into the future. Healthy competition is usually the only way to help ensure cost containment. In 2011, PTC-220, LLC hired Transportation Technology Center, Inc., better known as TTCI, to conduct a "Spectrum Demand" study for the Chicago area. The study was designed to be conducted in 2 phases. Phase 1 would determine the number of 220 Mhz channels necessary to operate PTC. Phase 2 would determine base station quantities, locations, frequency channel assignments and detailed design parameters for the base station network. Phase 1 took into consideration both the freight's and Metra's operating schedules to determine the demand of the region. The results of Phase 1 showed that 19 channels of 220 Mhz frequency spectrum would be required for PTC to operate in the Chicago area. Phase 2 of the study is currently being conducted and is expected to be completed by the end of 2013.
    Currently, PTC-220, LLC owns 14 channels of 220 Mhz in the Chicago area. With

the results from TTCI requiring 19 channels of frequency spectrum to operate PTC, an additional 5 channels of frequency spectrum need to be acquired. Ideally, Metra would like to provide its share of the remaining 5 channels in an effort to control up front capital costs and on-going maintenance costs. The challenge is for Congress to mandate to the FCC to release those channels to Metra in a timely fashion that will help ensure no further disruption in the delivery of PTC.

Metra is exploring 3 options to acquire 220 Mhz frequency spectrum:

Metra is currently negotiating the terms of a Non-Disclosure Agreement with PTC-220, LLC in order to begin discussions regarding the leasing of frequency spectrum. In addition, Metra is also considering the possibility of becoming a member of PTC-220 LLC. The benefits of Metra joining PTC-220, LLC will be determined once the NDA is executed.

Metra has identified frequency spectrum in the 220 Mhz band that is available for purchase in the Chicago market. At this time, Metra has not entered into the procurement process, but has retained legal counsel with PTC experience to assist in the bid for spectrum, if Metra decides to purchase the spectrum.

Metra remains hopeful that in 2013 Congress will act in time and compel the FCC to release 220 Mhz frequency spectrum to the commuter railroads across the nation, and at no cost to the publically owned commuter railroad properties.

Metra believes an additional 5 channels of frequency spectrum will be required to successfully operate PTC in Chicago. Whether the remaining 5 channels of frequency spectrum are acquired by PTC-220, LLC or by Metra, entering into a leasing agreement with PTC-220, LLC is most likely unavoidable. But if Metra decides to purchase the additional 5 channels of frequency spectrum, doing so will at least provide some bargaining leverage when negotiating for Metra's share of the coverage in the six-county region of Illinois served by Metra.

c. Left Blank
d. Left Blank
e. Left Blank

5. PTC is an unfunded mandate that is adding enormous pressure to an already complicated funding outlook for state of good repair. The federal government originally dedicated $50 million nationwide for PTC and then subsequently pulled that funding back.
   One new and unforeseen challenge is the "Buy America" clause. Many of the electrical components are not made in the US, but are assembled here. The federal government seems to be taking a more restrictive stance on this issue and it is becoming impossible to meet "Buy America". Also, the development of the I-ETMS System is still not fully developed and appears to have many challenges ahead.

The process put in place by the federal government has resulted in only one single company having the ability to provide key radios and software. Not only should this approach be further investigated but the results of such a sole source mandate include a lack of healthy competition and the inability of Metra to control costs. We are also concerned about the potential that the single source company cannot keep up with the demand for equipment as all passenger and freight railroads across the nation attempt to meet the same deadline.

Metra has increasing concerns about this new untested technology and the potential of system failures. The federal government should commission a study on the potential impacts of PTC system failure. Metra runs 700 weekday trains providing 300,000 trips per day on eleven lines. A Metra train consist may have as many as 1,500 people aboard and our peak hour headways are as tight as ten minutes. If a PTC failure were to occur on a train that is in-route to a terminal or loaded with passengers and ready to depart a terminal, the outcome would be severe. First, some of our terminals are not large enough to handle this overflow of disrupted customers. Second, in the peak hour, the next train is likely fully loaded and unable to accommodate very many, if any, of the passengers that are inconvenienced by the PTC disruption.

6. Over the next ten years, Metra projects a shortfall in state of good repair funding in excess of $7 billion. This shortfall recognizes and includes the underfunded need to buy new locomotives, or at the very minimum, funds to rehabilitate locomotives that should otherwise be retired. Metra is a good fiduciary of the public trust in that we work strategically to extend the life of our passenger cars to fifty or more years of life. While a new passenger car can cost upwards of $2.8 million/car, Metra rehabilitates some of its passenger cars on the property for about $700K/car. However, funding shortfalls are restricting the number of cars we can rehabilitate on an annual basis, resulting in the agency falling further and further behind. Another major capital investment category is bridge replacements. Metra operates on over 800 bridges across the six-county service region and must maintain and inspect 377 of those bridges and must co-fund repairs and replacements of other bridges on territory we operate on but do not own. Finally, 463 bridges on our system are 102 years old or older.

Northern Indiana Commuter Transportation District (NICTD) Chesterton, IN

1. 2018
2. $35-$40m - for reference, NICTD's total operating budget is $43m
3. $1m, all local funds
4. All of the above.
    a. We have not identified a long term funding source for PTC, but we are meeting with the RRIF office at FRA to discuss that as a resource.
    b. We are totally dependent on freight rail buildout for communication and spectrum.
    c. Left Blank
    d. Left Blank
    e. Until the Chicago terminal is equipped with an interoperable system we cannot move forward.
5. Left Blank
6. $548m from now until 2022, this number includes PTC

Nashville Regional Transportation Authority (Nashville) Nashville, TN

1. With the lack of funding options, we are currently 27 months behind the implementation schedule originally submitted. I would estimate our new completion date to be approximately Spring, 2016.
2. We have not had the funding to hire a consultant to begin the process to study the cost. I have obtained cost information from other comparable rail systems and estimate our cost to be approximately $20,000,000 based on that information.
3. To date, there has been minimal investment in PTC for our system in cash; however, we have spent countless administrative labor hours studying this problem.
4.
    a. Just last month, we secured funding to begin implementation of PTC. Over FY 13, FY 14 and FY 15, we have $8,800,000 set aside for PTC. We still need to come up with the balance of approximately $11,200,000.
    b. Have not started research on purchase of spectrum.
    c. Do not know if this is a problem at this point.
    d. This does not appear to be a problem.
    e.
5. No unforeseen challenges; just the funding issue. Before this year, the RTA of Middle Tennessee has had virtually no discretionary capital money. This year we became eligible for some Fixed Guideway capital money. Plans for capital replacement, expansion, and maintenance programs will be deferred, as the money is redirected to the PTC project.
6. We have an unfunded deficit of approximately $11,200,000.

Utah Transit Authority (Utah) Salt Lake City, UT

1. December 31, 2015
2. $25,000,000
3. $8,000,000 All local funds, from sales tax receipts
4. Left Blank
    a. Left Blank
    b. Left Blank
    c. Left Blank
    d. Left Blank
    e. Left Blank
5. Our challenges continue to be the use of equipment and technology that is not used on our system or any system as of now.
6. $117,000,000 for 2014

North County Transit District (NCTD) Oceanside, CA

1. NCTD is scheduled to complete our PTC project by the federally mandated deadline of 12/31/2015.
2. $87,292,969
3. NCTD's PTC project is fully funded. We have secured a combination of Federal, State and local funding. Expended to date: $20,592,158
4. NCTD is on target to meet the December 15 deadline
    a. Left Blank
    b. Temporary spectrum has been acquired to support propagation studies. Permanent spectrum is presently awaiting assignment by PTC220 LLC as they are working our global spectrum assignments and time slot assignments. The NCTD PTC design will require 220MHz spectrum. The only obstacle is the wait for PTC220 LLC to complete the global spectrum assignments and time slot assignments.
    c. Left Blank
    d. Left Blank
    e. Left Blank
5. Elements of the back office applications remain under development and have the potential to impact both timeline and budget.
6. Left Blank

Southern California Regional Rail Authority (Metrolink) Los Angeles, CA

1. We are striving to have PTC on our San Gabriel subdivision (the San Bernardino Line) by September 2013. This line will be in revenue demonstration meaning that PTC will be fully functioning on the line but it will not be certified by the FRA. We anticipate that the FRA can take up to 180 days for certification. We anticipate that the rest of the lines will be in place by the first quarter of 2014 and certified by the second quarter of 2014.
2. The PTC program budget is $210 million. At this time, we believe we can absorb the additional costs associated with challenges by drawing down our remaining contingency and finding other savings on the project. Unfortunately, that would leave no contingency for future unforeseen costs or potential delays associated with a prolonged FRA certification process or contract close-out.
3. Through April 2013, Metrolink has expended approximately $130 million of its $210 million PTC program budget. The program is funded by 40 separate grant allocations. The funding source is split roughly 11% local, 73% state, and 16% federal. A summary list of the grants is attached below.
4. Not Applicable
5. Left blank
6. SOGR funding requirements for the Metrolink system are estimated to average $72M per year over the next 5 years. This includes track, structures, signal and communication systems, system safety, rolling stock, fare collection systems, vehicles and facilities. Metrolink's proposed Rehabilitation budget for FY 2013-14 is $34M. PTC SOGR, including CAD and communication system rehabilitation is estimated to be approximately $5M per year.

Commuter Rail Spectrum Needs

(reflects changes from 2010 TCRP Report)
July 31, 2013

State	Commuter Rail Agency	AGENCY (short)	Anticipated Spectrum Needs (in kHz) (2010 TCRP quick study)	Actual Spectrum Needs (in kHz)
AK	Alaska Railroad Corporation (ARRC) Anchorage, AK	AKRR	425	200
CA	Southern California Regional Rail Authority (Metrolink) Los Angeles, CA	SCRRA	500	700-1000*
CA	Peninsula Corridor Joint Powers Board (PCJPB) San Francisco-Oakland, CA	PCJPB	325	
CA	North County Transit District (NCTD) Oceanside San Diego, CA	NCTD	325	175
CA	Altamont Commuter Express (ACE) Stockton, CA	ACE	350	
CT	Connecticut Department of Transportation (CDOT) (East shore line) Hartford, CT	CDOT	300	
FL	South Florida Regional Transportation Authority (TRI-Rail) Pompano Beach/Miami, FL	SFRTA	325	325
IL	Northeast Illinois Regional Commuter Railroad Corporation (Metra) Chicago, IL	METRA	600	
IN	Northern Indiana Commuter Transportation District (NICTD) Chicago, IL-Chesterton, IN	NICTD	350	150
MA	Massachusetts Bay Transportation Authority (MBTA) Boston, MA	MBTA	475	
MD	Maryland Transit Administration (MTA) [Brunswick and Camden lines Only] Baltimore, MD	MARC	475	Sharing CSX/Amtrak
ME	Northern New England Passenger Rail Authority (NNEPRA) Portland Boston, MA-NH-RI	NNEPRA	350	
MN	Metro Transit Minneapolis-St. Paul, MN	Northstar	275	
NJ	New Jersey Transit Corporation (NJ TRANSIT) Newark, NJ	NJT	500	500
NM	Rio Metro Regional Transit District (RTD) (NM Rail Runner Express) Albuquerque, NM	NM RailRunner	375	
NY	MTA Long Island Rail Road (MTA LIRR) Jamaica New York	LIRR	475	475

NY	Metro-North Commuter Railroad Company (MTA-MNCR) New York New York	MNR	550	550
OR	Tri-County Metropolitan Transportation District of Oregon (TriMet) Portland, OR	TriMet	250	0**
PA	Southeastern Pennsylvania Transportation Authority (SEPTA) Philadelphia, PA	SEPTA	450	450
PA	Pennsylvania Department of Transportation (PENNDOT) Harrisburg, PA	PENNDOT	575	
TN	Regional Transportation Authority (RTA) Nashville, TN	Nashville	250	unknown
TX	Trinity Railway Express (TRE) Dallas-Fort Worth-Arlington, TX	TRE	275	225-250
TX	Fort Worth Transportation Authority (The T) (Planned Cottonbelt line) Fort Worth Dallas-Fort Worth-Arlington, TX	Ft Worth T-Rex (new project)		225-250
TX	Denton County Transit Authority (DCTA) Denton, TX	Denton Co	250	100-150
TX	Capital Metro Austin, TX	CapMetro	250	0**
UT	Utah Transit Authority (UTA) Salt Lake City, UT	UTA	300	0**
VA	Virginia Railway Express (VRE) Alexandria, VA	VRE	325	225
WA	Central Puget Sound Regional Transit Authority (ST) Seattle, WA	Sound Transit	425	unknown
NOTE: Missing data indicates no change anticipated from 2010 Report. CDOT, PENNDOT and NNEPRA were not surveyed by APTA.				
NOTE #2: NY MTA has been unable to acquire spectrum in 4 of the 9 counties in which it operates.				
* Metrolink spectrum estimates include needs anticipated up to 10 years from implementation.				
** These agencies have a spectrum requirement of 0 kHz because they are currently pursuing a non-communications-based model.				

List of Polled Agencies

Alaska Railroad Corporation	Anchorage	AK
Altamont Commuter Express	Stockton	CA
Capital Metropolitan Transportation Authority	Austin	TX
Central Puget Sound Regional Transit Authority	Seattle	WA
Connecticut Department of Transportation	Newington	CT
Dallas Area Rapid Transit	Dallas	TX
Denton County Transportation Authority	Lewisville	TX
Fort Worth Transportation Authority	Fort Worth	TX
Maryland Transit Administration	Baltimore	MD
Massachusetts Bay Transportation Authority	Boston	MA
Metro Transit	Minneapolis	MN
Metro-North Commuter Railroad Company, (MTA Metro-North Railroad)	New York	NY
MTA Long Island Rail Road	Jamaica	NY
New Jersey Transit Corporation	Newark	NY
North County Transit District	Oceanside	CA
Northeast Illinois Regional Commuter Railroad Corporation (MetraRail)	Chicago	IL
Northern Indiana Commuter Transportation District	Chesterton	IL
Northern New England Passenger Rail Authority	Portland	MA
Peninsula Corridor Joint Powers Board (Caltrain)	San Carlos	CA
Pennsylvania Department of Transportation	Harrisburg	PA
Regional Transportation Authority	Nashville	TN
Rio Metro Regional Transit District	Albuquerque	NM
Riverside County Transportation Commission	Riverside	CA
South Florida Regional Transportation Authority	Pompano Beach	FL
Southeastern Pennsylvania Transportation Authority	Philadelphia	PA
Southern California Regional Rail Authority dba: Metrolink	Los Angeles	CA
Staten Island Rapid Transit Operating Authority, dba: MTA Staten Island Railway	Staten Island	NY
Tri-County Metropolitan Transportation District of Oregon	Portland	OR
Utah Transit Authority	Salt Lake City	UT
Virginia Railway Express	Alexandria	DC
Winston-Salem Transit Authority - Trans-Aid of Forsyth County	Winston-Salem	NC

TESTIMONY OF

EDWARD R. HAMBERGER

PRESIDENT & CHIEF EXECUTIVE OFFICER

ASSOCIATION OF AMERICAN RAILROADS

BEFORE THE

UNITED STATES HOUSE OF REPRESENTATIVES
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE

HEARING ON RAIL POLICY AND THE REAUTHORIZATION OF THE PASSENGER RAIL INVESTMENT AND IMPROVEMENT ACT OF 2008

JUNE 27, 2013

Association of American Railroads
425 Third Street, S.W.
Washington, DC 20024
202-639-2100

Introduction

On behalf of the members of the Association of American Railroads, thank you for the opportunity to discuss issues surrounding the reauthorization of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA). AAR freight railroad members, which include the seven large U.S. Class I railroads as well as approximately 170 U.S. short line and regional railroads, account for the vast majority of freight railroad mileage, employees, and traffic in Canada, Mexico, and the United States. Amtrak and several commuter railroads are also members of the AAR. The AAR is presenting this testimony on behalf of its freight railroad members only.

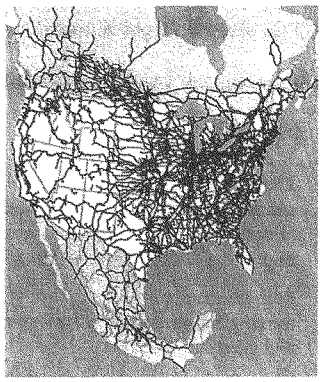
Passenger railroading plays a key role in alleviating highway and airport congestion, decreasing dependence on foreign oil, reducing pollution, and enhancing mobility and safety. All of us want passenger railroads that are safe, efficient, and responsive to the transportation needs of our country.

Meanwhile, America is connected by the most efficient, affordable, and environmentally responsible freight rail system in the world. Whenever Americans grow something, eat something, export something, import something, make something, turn on a light, or get dressed, it's likely that freight railroads were involved somewhere along the line. Looking ahead, America cannot prosper in an increasingly competitive global marketplace without a best-in-the-world freight rail system.

We think our nation can have both safe, effective passenger railroading *and* a safe, productive, world-best freight rail system. Freight railroads want passenger railroads to succeed, they work cooperatively with passenger railroads to help make this happen, and they support government efforts to grow passenger rail in ways that complement freight rail growth. The reauthorization of PRIIA presents an opportunity for policymakers to help achieve this goal.

Freight Railroads Are the Transportation Backbone of America

North America's Rail Network



America's freight railroads and their 140,000-mile network serve nearly every industrial, wholesale, retail, and resource-based sector of our economy. In fact, they carry just about everything.

U.S. railroads carry more coal than any other single commodity. Historically, coal has generated much more electricity than any other fuel source, and more than 70 percent of coal is delivered to power plants by rail. But railroads also carry enormous amounts of corn, wheat, soybeans, and other grains; fertilizers, plastic resins, and a vast array of other chemicals; cement, sand, and crushed stone to build our highways; lumber and drywall to build our homes; animal feed, canned goods, corn syrup, flour, frozen chickens, sugar, beer, and countless other food products; steel and other metal products; crude oil, asphalt, liquefied gases, and many other petroleum products; newsprint, paperboard, recycled paper and other paper products; autos and auto parts; iron ore for steelmaking; wind turbines, airplane fuselages, machinery and other industrial equipment; and much, much more.

Rail intermodal — the transport of shipping containers and truck trailers on railroad flatcars — has grown tremendously over the past 25 years. Today, just about everything you find on a retailer's shelves may have traveled on an intermodal train. Increasing amounts of industrial goods are transported by intermodal trains as well.

Given the volume of rail freight (close to two billion tons and 30 million carloads in a typical year) and the long distances that freight moves by rail (nearly 1,000 miles, on average), it's hard to overstate freight railroads' role in our economy. The rail share of freight ton-miles is about 40 percent, more than any other transportation mode. But freight rail's contribution to our nation extends far beyond that:

- Thanks to competitive rail rates — 44 percent lower, on average, in 2012 than in 1980[1] and the lowest among major industrialized countries — freight railroads save consumers billions of dollars every year, making U.S. goods more competitive here and abroad and improving our standard of living.
- Railroads are, on average, four times more fuel efficient than trucks. That means that moving freight by rail helps our environment by reducing energy consumption, pollution, and greenhouse gases.
- Because a single train can carry the freight of several hundred trucks — enough to replace a 12-mile long convoy of trucks on the highways — railroads cut highway gridlock and reduce the high costs of highway construction and maintenance.
- America's freight railroads are privately owned and operate almost exclusively on infrastructure that they own, build, maintain, and pay for themselves. When railroads reinvest in their networks — which they've been doing in record amounts in recent years — it means taxpayers don't have to.
- Railroads are safe and getting safer: 2012 was the safest year in history for railroads, breaking the record set in 2011, which in turn broke the record set in 2010.
- America's freight railroads sustain 1.2 million jobs, including 180,000 high-paying jobs in the freight rail industry itself. Millions of other Americans work in industries that are more competitive in the global economy thanks to the affordability and productivity of America's freight railroads.[2]

For all these reasons, I respectfully suggest that it is in the public interest to enact policies that result in more freight moving by rail.

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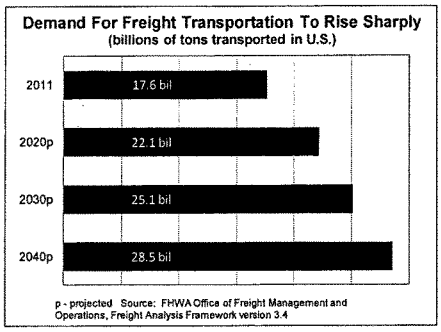
[1] As measured by inflation-adjusted revenue per ton-mile.

[2] For much more background on the U.S. freight rail industry, see my March 5, 2013 testimony to the Subcommittee on Railroads, Pipelines, and Hazardous Materials of the Committee on Transportation and Infrastructure.

Preparing For Tomorrow Today

Railroads are proud of their contributions to our nation, but we can't just sit still. In the years ahead, America's demand for safe, affordable, and environmentally responsible freight transportation will grow. Recent forecasts reported by the Federal Highway Administration found that total U.S. freight shipments will rise from an estimated 17.6 billion tons in 2011 to 28.5 billion tons in 2040 — a 62 percent increase. Railroads are the best way to meet that demand.



No one, and certainly not railroads, disputes that motor carriers are absolutely indispensable to our economy and quality of life, and will remain so long into the future. That said, because of the enormous cost involved in building new highways, as well as environmental and land use concerns, it is highly unlikely that sufficient highway capacity can be built to handle expected future growth in freight transportation demand.

The United States has the world's most highly developed highway network, built and maintained at enormous public cost over the years. According to data from the FHWA, in 2011 alone, states disbursed $94 billion just on capital outlays and maintenance for highways.[3] Adding in other expenses such as administration and planning, law enforcement, interest, and grants to local governments brings total disbursements for highways to $150 billion in 2011. Even this huge level of spending, however, is widely considered inadequate to meet present-day, much less future, needs.

[3] Federal Highway Administration, Highway Statistics 2011, Table SF-2.

Fortunately, freight rail in general, and intermodal rail specifically, represents a viable and socially beneficial complement to highway freight movement. Today, rail intermodal takes millions of trucks off our highways each year, and its potential to play a much larger role in the future is enormous, both in traditional transcontinental markets and in new short- and middle-distance lanes. In the context of ports, railroads offer tremendous potential in safely and efficiently moving freight to and from port facilities, thereby greatly enhancing overall transportation productivity. In addition, a significant portion of the merchandise that railroads transport in their carload business (in addition to intermodal containers or trailers) is directly truck competitive. Shippers choose to move this freight on railroads because they find that the value railroads offer, in terms of cost and service, is superior. Railroads recognize that they will have to continue to work hard to earn this business, which is why they are constantly searching for ways to further improve productivity, reduce costs for their customers, and enhance their service offerings.

This does not mean that we should stop building highways or that we should no longer recognize the importance of trucks and highways in meeting our nation's transportation needs, but it does mean that policymakers should be doubly aware of the role railroads play, and can play, in meeting freight transportation demand. As manufacturing has become more global and as supply chains have become longer and more complex, the railroads' intermodal service has come to play a critical role in making the supply chains of a wide variety of shippers efficient.

First Mile-Last Mile Improvements

One of the main reasons why the United States has the world's most efficient total freight transportation system is the willingness and ability of firms associated with various modes to work together in ways that benefit their customers and the economy. That said, where freight is

handed off from one mode to another — for example, at ports from ships to railroads or from ships to trucks, or from railroads to trucks at intermodal terminals — freight movements are highly vulnerable to disruptions. Policymakers can help by implementing programs that improve these "first mile" and "last mile" intermodal connections. This would lead to especially large increases in efficiency and fluidity and forge a stronger, more effective total transportation package.

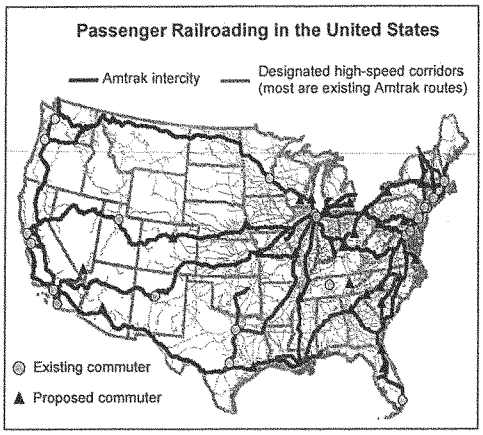
Railroads are gratified that the current administration and legislators in both parties and in both houses of Congress have shown a strong commitment to multi-modalism. That's evidenced, for example, in the evaluation and selection process for TIGER grants. To date, several dozen projects that have received TIGER grant funding have been associated in one way or another with freight railroads, and many of those projects are aimed at improving transportation performance by more effectively integrating different transportation modes.

Some intermodal connection infrastructure projects that are of national and regional significance in terms of freight movement could be too costly for a local government or state to fund. Consequently, federal funding awarded through a competitive discretionary grant process, like the TIGER program, has been an appropriate approach for these needs.

Attention to first- and last-mile connections is a critical element of both local and state freight planning and policy as well. At the local level, for example, land use planning has been largely inadequate in appropriately accommodating the needs of freight. Freight movement — whether in rail yards, intermodal facilities, ports, or regional distribution — must be sufficiently taken into account when planning land uses such as residential developments, schools, and recreational areas.

Passenger Rail to Enhance Mobility

Our nation's privately-owned freight railroads are already partners with passenger railroads all across the country. Approximately 93 percent of Amtrak's approximately 21,300-mile system consists of tracks owned and maintained by freight railroads, and more than 60 percent of the miles traveled by Amtrak trains are on tracks owned by freight railroads. Freight railroads also furnish other essential services to Amtrak, including train dispatching, emergency repairs, station maintenance, and, in some cases, police protection and communications capabilities. In addition, hundreds of millions of commuter trips each year occur on commuter rail systems that operate at least partially over tracks or right-of-way owned by freight railroads, and most of the high-speed and intercity passenger rail projects under development nationwide will utilize freight-owned facilities.



Reshaping the nation's passenger transportation system with expanded rail choices entails significant challenges. There has been a great deal of discussion in recent years — and a great deal of disagreement — on how to deal with these challenges. I respectfully suggest, however, that there should be no disagreement that America's economic health and global competitiveness would suffer greatly if the expansion of passenger rail service were to impede our nation's freight railroads.

Thus, for passenger rail expansion to succeed, all parties — policymakers, railroads, and others — must understand that America's economic health and global competitiveness would suffer greatly if the integration of freight service with expanding passenger service is not planned and implemented to ensure the ongoing success of both services. To paraphrase Transportation Secretary Ray LaHood, we should not try to create a world-class high-speed rail system at the expense of our world-class freight rail system.

Through their ownership of the vast majority of the rights-of-way over which expanded intercity passenger rail would take place, freight railroads provide the foundation for passenger rail. That's why great care must be taken to ensure there will be a regulatory and legal framework that protects the business needs and responsibilities of all parties.

In that regard, freight railroads strongly support existing federal guidelines that stipulate that states receiving federal grants for intercity and high-speed rail projects must have written agreements up front with host freight railroads. The issues addressed — such as safety, capacity, compensation, and liability — help to ensure that all parties are on the same page, protect all parties' interests, and avoid unpleasant surprises later.

Principles to Guide the Expansion of Passenger Rail

As noted at the outset, freight railroads agree that passenger railroading can play a key role in alleviating highway and airport congestion, decreasing dependence on foreign oil, reducing pollution, and enhancing mobility and safety. At the same time, however, the ultimate success of passenger rail in this country, and including especially high-speed rail, will depend on the willingness of policymakers to address, in a serious and realistic fashion, the numerous financial, legal, and operational issues associated with passenger rail. We believe these challenges can be more easily met if five key principles are followed.

One, *safety comes first.* Railroads are an extremely safe way to move both people and freight, and everyone involved in railroading wants to keep it that way. That's why safety has to come first when it comes to passenger trains sharing track or rights-of-way with freight trains. Under certain conditions (case-by-case evaluations are always necessary), passenger trains operating at speeds over 79 miles per hour may be able to safely share tracks with freight trains. Where separate passenger tracks are required, AAR believes safety would be enhanced if these separate tracks were sufficiently far apart to minimize the likelihood that a derailment on one track could foul an adjacent track and lead to a collision involving a freight and passenger train.

Second, *capacity issues must be properly addressed.* As noted above, over the coming decades, population and economic growth will mean sharply higher demand for freight transportation, and railroads are the best way to meet this demand. But if passenger rail impedes freight rail and forces freight that otherwise would move by rail onto the highway, many of the primary reasons for having passenger rail in the first place — enhanced mobility, reduced congestion, and environmental benefits — would be compromised.

On many corridors, current or expected freight traffic levels usually mean there is no spare capacity for passenger trains. In these cases, new capacity will be needed before passenger trains can operate. New infrastructure built for passenger trains should fully preserve both the ability to operate freight trains as needed and the opportunity to expand further freight service as the need arises in the future, including the ability of the freight railroad to access new customers along the right-of-way. In other words, passenger rail projects cannot "box in" the freight railroad so that new freight customers cannot access the freight railroad. This would limit the ability of the freight railroad to grow and subvert good public policy by potentially forcing this business to go by truck over roads.

Third, if passenger trains use freight railroad assets and property, it is reasonable for the host freight railroad to expect *full and fair compensation*. Simply put, freight railroads should not be expected to subsidize passenger rail any more than firms that provide locomotives, fuel, or food for dining cars. Tracks on which passenger trains operate, particularly high-speed trains, must meet different standards requiring significantly higher and more expensive maintenance than tracks on which freight trains operate. Host freight railroads should be fully compensated for these and any other added costs involved.[4] Moreover, railroads should not be subject to any new local, state, or federal tax liability as a result of a passenger rail project.

Fourth, freight railroads must be adequately *protected from liability* that would not have resulted but for the added presence of passenger rail service. It is almost inevitable that some accidents will occur on railroads, despite railroads' best efforts to prevent them. An accident involving passenger trains — which are generally far lighter than freight trains, often travel at much higher speeds, and, most importantly, have passengers on board — is far more likely to involve significant casualties than an accident involving only freight trains. Passenger operations also bring more people onto railroad property, resulting in a corresponding increase in risk. These potentially ruinous risks make freight railroads extremely reluctant to allow passenger trains on their tracks without adequate protection from liability.

Finally, there can be *no one-size-fits-all approach*. Each project involving passenger rail on freight-owned tracks in general, and high-speed rail projects in particular, has its own unique challenges and circumstances. Freight railroads currently and will continue to do their best to

[4] By statute, access fees that Amtrak pays to operate over the freight railroads' tracks are only required to cover the "incremental" costs associated with Amtrak's operations — that is, the additional costs that arise solely because of Amtrak's presence. Amtrak is not required to contribute to the freight railroads' fixed costs or to the shared costs for which Amtrak operations have a responsibility. Consequently, Amtrak's "track rental fee" is low and is, for all intents and purposes, an indirect subsidy paid by freight railroads to Amtrak. This means that the current structure by which Amtrak "rents" freight tracks should not necessarily serve as a guidepost for the future.

work with policymakers and passenger rail operators to overcome these challenges. For this to happen, agreements must be tailored to the specific needs and conditions of each project, which is why each project must be evaluated on a case-by-case basis.

Features of PRIIA Reauthorization

As this committee and others in Congress address the reauthorization of PRIIA, I respectfully urge you to keep the following points in mind.

Funding for Amtrak

Funding for passenger rail is, of course, a critical and often controversial issue. Freight railroads should not be obligated to fund passenger rail service or suffer negative effects on their own operations because of passenger rail. Nor should freight railroads be expected to pay for infrastructure investments that do not benefit them or that they do not want. That said, as this committee and others debate the reauthorization of PRIIA and related issues regarding the future of Amtrak, we hope you agree that once policymakers agree on the nature and scope of passenger railroading in this country, they must be willing to commit public funds on a long-term basis commensurate with that determination.

It is not reasonable to expect Amtrak to be able to plan, build, and maintain adequate infrastructure that provides optimal transportation mobility and connectivity when there is so much uncertainty regarding what its capital and operating funding will be from one year to the next. Freight railroads agree with Amtrak CEO Joseph Boardman when he said, "If Congress provides predictable and needed levels of federal funding support, Amtrak and our state partners

can better deliver a future of improved reliability, enhanced capacity, more service, increased speeds and reduced trip times on the Northeast Corridor and other passenger rail corridors around the country, including the development of new ones."[5]

On-Time Performance Metrics

Since passage of the Rail Passenger Service Act of 1970 (RPSA), which created Amtrak, Amtrak and freight railroads have worked together to establish and implement the rules and procedures governing the complex interactions between the parties. Most of these rules and procedures are spelled out in formal operating agreements negotiated between Amtrak and the freight railroads that host Amtrak trains.[6] These operating agreements, which are periodically renegotiated, are the products of decades of real-world experience regarding what works well and what does not. The freight railroads and Amtrak are in a far better position than anyone else to determine, working together, what these operating agreements should contain and how they should be structured.

For example, one area of concern typically covered by these operating agreements is on-time performance and other service quality standards. The agreements typically include clauses that provide incentives and penalties to freight railroads to help ensure that Amtrak trains operating on freight railroads' tracks reach certain specified on-time targets.

This is a tremendously complex issue for many reasons. When Amtrak was created in 1971, freight railroads had significant excess capacity. Since then, freight carriers have shed much of their excess capacity, and traffic growth has consumed much of what remained. Today,

[5] Amtrak press release, May 1, 2013.

[6] Some of the basic features of the freight railroad-Amtrak relationship are defined by the RPSA itself. For example, the RPSA explicitly orders freight railroads to grant preference to Amtrak trains over their own trains and all other customers and grants Amtrak the power to force freight railroads to convey property to it if the property is necessary for intercity rail passenger transportation. See also footnote four above on Amtrak payments to freight railroads.

many segments of the U.S. freight rail system are capacity constrained, such that when an Amtrak delay occurs, substantial freight traffic means that Amtrak trains are often less able to recover lost time. Exacerbating the situation is the fact that a number of Amtrak routes coexist with freight operations not only on single-track corridors, but also on heavily-used, capacity-constrained double-track corridors. This issue will not be going away any time soon: as noted earlier, the long-term forecast is for much higher freight transportation demand. Demand for passenger rail is expected to grow as well.

Day-to-day realities of the rail network come into play too. For example, from time to time railroads reduce allowable operating speed for safety reasons when it is warranted by the condition of the tracks. Although these "slow orders" can cause delays for trains of all types, safety must take precedence over everything else. Similarly, railroads must devote sufficient time to needed track and signal maintenance. This often produces unavoidable delays in the short term for freight and passenger trains, but improves service reliability — and enhances safety — in the long term.

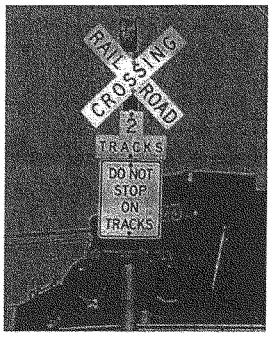
Obviously, Amtrak wants its trains to run on time. Freight railroads understand this and work closely with Amtrak to help make this happen. The key point, though, is that the establishment and measurement of schedules and on-time performance metrics should be undertaken jointly by host freight railroads and Amtrak and governed by private bilateral contracts and the facts and circumstances of particular routes, not by one-size-fits-all legislative mandates. The railroads involved are in the best position to have a clear understanding of the cause of the delays that occur on a particular rail system and how they can be reduced going forward. This kind of shared contract-based responsibility has worked well in the past, enabling Amtrak and freight railroads to better address problems and improve service, which, after all, is

the ultimate goal. That's also why freight railroads oppose legislative provisions that penalize freight railroads for Amtrak delays. Penalties inject antagonism and mistrust into what should be a cooperative relationship.

PRIIA contains a provision that required the FRA and Amtrak to jointly develop metrics and standards to measure the performance and service quality of intercity passenger trains. Freight railroads viewed this delegation of rulemaking authority to Amtrak as contrary to the Constitution and have sought judicial intervention. A decision on this case is expected soon. Depending on the outcome, the status of the on-time standards developed under PRIIA will be affected and may need to be revised by Congress. It would be best if Congress modified the PRIIA metrics and standards provisions to give precedence to the performance standards contained in the operating agreements negotiated between Amtrak and the particular host freight railroad.

Section 130 Program

Under the federal "Section 130" program, $220 million in federal funds are divided among the states each year for installing new active warning devices, upgrading existing devices, and improving grade crossing surfaces. Several years ago, FRA noted that the Section 130 program "has helped prevent over 10,500 fatalities and 51,000 nonfatal injuries." Those figures are surely much higher now.



Without a budgetary set-aside like the Section 130 program, grade crossing needs would fare poorly in competition with more traditional highway needs such as highway construction and maintenance. Indeed, one of the

primary reasons the Section 130 program was created in the first place was that highway safety — and especially grade crossing safety — traditionally received low funding priority. The surface transportation bill signed into law on July 6, 2012 continues dedicated funding for this important program for two more years and means more injuries averted and more lives saved. Railroads urge you to retain dedicated funding for the Section 130 program when you reauthorize MAP-21.

In addition, because the safest grade crossing is the one that no longer exists, we recommend that Congress consider measures that would provide incentives for grade crossing closures. One approach may be to give latitude to the U.S. Department of Transportation to give preferential consideration to state passenger rail grant applications that include detailed goals and plans for grade crossing closures within passenger rail corridors. The goals could be based on FRA's 2009 "Highway-Rail Grade Crossing Guidelines for High-Speed Passenger Rail," which notes that "[g]ood planning that consolidates crossings and substitutes grade separations for at-grade crossings will significantly enhance mobility and contribute to livable communities."[7] Another approach would be to ensure that state rail plans include elements focusing on grade crossings and plans for closures.

Amtrak Should Be the Entity That Provides Intercity Passenger Rail Service

Due to concerns about Amtrak's finances and other factors, some have proposed that Amtrak should be replaced by other passenger rail operators on all or part of Amtrak's current routes and on any new passenger rail routes that may develop. Freight railroads do not support these proposals. Freight railroads would oppose the transfer or franchise of Amtrak's right of

[7] Federal Railroad Administration, "Highway-Rail Grade Crossing Guidelines for High-Speed Passenger Rail," Version 1.0, November 2009, p. 2.

access, preferential access rates, and operating priority to any new non-Amtrak passenger operators.

Why? First, the terms and conditions under which Amtrak uses freight-owned tracks were originally negotiated 40 years ago under circumstances that are vastly different from today. Amtrak has historically enjoyed federal financial support and has proven itself to be a safe and professional operator over four decades. Should Amtrak services be picked up by others, it is unclear what the circumstances would be. For example, private entities may have different degrees of financial backing; public authorities may or may not enjoy the full faith and credit of their sponsoring states; some prospective passenger rail operators may be less committed to safety and sound operating standards than Amtrak; and serious labor issues could arise. Clearly, the status quo would be altered in respects that are impossible to know beforehand, creating huge uncertainties that, frankly, freight railroads do not need. They would rather concentrate on helping the economy grow by meeting the freight transportation needs of their customers.

Moreover, proposals to force freight railroads to grant other passenger carriers access to their tracks under preferential terms and conditions ignores the fundamental fact that freight railroads' rights-of-way are private, not public. In the absence of voluntary agreement, freight railroads should not be forced to allow passenger operators to use their assets any more than any other private business should be forced to allow another company to use its assets without its consent or at non-compensatory rates. Indeed, forcing freight railroads to convey mandatory access to non-Amtrak passenger operators would create serious constitutional issues.

Second, simply put, Amtrak and freight railroads have "grown up" together. Certainly, there have been struggles along the way, as there are in any complex relationship, but the relationship works.

Finally, for decades prior to Amtrak's creation, our nation's railroads learned the hard way how difficult it is to recover the full costs of passenger railroading. Although Amtrak was created as a for-profit entity, experience has shown that this is not achievable. No comprehensive passenger system in the world operates today without significant government assistance, and the fact that Amtrak requires public support should not be seen as a primary reason for seeking alternative passenger rail providers.

Positive Train Control

The term "positive train control" (PTC) describes technologies designed to automatically stop or slow a train before certain accidents caused by human error occur. The Rail Safety Improvement Act of 2008 (RSIA) requires passenger railroads and U.S. Class I freight railroads to install PTC by the end of 2015 on main lines used to transport passengers or toxic inhalation materials (TIH). Specifically, PTC as mandated by Congress must be designed to prevent train-to-train collisions; derailments caused by excessive speed; unauthorized incursions by trains onto sections of track where maintenance activities are taking place; and the movement of a train through a track switch left in the wrong position.

Although PTC was mandated by the RSIA, rather than PRIIA, the issue is of such central concern to the freight and passenger rail industries that I would be remiss if I did not take an opportunity to raise it.

Positive train control is an unprecedented technological challenge. A properly functioning, fully interoperable PTC system must be able to determine the precise location, direction, and speed of trains; warn train operators of potential problems; and take immediate action if the operator does not respond to the warning provided by the PTC system. For example, if a train operator fails to begin stopping a train before a stop signal or slowing down

for a speed-restricted area, the PTC system would apply the brakes automatically before the train passed the stop signal or entered the speed-restricted area.

Such a system requires highly complex technologies able to analyze and incorporate the huge number of variables that affect train operations. A simple example: the length of time it takes to stop a train depends on train speed, terrain, the weight and length of the train, the number and distribution of locomotives and loaded and empty freight cars on the train, and other factors. A PTC system must be able to take all of these factors into account automatically, reliably, and accurately to safely stop the train.

Freight railroads have enlisted massive resources to meet the PTC mandate. They've retained more than 2,200 additional signal system personnel to implement PTC, and to date have collectively spent approximately $3 billion of their own funds on PTC development and deployment. Class I freight railroads expect to spend an additional $5 billion before development and installation is complete. Currently, the estimated total cost to freight railroads for PTC development and deployment is around $8 billion, with hundreds of millions of additional dollars needed each year after that to maintain the system.

Despite railroads' best efforts, due to PTC's complexity and the enormity of the implementation task — and the fact that much of the technology PTC requires simply did not exist when the PTC mandate was passed and has been required to be developed from scratch — much technological work remains to be done.

Railroads also face non-technological barriers to timely PTC implementation. One such challenge that railroads are struggling to overcome right now involves regulatory barriers to the construction of antenna structures. As part of PTC implementation, railroads must install tens of

thousands of new antenna structures nationwide to transmit PTC signals. The vast majority of these antenna structures are small and are to be located along railroad rights-of-way.

However, the Federal Communications Commission (FCC) maintains that all PTC antenna structures, regardless of their size or location on the right-of-way, are subject to the National Environmental Protection Act (NEPA) and the National Historic Preservation Act (NHPA). The FCC's current interpretation of its rules implementing these acts would subject every PTC antenna structure to a separate, time-consuming environmental evaluation process. The FCC's current approval process is unworkable for a deployment on the scale of PTC in the timeframe mandated by the RSIA and FRA's rules. The railroad industry, the FRA, and the FCC are working to find a solution that will avoid the need for antenna-by-antenna reviews, but for now the installation of antenna structures is on hold. Unless that changes, the timeline for ultimate deployment of PTC will be delayed significantly.

Important PTC regulatory issues are unresolved as well. Current regulations pertaining to PTC implementation impose operational restrictions so severe that the fluidity of the rail network would be drastically impaired. It is important to resolve these issues, and the AAR appreciates that the FRA is considering them in a current rulemaking proceeding.

In addition to the challenges presented by both the FCC and FRA issues, another critical variable to the successful implementation of a nationwide PTC network is the question of the proper operation of the system. Does the system work, for both passenger and freight railroads? To effectively answer this question, railroads will need adequate time to ensure that PTC works as intended and that the systems are communicating accurately. The industry can achieve the objectives of the mandate if they have an implementation schedule that allows the technology to

be developed as well as tested and proven so the safety and operational efficiency of the nation's rail system are not put at risk.

In that regard, the current PTC implementation deadline mandated by the RSIA should be extended by at least three years from December 31, 2015, to December 31, 2018. Given the unprecedented nature of PTC and the uncertainties — both known and unknown — flexibility beyond December of 2018 should also be addressed, with the authority for that flexibility residing with the Secretary of the Department of Transportation. Additionally, in order to ensure that railroads can operate safely and efficiently with the PTC system, the imposition of PTC-related operational requirements and associated penalties should be deferred until all PTC systems are fully integrated and testing has been completed. Congress should also ensure that PTC funding is available for publicly owned passenger rail systems.

Conclusion

To reiterate, freight railroads want passenger railroads to succeed, they work cooperatively with passenger railroads to help make this happen, and they support government efforts to grow passenger rail in ways that make economic sense and that complement freight rail growth.

At the same time, America's economic health and global competitiveness depends on having a healthy freight rail system. Expanding passenger rail on corridors owned by freight railroads will require a partnership between freight and passenger railroads that strikes the right balance and protects the business needs and responsibilities of both parties. Freight railroads are committed to working with government officials, passenger rail stakeholders, and others to ensure a winning result for all parties involved.

Committee on Transportation and Infrastructure
Subcommittee on Railroads, Pipelines, and Hazardous Materials
"National Rail Policy: Examining Goals, Objectives and Responsibilities
June 27, 2013

Questions for the Record -- Questions from Rep. Denham

1. During the June 27th hearing, Chairman Denham requested information from each witness concerning a timeline for implementing Positive Train Control (PTC) by region, as the railroad system is an integrated network, operated by different corporations. Please provide information to the Committee concerning the progress, the challenges and obstacles, and overall timeline for implementing PTC, by region.

Answer: FRA required that each railroad submit a PTC implementation plan by April 16, 2010. The implementation plans contained the railroads' initial views on their sequence for rolling out PTC.

Since that time, it has become evident that the railroads need to revisit their plans for making PTC operational. A key consideration is that from the perspective of both safety and operational efficiency, it makes sense to roll PTC out first in less complex areas so that system "bugs" can be addressed in areas where any problems that develop will pose a comparatively lesser risk of adverse safety and operational consequences. Less complex areas are those where there are comparatively smaller amounts of railroad traffic and fewer railroads operating.

The railroads will work with FRA on revised implementation plans that provide for PTC to be implemented in areas of less complexity first. Furthermore, the railroads will coordinate their approach to implementation to ensure that the individual implementation plans assign the same priority to each region.

Separately, I am attaching as information a recent AAR report entitled PTC Implementation: The Railroad Industry Cannot Install PTC on the Entire Nationwide Network by the 2015 Deadline. The report outlines the significant PTC challenges and obstacles facing the railroad industry. The report provides details on PTC components, the integration and testing challenges, the certification process and the interoperability and phasing in challenges for AAR member railroads.

2. Aside from federal funding for discretionary grants, what types of policies would help implement "first mile" and "last mile" improvements?

Answer: Policymakers can help improve the movement of freight by taking steps to shorten the time it takes for reviews of rail expansion projects in ways that do not adversely affect the quality of those reviews. A number of major rail intermodal terminal projects that yield tremendous gains for the overall logistical system, for example, have been and continue to be

unduly delayed. Just one of the many examples involves an intermodal terminal BNSF Railway has been trying to build for years near the ports of Long Beach and Los Angeles. This facility would eliminate millions of truck miles annually from local freeways in Southern California, while utilizing state-of-the-art environmentally friendly technology such as all-electric cranes, ultra-low emissions switching locomotives, and low-emission yard equipment. It would be one of the "greenest" such facilities in the world, yet the project has been subjected to years and years of environmental reviews and delays.

Moreover, intermodal connections and attention to "last mile" connections are critical elements of both state and national freight planning and policy. At the local level, for example, land use planning has been inadequate in appropriately accommodating the needs of freight carriers in all modes. Freight movement – whether in yards, intermodal facilities, ports, and other locales – must be sufficiently taken into account when planning land uses such as residential developments, schools, and recreation. Encroachment on railroad right of way, for example, can pose serious safety hazards. Given that local governments most often control land use planning, there remains an important role at both the national, state and local level to more effectively address freight planning so that "first mile" and "last mile" connections enhance, rather than impede, the fluid movement of freight and minimize the impact of freight on local communities.

3. Your written testimony mentions concern with expanded passenger service taking future freight capacity. What are some suggestions on how we could protect freight interests while expanding service? How do we allow for current use of excess capacity, while preserving that capacity for future freight use?

Answer: Reshaping the nation's transportation system with expanded rail choices will bring significant challenges. One of the key challenges flows from the fact that in many cases intercity passenger rail will share a right-of-way with freight railroads which serve a broad range of customers whose livelihoods and market competitiveness are tied to timely and efficient rail service. Layering additional or expanded intercity passenger rail service or velocity on the freight network can work in many instances if appropriate accommodations for current freight volume and future growth are made.

Pursuant to operating agreements with Amtrak, freight railroads currently provide the majority of the right of way and infrastructure necessary to accommodate more than 315 Amtrak passenger trains per day over 43 routes, carrying an average of 78,500 passengers per day. Indeed, 71 percent of the miles traveled by Amtrak trains are on tracks owned by host railroads.

Access to freight rights-of-way cannot compromise service to present or future freight rail customers. Advancing high speed or passenger rail at the expense of freight rail's ability to handle growing freight volumes would be counterproductive public policy, as degradation of current or future freight service would exacerbate highway congestion, reduce fuel efficiencies, reduce U.S. competitiveness and increase greenhouse gas emissions if freight rail were

rendered an unattractive transportation alternative to customers. Service to railroad freight customers must be protected and cannot be compromised by high speed or passenger rail route schedules, curfews, or other restrictions that would affect the quality, capacity or reliability of freight service. New infrastructure construction must fully preserve both the ability to operate freight trains as needed and the opportunity to expand future freight service. New infrastructure design must fully protect the host railroad's ability to serve existing customers, both freight and passenger, and locate future new freight customers on and adjacent to its lines.

AAR's member railroads have and are negotiating accommodations for passenger and commuter rail service in many areas of the country. To avoid conflicts with existing and future freight rail customers, additional infrastructure, such as additional track, is often a prerequisite. While excess capacity may currently exist in some locations, it is impossible for the railroads to predict where future demand and growth in the nation's economy will occur. For example, the growth in crude oil transport by rail could not have been foreseen just five years ago. As a consequence, freight railroads are wary of wholesale transfers of their rights of way for commuter or passenger rail service when these are services that would not feasibly be reduced or eliminated in the future.

4. You say in your statement that you would like to see Amtrak remain as the sole passenger rail provider for the nation. How does this coexist with the recent desire to enhance competition in intercity passenger rail?

Answer: Due to concerns about Amtrak's finances and other factors, some have proposed that Amtrak should be replaced by other passenger rail operators on all or part of Amtrak's current routes and on any new passenger rail routes that may develop. Freight railroads do not support these proposals. Freight railroads would oppose the transfer or franchise of Amtrak's right of access, preferential access rates, and operating priority to any new non-Amtrak passenger operators.

PTC Implementation:
The Railroad Industry Cannot Install PTC on the Entire Nationwide Network by the 2015 Deadline

May 2013 Update

Association of American Railroads

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PTC Implementation:
The Railroad Industry Cannot Install PTC on the Entire Nationwide Network by the 2015 Deadline
May 2013 Update

I. Introduction and Executive Summary

On January 18, 2012, the Association of American Railroads (AAR) submitted a status paper to the Federal Railroad Administration (FRA) titled "PTC Implementation: The Railroad Industry Cannot Install PTC on the Entire Nationwide Network by the 2015 Deadline" ("ISP," Attachment A). The ISP discussed the challenges faced in developing an interoperable PTC system and provided detailed data showing the progress that had been made.[1] The ISP concluded by stating that a nationwide, interoperable PTC network cannot be completed by the December 31, 2015, statutory deadline.

On February 10, 2012, the American Public Transportation Association (APTA) filed a companion paper with FRA, concurring with AAR that a nationwide interoperable PTC network is not achievable by December 31, 2015. In addition, in August 2012 FRA issued a report to Congress titled, "Positive Train Control Implementation Status, Issues, and Impacts." In this report, FRA reached a similar conclusion, stating, "[b]ased on the results of this report, FRA believes that the majority of railroads will not be able to complete PTC implementation by the 2015 deadline."

This paper updates the ISP and the tables that were attached to the ISP.[2] While enormous challenges remain in regard to developing a nationwide interoperable PTC system, there were many positive developments during 2012. These include:

- the first Geographical Information System (GIS) subdivision validations with FRA;
- the development and manufacture of 220 MHz radios;
- significant progress with locomotive installations;
- improvements in the availability of Wayside Interface Units (WIUs);
- radio frequency propagation studies of Chicago, Kansas City, Los Angeles, New Orleans, New York, Minneapolis, St. Louis, Toledo, and other congested metropolitan areas have been completed or are in progress;

[1] This paper is based on information provided by the following eight railroads, which have to install PTC on routes over which TIH or passengers, or both TIH and passengers, are transported: the Alaska Railroad (ARR), BNSF Railway (BNSF), Canadian National (CN), Canadian Pacific (CP), CSX Transportation (CSX), Kansas City Southern (KCS), Norfolk Southern (NS), and Union Pacific (UP). passengers, or both TIH and passengers, are transported: the Alaska Railroad (ARR), BNSF Railway (BNSF), Canadian National (CN), Canadian Pacific (CP), CSX Transportation (CSX), Kansas City Southern (KCS), Norfolk Southern (NS), and Union Pacific (UP).
[2] This 2013 Update is intended to be read in conjunction with and as a supplement to the ISP. Attachment B updates the information in the various tables that were included in the ISP.

- FRA's modification of its regulations that permits railroads to base PTC installation on projected traffic in 2015;
- progress on the PTC Safety Plan that must be submitted to FRA before a PTC system can be certified; and
- FRA's recognition that activation of PTC should proceed from less complex to more complex areas.

Despite the positive developments in 2012 and the railroads spending approximately $2.8 billion to date to install PTC, the year confirmed and increased our understanding of the challenges that remain to completing a nationwide, interoperable PTC system. The most significant are:

- Wayside implementation continues to be constrained by the limited number of firms that provide signal design services. The signal system must still be individually redesigned and replaced at more than 7,000 locations before PTC wayside technology can be installed at those locations. Approximately 26,000 WIUs remain to be installed. This work must be accomplished without compromising signal system safety or the ability of the railroads to efficiently move the nation's freight. Based on current experience and available resources, it is likely that wayside design and installation will extend into 2018.
- The track database, including critical features such as the presence of signals and switches, must be validated. The railroads must ensure that what is displayed to the train crew via the track database and onboard system reflects what is shown by railroad signals. It is a time-consuming and labor-intensive process.
- There is limited expertise available to accelerate design and development. The railroads have been developing expertise as they build the onboard, wayside, and back office segments.
- Core software delivery dates continue to slip, particularly in connection with the Back Office Server (BOS) for I-ETMS. The railroads do not expect the final release of core software, which is necessary before the PTC system can be lab and field tested, certified, and used in revenue service, until mid-2014.
- Full system testing will likely continue into 2015, as will the need to address issues with PTC components and software identified by the testing.
- Over 75 percent of the industry's employees must receive PTC training. From the perspective of the employee retaining the material and understanding its relevance, the optimal time to train an employee is when PTC is rolled out on the employee's territory.
- Once testing is complete, the limited number of FRA personnel available to work on PTC must still review each railroad's individual Safety Plan and certify the PTC system. While the provisional certification concept advanced by FRA could reduce the delay associated with certification, even a provisional certification will require time and review by FRA.

- Portions of the PTC regulation are still not final, with potential changes that could impact the scope of the implementation effort.
- As the potential for failure of individual components became clear, systems have been designed with more redundancy, thus lengthening the design process.
- PTC cannot be rolled out on an entire railroad all at once. Implementation of PTC must occur in phases and location by location, starting with less complex areas and proceeding to the more operationally complex areas, incorporating lessons learned at each step.

It is abundantly clear that the railroad industry cannot install interoperable PTC on the entire nationwide network by the December 31, 2015, deadline.

II. PTC Components

A. Locomotives

Approximately 22,000 locomotives, which constitute most of the Class I railroads' locomotive fleet, must be equipped with PTC technology.[3] The ISP identified several reasons why equipping locomotives with PTC technology is taking longer than projected in the railroads' original implementation plans.[4] However, several of those challenges were resolved or became less of a concern in 2012:

- vendor supply chain issues and capacity have improved and available hardware (but not software) components are generally being delivered on time;
- production of the 220MHz locomotive radio began in 2012; and
- hardware design changes necessary to support the messaging system on some railroads were completed.

These positive developments aided the railroads in making significant progress on their "double touch" strategy for equipping locomotives in 2012.[5] Over 3,000 locomotives were equipped or partially equipped in 2012; over 6,000 locomotives have been equipped or partially equipped to date. While the good news is that the number of equipped or partially equipped locomotives continued to climb in 2012, most of these locomotives were only partially equipped and will have to be cycled back through a shop to complete installation and perform PTC commissioning tests.

A significant development hurdle remains with the development of the onboard software that runs on the Train Management Computer (TMC) for the railroads using I-ETMS. The complexity of the software, combined with the many interfaces with other components of the

[3] All the estimates in this paper are premised on the PTC regulations in existence on April 1, 2013. The industry has requested amendments to those regulations that would reduce certain estimates, including the number of locomotives that would need to be equipped with PTC.
[4] ISP at 4.
[5] "Double touch" refers to shopping locomotives twice to equip them with PTC, partially installing PTC equipment at the first shopping.

PTC system, has resulted in multiple reviews of the design. The delivery date for this critical software component slipped several times over the course of 2012 and at the present time there is no delivery date for the final version of the onboard software. Nevertheless, sufficient progress has been made so that railroads plan to begin fully equipping locomotives with all necessary PTC equipment in 2013 rather than continuing to employ the double touch strategy.

While much work remains to be done in regard to equipping locomotives, the industry plans to have approximately ¾ of the locomotives required to be equipped with PTC technology fully equipped by December 31, 2015.[6]

B. Wayside Technology

For the reasons described in the ISP, tens of thousands of miles of existing signal system infrastructure still need to be replaced. As discussed previously, each of the approximately 12,300 replacement projects is complicated and lengthy, requiring individual analysis and design and signal replacements or upgrades before the WIU's can be installed at these locations.[7]

Qualified signal personnel are needed for design, installation, and validation, both in the lab and in the field. The limited number of qualified signal design firms and personnel available to the railroad industry continues to constrain how quickly railroads can complete the design, upgrade, installation, and testing required for PTC signal projects. The railroads have hired over 2,200 signal personnel specifically for PTC.[8] However, the great majority of these new hires provide assistance only with the installation of PTC at wayside locations, not with the more complicated analysis and design work that is typically handled by established signal design firms. Personnel hired for installation work are, of course, limited to performing work at locations where designs have been completed. Product availability has improved, although it continues to be a concern along with the extensive lab and field testing required for these products.

Despite these factors, railroads made considerable progress with installation of wayside technology in 2012. Over 7,000 WIU's were installed in 2012, bringing the total installed to approximately 9,700. That leaves approximately 26,000 WIU's of the approximately 36,000 total WIU's needed remaining to be installed.[9] Similarly, approximately 3,700 signal replacement projects were completed in 2012, bringing the total completed to over 5,000. However, that still leaves over 7,000 of the approximately 12,300 PTC signal replacement projects identified by the industry to be completed.[10] The sheer volume and complexity of this safety-critical work, which impacts the functioning of railroad signal systems as well as PTC, is one of the most significant reasons that the railroad industry cannot meet the 2015 deadline. This work is expected to extend into 2018.

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[6] See Table 1 in Attachment B.
[7] ISP at 6.
[8] See Table 2 in Attachment B.
[9] See Tables 3 and 4 in Attachment B.
[10] See Table 5 in Attachment B.

C. Switches

Most of the work involved in upgrading switches in non-signaled territory remains. In analyzing the technology required for switches, railroads have determined that these will be mostly turnkey solutions currently under development by several suppliers. In 2012, 227 switches were equipped with power, bringing the total so equipped to 436; 236 were equipped with WIU's, bringing the total so equipped to 361; and 36 were equipped with switch monitors, bringing the total so equipped to 148. Over 4,400 switches still need to be equipped with power and WIUs, and approximately 3,400 switch position monitors still need to be installed.[11]

D. Communications

As explained in the ISP, all PTC wayside locations and all PTC-enabled locomotives must be equipped with a complex, interoperable, wireless communications infrastructure.[12] Railroads have created a private radio frequency network capable of transmitting and receiving the data necessary to support an interoperable PTC network using spectrum in the 220 MHz band as the interoperability communications standard. To date, the seven Class I railroads have invested approximately $40 million in acquiring and managing 220 MHz spectrum.

Production quantities of PTC radios were first available in May 2012. Since then, railroads have been procuring and installing them. In parallel, railroads have undertaken numerous associated activities, including coverage analyses, site selection, antennae installation, and upgrading power supplies.

One of the key challenges that has emerged is deploying a national 220 MHz communications network for PTC that includes adequate coordination between railroads to avoid interference. Various tools are being developed to help mitigate interference, but this will continue to be a substantial task.

Some additional complexities associated with the design and implementation of the communications system became apparent in 2012. Complete signal wayside design and GIS data and train movement data are all necessary to properly design the radio network; each of these data elements must be taken into account to ensure there is adequate capacity to handle all the data. In addition, as new users roll out their PTC systems in locations where other railroads are already testing or using PTC, railroads will likely have to re-engineer their radio networks to address potential interference and ensure the additional demand for data can be met. Another issue that has emerged is the potential for delays associated with the Federal Communications Commission's environmental rules, including the separate completion of the environmental and historic preservation processes for each of the over 20,000 antenna structures required for PTC.

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[11] See Table 6 in Attachment B.
[12] ISP at 8.

Four railroads have invested approximately $180 million to date in the development and installation of 220 MHz radios for base stations, wayside locations, and locomotives, each of which requires a distinct type of radio. Still, over 3,800 base station radios, over 31,000 wayside radios, and over 21,000 locomotive radios need to be manufactured and installed.[13]

Finally, in 2012 railroads studied spectrum needs in congested metropolitan areas and confirmed that railroads will need to acquire additional spectrum in Chicago. Other areas being studied include Kansas City, New York, Toledo, St. Louis, Minneapolis-St. Paul, and New Orleans. The adequacy of coverage in congested metropolitan areas will not be fully known until the PTC system is implemented and operational in those areas.

E. PTC Back Office

The pace of development of the Back Office Segment and PTC-related back office systems remains challenged by design complexity, availability of supplier resources, and scalability of the solution. Insofar as the I-ETMS BOS is concerned, the railroads and their contractors continued development in 2012, but a "final" version is not expected to be available until mid-2014.

The need to test thoroughly the PTC back office systems, including the BOS, and address issues and defects identified during the testing process also significantly impact the pace of development. Lab testing of the related technologies and systems will generally find some defects, as was the case with the initial software release for the BOS, requiring subsequent revisions of the technologies or systems that fix the defects. Unavailability of the final production version of the BOS is one of the critical factors preventing the railroads from installing PTC on the entire nationwide network by the current 2015 implementation date.

1. Back Office Server

For the over one dozen railroads implementing the I-ETMS BOS, the software version that includes essential requirements for vital overlay PTC system certification is now scheduled to be ready for testing in mid-2014. A production version of the BOS software will be unavailable until after the required lab testing, likely late 2014 at the earliest. While the railroads are considering all possible strategies to expedite this schedule, at this time there is no apparent alternative strategy or approach that would significantly accelerate the delivery date. As with the software for the locomotive, the complexity of the BOS software combined with the many interfaces with other components of the PTC system has required detailed design and analysis to ensure proper operation.

[13] See Table 7 in Attachment B.

2. Geographical Information System (GIS)

The railroads made substantial progress with respect to the GIS component of PTC systems in 2012. The industry developed a common approach to validation and verification of the data to ensure all essential data elements are captured. A common approach facilitates review by FRA and also provides non-Class I railroads a template they can use. Over 13,000 track miles were GIS mapped in 2012, bringing the total miles GIS mapped to approximately 80,000; approximately 15,800 track miles were data processed in 2012, bringing this total to over 41,000; and over 6,000 track miles of GIS data were converted to PTC subdivision files in 2012, bringing the total of converted track miles to over 9,000. However, much work remains to be done. Over 17,000 track miles remain to be GIS mapped; almost 56,000 miles remain to be data processed; and almost 88,000 miles remain to be converted to the PTC subdivision files needed for the locomotive's PTC system.[14] Furthermore, substantial work remains to be done to develop and implement sustainable processes to document and update the GIS coordinates every time one of the over 470,000 critical PTC assets are moved by more than 1 foot.

3. Dispatch

The dispatch system must interact with the PTC system via a common interoperable interface with the BOS. For some railroads, the enhancements needed for the dispatch system are extensive and have taken considerable analysis and effort to design, code, and test. Additionally, changes made to the BOS require an analysis of the effect on the interface of the dispatch system with the PTC system. At least four railroads will not have a PTC-capable dispatch system until 2014.[15]

III. The Integration and Testing Challenge

The challenges and risks associated with integrating and testing the many components of PTC have not diminished. Many of the 20 plus PTC components have been tested by the supplier and some "nearest neighbor" testing of interfacing components has started with preliminary releases of software during 2012. However, end-to-end testing of the final system of interoperable software, with all known hazards mitigated, is still one to two years away.

Railroads have been nimble in adjusting to the testing challenge. As component releases are delayed due to the complexity of the design or the need to fix defects, the interaction of those components can quickly get out of sync on the release cycle timeline. Nevertheless, railroads have revised test plans and realigned resources to conduct nearest neighbor testing with intermediate versions of software as software delivery schedules have slipped. They have taken advantage of opportunities to test releases of software and hardware to ferret out defects and issues early in the release continuum, when more extensive integration testing is not yet possible. To keep the schedule moving forward to the extent possible, railroads have undertaken

[14] See Table 8 in Attachment B.
[15] See Table 9 in Attachment B.

preliminary testing using software written to interim versions of "interface control documents" (ICDs) and written translators to bridge the gap between the different ICDs.[16] In some cases these stop-gap assemblages of software have been tested in the field with a hi-rail vehicle.

Railroad testing has identified more than 600 software defects to date, underscoring the importance of thorough testing to ensure the integrity of the PTC system. While these efforts successfully identified potential defects, only true end-to-end testing with final software will determine whether the integration of all the PTC components is effective. Based on current schedules, this will not begin until late 2014. At that time any additional defects discovered will have to be analyzed and remediated, further delaying the time at which widespread PTC implementation can proceed.

IV. The Certification Process Could Take Considerable Time

AAR remains concerned that the certification process could take a considerable amount of time and that FRA will not have the resources to review and certify PTC systems expeditiously. As FRA acknowledged in its August 2012 Report to Congress, FRA will need at least 6 to 9 months to review PTC Safety Plans, and approximately 38 railroads will need certification.[17] In an attempt to expedite final review, in 2012 the Class I railroads' Joint Rail Safety Team (JSRT) developed a format and common portions of a PTC Safety Plan and submitted drafts for FRA review and comment. In addition, in 2012 FRA and the JRST began holding quarterly meetings to facilitate communications between the parties, discuss FRA's concerns about implementation, and clarify FRA's interpretation of the PTC regulations. The meetings continue to foster a good working relationship between the industry and FRA. However, while this joint effort of the railroads and FRA is helpful, each railroad will have a unique PTC safety plan that FRA will need to review and approve. Furthermore, while railroads have been and will continue partial installation of PTC equipment prior to certification, the time required for FRA certification is one of the critical elements impacting the date by which the PTC mandate can be implemented.[18]

As FRA also noted in its Report to Congress, the shortage of qualified people extends to FRA. FRA noted that its PTC staff consists of 10 PTC specialists and 1 supervisor, who are responsible for monitoring PTC system installation and testing nationwide and for the technical review and approval of all documentation associated with the statutorily-required PTC system

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[16] ICDs contain the format for how systems communicate with each other.

[17] FRA Report to Congress, p. 41. Based upon the nearly 18 months that it took for FRA to approve the PTC Development Plan, a less complex document, the approval period could take even longer than estimated by FRA.

[18] FRA in its August 2012 Report to Congress suggested a legislative change that would permit FRA to provisionally certify PTC systems. Once provisionally certified, a railroad could operate its PTC system pending final review. While a constructive suggestion that could assist in evaluating PTC systems in operation, this change would not alter the fact that the railroads cannot install PTC on the entire nationwide network by the 2015 deadline. Even provisional certification will require a review and approval process for FRA. It is difficult to imagine that process will take less than 6 months.

certification.[19] Railroads will be submitting PTC Safety Plans, amendments to their PTC filings, and other related documents. FRA, as do the railroads, faces the challenge of key personnel retiring as well as other resource constraints that impact the agency's ability to review, comment, and approve the required documentation. As FRA noted in its Report to Congress, the industry remains concerned that the continued shortage of FRA resources could delay the implementation of an interoperable PTC system.

V. Interoperability: The Current Implementation Schedules Could Adversely Affect the Reliability and Effectiveness of PTC

A. Phasing in PTC

Attachment B to the ISP discussed problems that could arise from implementation schedules under which PTC is deployed first in locations presenting complex interoperability issues. The railroads suggested a phased approach to PTC under which PTC will be implemented in less operationally complex areas first, which is a departure from current implementation plans. FRA has indicated that it agrees with this general approach. Accordingly, the railroads intend to update the implementation schedules in their respective PTC Implementation Plans to take these complex interoperability issues into account.

The PTC Reliability Study recently provided by AAR to FRA raises significant concerns over the reliability of the fully assembled PTC system. The Study underscores the need for a phased approach for implementation that will allow the railroads to assess the PTC system in operation so that failures, while they will occur, can be reduced to the extent possible and the efficiency of the railroad network maintained to the greatest extent feasible. The time needed to phase in PTC is another reason why the industry cannot meet the current 2015 deadline to implement PTC on the entire nationwide network.

B. Interoperability Standards

Ensuring the interoperability of PTC requires numerous interoperability standards. AAR and its member railroads made considerable progress towards developing those standards in 2012. Attachment C describes the status of the interoperability standards required for PTC. Of the 34 standards being developed, 18 have been finalized. Drafts of 12 more have been published for public comment.

In 2012 it became clear that the railroads also need to adopt industry standards for the ongoing use and operation of PTC. These standards are necessary in order for the railroads operating a PTC system to ensure that updates to PTC hardware and software are acceptable. In the absence of such standards, there is no assurance that upgraded PTC components and software will be compatible with and continue to work with other components of the PTC system or that interoperability will be maintained.

[19] FRA Report to Congress, p. 41.

VI. Rolling Out PTC

As noted above and in the ISP, PTC cannot be rolled out on an entire railroad system at the same time. It must be implemented in phases and location by location, typically on a subdivision basis.

Furthermore, as also stated in the ISP, training employees remains a daunting task that places practical limits on the speed with which PTC can be safely and effectively rolled out across a railroad system. While training courses and materials continue to be developed, the railroads recognize that this training must occur in a phased approach. Employees on each subdivision will have to receive significant training immediately prior to activation of PTC on the subdivision where they work. On the Class I railroads alone, approximately 68,000 engineers and conductors, 7,200 signal employees, 2,500 dispatchers, and thousands of others, including mechanics, electricians, and supervisors, will have to be trained on PTC. Delays in designing and installing PTC affect the pace of training railroad employees.

VII. Conclusion

The railroad industry has invested a tremendous amount of time, effort and money to complete a nationwide interoperable PTC-system as quickly as possible. As of the end of 2012, the railroads had invested approximately $2.8 billion (up from $1.6 billion at the end of 2011) and had also devoted millions of man-hours to the development of PTC.[20] However, as demonstrated above, the railroads will not be able to implement PTC on the entire nationwide network by December 31, 2015.

Because of all the uncertainties associated with the development and installation of PTC, it is impossible to set forth a precise timeline for completion of a nationwide, interoperable PTC network. Factors that affect a railroad's timeline for completion of PTC on its system, include variations in geography; type and age of the railroad's wayside signaling infrastructure (legacy relay technology must be converted to solid state technology); the density of train operations; the number of rail-to-rail interlockings; the number of connections with other railroads; and the number of operating environments (with different combinations of these factors) that must be addressed. In addition, until a railroad tests and installs its PTC system, it is impossible to know what other difficulties will be encountered and how they might affect progress in completing the railroad's PTC network. As discussed previously, the critical software for the back office server for I-ETMS will not be fully tested and ready to be installed until late 2014 at the earliest. Finally, the scope of the PTC network will impact a railroad's ultimate completion date.

Taking into account the above factors, the eight railroads providing data for this paper anticipate that by December 31, 2018, all PTC hardware will be installed and PTC will be in operation on most of the mandated PTC routes. (The date by which PTC will be in operation on

[20] See Table 10 in Attachment B.

all of a railroad's mandated PTC routes will vary by railroad.) The industry continues to seek ways to speed progress while maintaining safe operations in order to achieve complete deployment as soon as possible. Thus, while current projections show that a portion of the PTC network will not be completed by the end of 2018, that certainly could change.

Keeping in mind the uncertainty in projecting a completion date, Table 11 shows the railroads' current expectations regarding future annual PTC expenditures and annual installations of wayside interface units, base station radios, and PTC equipment on locomotives, as well as the number of employees they expect will be trained. (Table 11 is premised on the PTC network required by the current regulations.) Table 11 also shows by year the extent to which the railroads will have installed PTC on the routes that will have PTC capability. The year "2018 and beyond" column includes data for what the railroads currently project will remain to be done in and beyond 2018. The eight railroads anticipate they will have spent $8 billion by the end of 2018 on PTC.

This paper shows that the railroad industry has done its utmost to install a nationwide, interoperable PTC network. However, much work remains to be done. While substantial progress toward completing the network will have been made by the end of 2015, the entire project will not be complete by that date.

Attachment A

PTC Implementation:
The Railroad Industry Cannot Install PTC on the Entire Nationwide Network by the 2015 Deadline

Association of American Railroads
January 18, 2012

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PTC Implementation:
The Railroad Industry Cannot Install PTC on the Entire Nationwide Network by the 2015 Deadline

I. Introduction and Executive Summary

The Rail Safety Improvement Act of 2008 (RSIA) requires passenger railroads and Class I railroads to install positive train control (PTC) on main lines used to transport passengers or toxic-by-inhalation hazardous materials (TIH) by December 31, 2015. The PTC mandate presents the railroad industry with a challenge of unprecedented scope. The nation's railroads are spending billions of dollars on the development and acquisition of PTC technology to fulfill the Congressional mandate. PTC technology will have to be installed on more than 60,000 miles of right-of-way, the precise number depending on the revisions to FRA's final rule governing the scope of PTC.

This paper discusses the enormity of the task facing the industry as it seeks to comply with the RSIA mandate for a nationwide interoperable PTC network and the impossibility of accomplishing the task by December 31, 2015.[1] The work that must be undertaken includes:

- installing approximately 38,000 wayside interface units (WIUs) that provide the mechanism for the transmission of information from wayside signals and switches to locomotives and the "back office;"
- installing PTC technology on approximately18,000 locomotives;
- installing PTC technology on approximately 4,900 switches in non-signaled territory;
- completing over 12,000 signal replacement projects;
- mapping over 60,000 miles of right-of-way and 476,000 assets;

[1] This paper is based on information provided by the following eight railroads, which have to install PTC on routes over which TIH or passengers, or both TIH and passengers, are transported: the Alaska Railroad (ARR), BNSF Railway (BNSF), Canadian National (CN), Canadian Pacific (CP), CSX Transportation (CSX), Kansas City Southern (KCS), Norfolk Southern (NS), and Union Pacific (UP).

- the development, production, and deployment of a radio specifically designed for PTC at approximately 4,100 base stations, 37,000 wayside locations, and on 18,000 locomotives;
- developing back office systems; and
- upgrading dispatching software to incorporate the data and precision required for PTC systems.

Since enactment of the RSIA and promulgation of the PTC regulations, the railroad industry has devoted enormous resources in an unprecedented effort to develop PTC systems and address myriad interoperability issues. However, much of the work to implement PTC remains to be done. For example, less than 10 percent of the WIUs have been installed, work on switches in non-signaled territory has been completed for less than 10 percent of the switches that need upgrading, only about 10 percent of signal projects have been completed, 220 MHz radios are not yet in production, and, leaving aside the unavailability of the radios, PTC equipment has been partially installed on only 15 percent of the locomotives that will need PTC equipment. While greater progress has been made in some other areas, such as the mapping element of the PTC-related GIS initiative, in no case is the industry close to completing the work that must be done for the nationwide PTC network, as measured on the basis of percentage of work completed.

Significant hurdles must be surmounted in completing the design, production, and installation of the more than 20 major components that underlie the nationwide PTC network. Essential software and hardware for many components are still under development and testing of these components must be performed after the software and hardware are available. FRA must review each railroad's PTC safety plan and certify the railroads' PTC systems after the development and testing of the components are complete, and then PTC installation must be completed. The task is made particularly complex by the need to ensure that individual railroad systems are fully interoperable and the many potential failure points and failure modes in PTC systems (across multiple interoperating railroads) are identified, isolated, and corrected. The interoperability concern has been magnified by current plans for phasing in PTC, which instead of providing for the implementation of PTC in less complex areas

first to reduce operational risk, actually provide for PTC to be installed first in the areas most complex from the perspective of interoperability.

The current deadline and sequencing schedules unnecessarily create potential operational risks. Rushing development and installation and foregoing a logical plan for sequencing the implementation of PTC also increases the likelihood of instances occurring where PTC will fail to function reliably.

One item impacting the time it will take to complete installation of PTC on the nationwide network is the geographic scope of the PTC mandate. FRA took a significant step when it published a notice of proposed rulemaking providing for 2015 traffic patterns to be used to determine the geographic scope, as provided for in the RSIA, instead of 2008 traffic patterns. In addition, recognizing the need for additional modifications to the geographic scope, FRA has announced it will be initiating a rulemaking proceeding that could further reduce the geographic scope of the PTC mandate. Leaving aside technical obstacles to developing PTC, it is unlikely any freight railroad could meet the December 31, 2015, deadline without significant changes to the current geographic scope of PTC deployment. However, regardless of the ultimate geographical scope of the PTC mandate, the technical hurdles are such that a nationwide, interoperable PTC network cannot be completed by the December 31, 2015 deadline.

II. PTC Components

A. Locomotives

Approximately 18,000 locomotives, or approximately 75 percent of the industry's active road locomotive fleet, must be equipped with PTC technology. More specifically, these locomotives must be equipped with:

- a Train Management Computer (TMC) with fully functional PTC software;
- an interoperable 220 MHz radio designed specifically for PTC;
- a Communications Management Unit or Onboard Network (OBN);
- antennae arrays capable of receiving the full range of PTC data transmissions, e.g., via radio, cellular, WIFI, and GPS; and
- two computer displays, one of which must be interactive.

Additionally, every TMC must be interfaced with the locomotive's onboard systems to supply the TMC with critical information such as brake pipe pressure, horn status, and speed from the axle alternator.

The wiring, cabling, welding, cutting, and connecting of locomotive components required for PTC is made particularly complex by the variety of locomotive models. The largest railroads have 15 to 20 different models of locomotives on which PTC equipment will need to be installed, some of which have been in service for several decades. The age and variety of the locomotive fleet contribute significant additional time, complexity and costs to the effort to install PTC equipment on locomotives. A unique PTC design is required for each unique locomotive configuration.

For a number of reasons, equipping locomotives with PTC technology is taking longer than projected in the railroads' original implementation plans:

- as should be expected with a program of this magnitude and complexity, vendor supply chain and quality control issues have arisen with respect to both hardware and software;
- some equipment suppliers do not have the capacity to satisfy overall industry demand in a timely fashion, resulting in delivery delays;
- to facilitate the transmission of PTC messages to and from the locomotive, on some railroads the TMC required a design change for a processor to support the messaging system that has not yet been delivered in a stable, functional form;
- onboard software, which runs on the TMC, has not yet been delivered with full functionality;
- an initial version of 220MHz radio software was just made available in the fourth quarter of 2011 – production radios are not expected to be available until May/June of 2012; and
- the delivery dates for the Communications Management equipment, manufactured by several suppliers, have slipped.

The delay in equipping locomotives has forced railroads to go to a "double touch" strategy for equipping locomotives with PTC technology. Railroads take locomotives out of revenue service to make modifications required for the installation of brackets, wiring, and cabling, which will ultimately support the on-

board PTC components when they become available. At the same time, the railroads install any components that are available. The railroads will have to re-shop these same locomotives in the future – again taking them out of revenue service – to install the remaining on-board PTC components.

Of the approximately 18,000 locomotives the railroads are planning to equip with PTC technology, only about 2,600 have been partially equipped – and a substantial amount of work remains to be done on those locomotives. Insofar as equipping locomotives is concerned, most of the work remains to be done. Table I in Attachment A shows the status of the installation of PTC equipment on locomotives for each railroad.

B. Wayside Technology

Wayside signal systems interface with PTC through wayside interface units (WIUs) installed at each wayside signaling location. WIUs translate the signal logic into PTC information. There are currently two types of WIUs under development by railroad signaling suppliers, "integrated" and "standalone" configurations. The integrated WIU will be applied to newer, microprocessor-based signal systems. Where integrated WIUs are used, the existing signal system's processor hardware and software must be upgraded. Standalone WIUs will be applied to older, non-microprocessor-based signal systems (and some older microprocessor-based systems as well). The installation of standalone WIUs is more complex than integrated WIUs because separate WIU hardware and software must be installed, along with hardware interfaces to the existing signal system, and the entire location must be "recommissioned." Note that it will be impractical from a lifecycle perspective to apply standalone WIUs to some older signal systems. For these systems, reliability concerns and the high cost of design, installation, and maintenance will drive the railroads to replace the underlying signal system and use an upgraded signal system combined with integrated WIUs.

Every location that requires PTC will need some or all of the work listed below:

- install and position PTC radio and GPS antennas at wayside locations and base radio sites;
- cable work;

- replace or upgrade battery power;
- install lightning & surge protection;
- replace track circuits where necessary;
- replace signals where necessary;
- replace bungalows where new ones are required due to PTC equipment size constraints;
- perform in-service tests as applicable that can include running through every available combination of routes to insure signal indication accuracy; and
- update configuration management as applicable.

Product availability has been a problem as suppliers strive to develop interoperable equipment and undertake the safety-critical development and testing required for signaling equipment. Furthermore, railroads subject the equipment to extensive lab and field testing. While one supplier has WIUs available, WIUs from other suppliers are not yet ready for production in large quantities.

For the reasons described above, tens of thousands of miles of existing signal system infrastructure will need to be replaced, at a cost of approximately $1 billion. Each replacement project is complicated and lengthy. At each signal location the following steps must be performed: a) a physical survey must be conducted to determine what PTC solution will be needed; b) the signal system must be completely redesigned; c) new signal bungalows must be fabricated and put in place; d) new wiring from the bungalow to each track circuit, switch, and signal mast must be installed; and e) the communications infrastructure must be installed. Moreover, during the process of changing to a new signal system, installing WIUs, and testing every affected route, railroad operations are interrupted.

Another significant issue is the limited number of qualified personnel available for signal work. The PTC signal projects require a substantial amount of work in a limited period of time. Historically, railroads are staffed for a fairly stable amount of signal work from one year to the next. The PTC work dramatically increases the workload for signal personnel, resulting in a tripling, quadrupling, or an even greater increase in the number of locations where signal work is required. The limited number of qualified signal personnel available to the

railroad industry constrains how quickly railroads can complete the design, installation, and testing work required for PTC signal projects, as well as adversely impacting projects to increase railroad capacity (and the increase in demand for signal personnel combined with the limited number available has resulted in a tremendous increase in signal engineering and installation costs). While the railroads are actively hiring new employees and retaining contractors and training them in railroad signaling systems and PTC requirements, it typically takes 18 to 24 months for an individual to receive the training and gain the experience necessary to handle the complexities of PTC. The industry has already hired more than 2,000 additional signal personnel specifically for PTC, as illustrated in Table 2 in Attachment A, and is planning to hire hundreds more. Of course, hundreds of existing employees who previously handled other signal work are now also working on PTC.

Of the approximately 38,000 WIUs that must be installed for PTC, only about 3,300 have been installed to date. As is the case with equipping locomotives, most of the work with respect to installing WIUs remains to be accomplished. Similarly, only a small number of the signal replacement projects that must be done have been completed. Of the approximately 12,200 PTC signal replacement projects, only about 1,200 have been completed. Tables 3, 4, and 5 in Attachment A show the status of WIU installation and signal replacement projects for each railroad.

C. Switches

In non-signaled territory, every switch will require an upgrade to become PTC-capable. For the most part, these upgrades will require: a) the provisioning of utility or localized power (e.g. generators, solar panels, etc.) to the location, given that many switches in non-signaled territory are "hand throw" or "spring" switches; b) the installation of a switch position monitor; c) the installation of a WIU; and d) the installation and configuration of communication systems. Providing power to a switch location requires trenching along the right of way and burying cable.

Most of the work involved in upgrading switches lies ahead. Of the approximately 4,900 switches that need to be equipped with power and WIUs, only about 200 have been equipped with power and 100 with WIUs. Furthermore,

switch position monitors have been installed at only about 100 of the approximately 3,700 locations that need them. Table 6 in Attachment A shows the status of each railroad's progress in non-signaled territory.

D. Communications

All PTC wayside locations and all PTC-enabled locomotives must be equipped with a complex, interoperable wireless communications infrastructure, largely through a combination of communications media. More specifically, the railroads will utilize Wide Area Networks for voice and data communications for wayside and field operations (leased & private circuits, fiber, and microwave systems). Many railroads will require upgrades to their Wide Area Networks to increase capacity, enhance reliability, provide redundancy, and support current digital communications protocols (e.g., Internet Protocol). The specific communications technology deployed at a particular location will depend on the railroad's communications network. The infrastructure required for each communications path is different, as is the availability and maturity of the components of each infrastructure type.

Railroads were forced to create a private radio frequency network capable of transmitting and receiving the data necessary to support an interoperable PTC network because of the need for greater coverage and reliability than provided by the cellular networks in the U.S. The industry adopted 220 MHz as the interoperability communications standard. To date, the seven Class I railroads have invested approximately $40 million in acquiring and managing 220 MHz spectrum. The railroads might need to invest even more to acquire additional spectrum to ensure adequate coverage in certain congested metropolitan areas and have commenced radio frequency propagation studies in Los Angeles and Chicago to determine if their holdings are sufficient to support PTC in the more heavily trafficked and populated areas. In addition, because no 220 MHz radio existed, the freight railroad industry again took the initiative, this time to commission the design of a 220 MHz radio through a railroad-owned company, Meteorcomm, LLC. To date, approximately $140 million has been invested in the development of three distinct radios, for base stations, wayside locations, and locomotives. If field testing of the radios is successful, production radios for field deployment should begin to be available in May 2012.

The development work for PTC communications will not be finished once radios are available for deployment. This 220 MHz data radio network will require significant radio frequency planning and coordination to ensure sufficient coverage has been provided without interference. It is likely that areas of high PTC traffic congestion will result in very complex frequency coordination and necessitate the sharing of railroad communication infrastructure. This type of effort has never been undertaken on the scale and timeline required to support interoperable PTC.

The deployment status for base stations, wayside locations, and locomotive communications is shown in Table 7 in Attachment A. As Table 7 shows, only a small number of 220 MHz radios have been installed for testing purposes.

E. PTC Back Office

The numerous technologies and systems which comprise or support the PTC Back Office Segment are another complex aspect of PTC. The Back Office Segment is responsible for several core PTC functions, including:

- providing the PTC interface to and from existing transportation information technology systems, such as crew, locomotive, and dispatch systems, which are different at each railroad; and
- providing a centralized source of PTC-enabling information for the locomotive equipment and WIUs.

The Back Office Server (BOS) performs the functions of the Back Office Segment. There are also a number of back office systems which provide inputs into the Office Segment. Two major data inputs are from the railroads' existing dispatch systems and their Geographic Information Systems (GIS), which are being developed or enhanced for PTC.

The pace of development of the Back Office Segment and PTC-related back office systems is affected by available resources. Railroad-specific back office technology is developed by a very small number of companies. Railroads spent fairly consistent amounts with these firms prior to PTC, affecting these firms' ability to ramp up their efforts in support of the railroad industry. Furthermore, the number of technology professionals who have intimate knowledge of railroad operations is very small. The limited resources available affect the timing of work on design, development, coding, integration, and testing. In addition, because each

railroad's transportation information technology system is unique, the details and scope of the back office development required for PTC differ for each railroad, minimizing the ability to apply the work done for one railroad to another railroad's PTC system.

The limited resources available together with the statutory deadline of December 31, 2015, have forced the railroads to develop PTC technology in a less efficient way than would otherwise be the case. Systems design, development, and testing that normally would be undertaken sequentially must happen in parallel, which results in more defects in the development process than would be the case if time permitted a more efficient, sequential development process. Furthermore, because of the limited resources available to the railroads, the substantial resources required for planning, designing, and testing PTC components means that fewer resources are available for other service and safety technology projects.

The need to thoroughly test the PTC back office systems, including the BOS, and address problems identified during the testing process, also significantly impacts the pace of their development. Lab testing of the related technologies and systems will generally find some defects, as was the case with the initial software release for the BOS, requiring the railroads to wait for a subsequent version of the technology or system that fixes the defects.

1. Back Office Server

Most railroads do not have final BOS software available. For example, the "final" version of the BOS software that will be used by a number of railroads is not scheduled to be delivered until late 2012. At that time, the railroads will need to lab test the software. Thus, a production version of this critical BOS software will likely not be available until the first quarter of 2013, at the earliest.

2. Geographical Information System (GIS)

With respect to GIS, the accuracy of the information required for PTC is significantly more precise than what is required to run a safe and efficient railroad in a non-PTC environment. Field assets that are critical to PTC – and there are approximately 500,000 of these – must be geo-located to a horizontal precision of less than 2.2 meters (~7 feet) and a vertical precision of 0.8 meters (~2 feet) to provide the accuracy necessary to safely warn or stop a locomotive. Furthermore,

it is not just the PTC routes that must be mapped. Yards, industry, and other connecting track also must be mapped to account for entry onto and exit from PTC track. Over 63,000 miles of right-of-way will be mapped, perhaps considerably more depending on the outcome of the PTC rulemaking proceedings. In essence, PTC is requiring each railroad to undertake a complete, highly-precise physical survey of the track and wayside infrastructure in a fashion not seen since the 1917 federal government survey of railroads.

After mapping is completed, additional data from multiple railroad systems must be incorporated into a PTC data model for use onboard the locomotive in a "subdivision file." These data points include all track classes, clearance points, quiet zones, and bit assignments for wayside communications. There are over 200 attributes that must be included. Railroads must verify and validate the accuracy of the GIS data and the way the onboard system interprets the data. Every mile must be traversed prior to "turning on" PTC to make sure the rail network is represented accurately. Furthermore, any time a critical PTC asset along any of the over 60,000 miles of PTC territory is subsequently moved more than 1 foot, which could be for operating or safety reasons, new GPS coordinates must be acquired and the data translated into information for PTC purposes.

The status of the GIS/GPS efforts required to support PTC is shown in Table 8 in Attachment A

3. Dispatch

Railroad dispatch systems, most of which have been upgraded in the last 10 years, are milepost-based and generally require a precision of one-tenth of a mile to operate trains safely. The level of precision required for PTC requires some dispatch systems to be rewritten or perhaps even completely re-architected to convey movement authority information to PTC with significantly greater precision, e.g., to the ten-thousandth of a mile. Railroads are working with their dispatch system developers to incorporate this precision and other enhancements required for PTC. Table 9 in Attachment A shows the dates by which railroads expect their dispatch systems will be PTC capable. Most railroads will not have PTC-capable dispatch systems until the end of 2012 or the beginning of 2013.

III. The Integration Challenge

PTC is a system of systems. While the RSIA and FRA regulations set forth PTC's core functions, there are myriad requirements for system components that comprise the total PTC system. The development of these components requires hundreds of subject matter experts to create and document component requirements, develop the components, and test them. At every juncture of the process, integration issues must be analyzed and potential or actual defects or risks mitigated. That must be done by the railroads. While suppliers primarily undertake the development of PTC components, it is up to the railroad to integrate the components and integrate the components with the railroad's existing technology systems. From a timing perspective, PTC components will not be ready until the suppliers are finished with their testing and the railroads complete their integration testing.

More specifically, PTC systems are comprised of more than 20 components, including the:

- Back office server;
- Train management computer;
- Interoperable electronic train management system software;
- Authentication systems to verify users;
- Track database of over 200 characteristics of track and trackside assets;
- Interface and enhancements to the dispatch system;
- Security application for message integrity;
- Interoperable train control messaging system;
- 220 MHz data radio for base station communication;
- 220 MHz data radio for locomotive communication;
- 220 MHz data radio for switch and signal communication;
- Communication switching network for interoperable back office communication;
- Computer display units for onboard the locomotive;
- Locomotive messaging system to route messages off the locomotive;
- GPS sensors onboard the locomotive;

- Crash hardened memory module onboard the locomotive;
- Onboard network devices for communications;
- Switch position monitors; and
- Integrated and stand-alone WIUs.

While some of these components existed in some form prior to PTC, none were designed or tested for positive train control or to work in concert with so many other components in this system of systems. Furthermore, many of these components are first-generation technologies being conceived, designed, and developed for PTC. All of these components must function correctly and reliably, or the entire PTC system will fail. In the case of the first-generation technologies, the likelihood of problems arising is significantly higher than with proven system components.

The safe integration of these many components is verified by the railroads' through testing. Every major railroad has a "PTC lab" where testing of the system is conducted, as well as designated "pilot territories" where field testing occurs.

Multiple phases of testing must take place before PTC systems are ready to be put through the rigors of real operations. Simulators have been developed to create mock operational environments for testing. Each system component is connected to other components for integration testing. The process is iterative, with components being added to the test until the entire system is assembled in the lab environment to verify system functionality.

At any point during testing, defects in the components or their interface with other components can be revealed. When that occurs, research must be conducted to determine the cause, the software or hardware must be modified, and new testing must take place. Each defect potentially impacts the schedule for implementing PTC, depending on the functionality and complexity of the issue. Defects found during field testing can be particularly problematic, causing significant "rework" and delays. Finding a defect places in jeopardy all of the previous work done on individual components and their integration.

The variety of suppliers, the timing of development of the individual components, the interpretation of designs and standards, the enhancement of

legacy systems, the dependencies between modules, and interfaces all add complexity, risk, and time to the implementation of PTC. It is only when the development of all components is complete and the components are brought together to be tested, that is, validated and verified (V&V) to meet the requirements, that the PTC system can be submitted for FRA approval and run as a PTC System. Validation and verification is expected to take at least 12 to 18 months to complete.

IV. The Certification Process Could Take Considerable Time

Section 236.1015 requires that FRA grant a railroad a "PTC System Certification" before a railroad can place a PTC system in service. To obtain certification, railroads must submit detailed "PTC Safety Plans" containing complete PTC system designs. That means that all the technical hurdles described in this paper must be surmounted before FRA will grant certification. AAR is concerned that FRA will not have the resources to expeditiously review and certify PTC systems. Approximately 40 railroads will need certification. While railroads have been and will continue to partially install PTC equipment prior to certification, any delays in certification will impact the timing of completing installation. The timing of FRA certification clearly will impact the date by which the PTC mandate can be implemented.

FRA and the industry have good reason to be concerned about the adequacy of FRA resources and the timing of FRA approval of PTC systems. The process for FRA approval of PTC Development Plans took nearly 18 months and discussions are still ongoing concerning conditions FRA sought to impose. The PTC Safety Plans will be significantly more complex and voluminous than the Development Plans. Moreover, FRA might seek changes in the Safety Plans, including design, hardware, or software changes, making timely approval even more problematic.

V. Interoperability: The Current Implementation Schedules Could Adversely Affect the Reliability and Effectiveness of PTC

A. Phasing in PTC

Attachment B discusses the reliability and effectiveness problems that could arise from implementation schedules under which PTC is deployed first in

locations presenting complex interoperability issues. Implementation of PTC in operationally complex areas such as Chicago and the Northeast Corridor, where multiple railroads operate and rail traffic levels are very high, is potentially more difficult and presents a greater risk of problems arising than in other areas. Furthermore, deploying PTC in areas of greater risk before areas of lesser risk runs counter to deployment strategies in most technology development programs. To minimize risk in areas with a comparatively high risk of interoperability problems, Attachment B discusses a phased approach to PTC under which PTC will be implemented in less operationally complex areas first, which is a departure from current implementation schedules.

A phased approach addressing interoperability issues potentially impacts the timing of PTC implementation. A properly phased approach is inconsistent with the December 31, 2015, deadline. Assuming all other technical problems with the 2015 deadline did not exist, the railroads could ignore the benefits of phasing from the perspective of the complexity of interoperability and seek to install PTC as rapidly as possible in all areas at once in order to meet the 2015 deadline. However, to do so would potentially increase operational risk. It would be in the public interest to give the railroads more time to implement PTC in a manner that minimizes overall risk.

B. Interoperability Standards

Ensuring the interoperability of PTC requires numerous interoperability standards. AAR and its member railroads have devoted considerable effort towards developing those standards. Attachment C describes the status of each of the interoperability standards required for PTC.

VI. Rolling Out PTC

Once the technical issues are resolved, FRA certifies the PTC systems, and PTC equipment is installed, the railroads will roll out PTC. This is not a simple matter. Most railroads will roll out PTC on a subdivision basis. On each PTC subdivision a number of milestones will occur prior to commissioning PTC, including the installation of WIUs, equipping locomotives, training employees, ensuring the accuracy of the track information, and installing and testing of communications infrastructure. Revenue service demonstrations will take place on

all routes and every potential signal display will have to be tested. Only at that point will PTC be ready.

The time it will take to train employees should not be underestimated. On the Class I railroads alone, approximately 60,000 engineers and conductors, 6,500 signal employees, 2,400 dispatchers, and thousands of others, including mechanics, electricians, and supervisors, will have to be trained on PTC. That cannot happen overnight.

VII. The Railroads' Tremendous Investment in PTC

The railroads have already invested approximately $1.5 billion and spent millions of man-hours on the development of PTC and will be spending billions more – FRA estimates the industry's installation costs will amount to $5.5 billion. Without going into the opportunity cost of this diversion of capital and human resources to PTC, the railroad industry has already devoted enormous resources to the effort to meet the government's PTC deadline. Table 10 in Attachment A shows the individual railroad investment levels in PTC through 2011.

VIII. Conclusion

In December 2010 the United States Government Accountability Office (GAO) published a report expressing concerns about the ability of the railroad industry to meet the 2015 RSIA deadline (and concerns about PTC diverting funding from other critical needs).[2] GAO recognized the industry was embarking on the development and installation of unproven technologies, with much work to be done. GAO's fears have proven to be well founded. Despite the railroads having spent approximately $1.5 billion to develop and install PTC, the December 31, 2015, deadline for implementation of a nationwide interoperable PTC network is not achievable.

[2] GAO, "RAIL SAFETY: Federal Railroad Administration Should Report on Risks to the Successful Implementation of Mandated Safety Technology http://www.gao.gov/assets/320/314033.pdf.

Attachment B

PTC Data[1]

Table 1. Equipping Locomotives with PTC

Railroad	ARR	BNSF	CN	CP	CSX	KCS	NS	UP	**Total**
# to be equipped	54	4000	1,000	1,143	4,100	591	3811	7,267	**21,966**
# partially equipped to date	53	917	58	163	1705	40	1383	1591	**5910**
# fully equipped	0	146	0	0	0	0	0	0	**146**

Table 2. Railroad Signal Personnel Hired or Retained Due to PTC

ARR	4
BNSF	820
CN	32
CP	35
CSX	494
KCS	36
NS	300
UP	539
Total	**2260**

[1] The data in this Attachment is based on estimates as of December 31, 2012, current PTC implementation plans on file with FRA (including amendments to plans that have been approved by FRA), and the regulations in existence on December 31, 2012.

Table 3. Integrated WIU Installation

Railroad	ARR	BNSF	CN	CP	CSX	KCS	NS	UP	**Total**
# integrated WIUs required to be deployed	54	5709	1061	491	5029	620	4249	11895	**29108**
# integrated WIUs deployed to date	0	4518	67	49	487	238	597	3003	**8959**
# integrated WIUs remaining to be deployed	54	1191	994	442	4542	382	3652	8892	**20149**

Table 4. Stand-alone WIU Installation

Railroad	ARR	BNSF	CN	CP	CSX	KCS	NS	UP	**Total**
# stand-alone WIUs required to be deployed	38	1180	699	620	1167	217	1096	1934	**6951**
# stand-alone WIUs deployed to date	0	209	0	15	10	42	39	452	**767**
# stand-alone WIUs remaining to be deployed	38	971	699	605	1157	175	1057	1482	**6184**

Table 5. Signal Replacement Projects

Railroad	ARR	BNSF	CN	CP	CSX	KCS	NS	UP	**Total**
# locations of signal replacement required	0	3965	134	66	1724	364	1850	4200	**12303**
# locations replaced to date	0	2490	89	26	561	180	597	1255	**5198**
# locations remaining to be replaced	0	1475	45	40	1163	184	1253	2945	**7105**

Table 6. Switches in Non-Signal PTC Territory

Railroad		ARR	BNSF	CN	CP	CSX	KCS	NS	UP	**Total**
# non-signaled switch locations needing power & WIUs	# needed	64	1180	227	481	973	148	728	974	**4775**
	# equipped with power to date	4	209	0	11	85	30	39	58	**436**
	# remaining to be equipped with power	60	971	227	470	888	118	689	916	**4339**
	# equipped with WIUs to date	4	209	0	11	10	30	39	58	**361**
	#remaining to be equipped with WIUs	60	971	227	470	963	118	689	916	**4414**
# non-signaled switch locations needing switch position monitors	# needed	0	0	227	481	973	148	728	974	**3531**
	# equipped to date	0	0	0	11	10	30	39	58	**148**
	# remaining to be equipped	0	0	227	470	963	118	689	916	**3383**

Table 7. Communications Deployment

Railroad		ARR	BNSF	CN	CP	CSX	KCS	NS	UP	**Total**
# Base station 220 MHz radios	# needed	33	731	181	134	1285	120	700	1036	**4220**
	# installed	3	297	0	0	30	0	62	4	**396**
	# of future installations needed	30	434	181	134	1255	120	638	1046	**3838**
# Wayside location 220 MHz radios	# needed	78	5863	1751	687	5299	828	5478	13700	**33684**
	# installed	0	1282	0	0	748	0	78	102	**2210**
	# of future installations needed	78	4581	1751	687	4551	828	5400	13598	**31474**
Locomotive 220 MHz radios	# needed	54	4000	1000	1143	4100	591	3811	7267	**21966**
	# installed	0	146	0	1	20	0	0	2	**169**
	# of locomotives remaining to be equipped	54	3854	1000	1142	4080	591	3811	7265	**21797**

Table 8. Status of PTC GIS Projects

Railroad		ARR	BNSF	CN	CP	CSX	KCS	NS	UP	**Total**
# PTC assets to be* mapped and extracted for GIS consumption		2800	95925	25630	17802	114731	9641	77000	130000	**473529**
# track miles required to be GIS mapped	# miles mapped to date	600	13925	80	865	21455	1977	16107	25000	**80009**
	# miles to be mapped	0	10562	4300	1871	110	250	0	0	**17093**
# track miles required to be data processed	# miles processed to date	600	9758	20	273	7742	153	231	22500	**41277**
	# miles remaining to be processed	0	14729	4300	2463	13823	2074	16107	2500	**55996**
# track miles GIS data to be converted to PTC subdiv files	# converted to date	600	6455	0	273	1420	153	231	300	**9432**
	# remaining to be converted	0	18032	4300	2463	20145	2074	16107	24700	**87821**

*The calculation of assets to be mapped includes the following: integer mileposts; signals; crossings; switches; interlockings/control point locations; permanent speed restrictions; the beginning and ending limits of track detection circuits in non-signaled territory; clearance point locations for every switch location installed on the main and siding tracks; and inside switches equipped with switch circuit controllers.

Table 9. Status of PTC Dispatch System Projects

Railroad	Date System will be PTC-capable
ARR	April 2013
BNSF	Completed
CN	1st quarter 2014
CP	June 2014
CSX	3rd quarter 2014
KCS	1st quarter 2014
NS	3rd quarter 2013
UP	Completed

Table 10. PTC Investment

Railroad	PTC investment through December 31, 2012 ($)
ARR	34,000,000
BNSF	739,694,000
CN	55,900,000
CP	102,340,000
CSX	585,000,000
KCS	50,374,000
NS	443,466,772
UP	$759,000,000
Total	**$2,769,774,772.00**

Table 11. PTC Timeline Based on PTC Regulations as of 12/31/2012

Railroad **Class 1s**

Component	Thru 2012	2013	2014	2015	2016	2017	2018 and beyond*	Totals
Locomotives Partially Equipped	6,031	4,242	1,365	678	650	314	77	13,357
Locomotives Fully Equipped	224	987	6,948	7,425	4,425	1,509	448	21,966
Percent Complete	1%	6%	37%	71%	91%	98%	100%	
Wayside Interface Units installed	9,726	5,300	4,950	5,837	4,210	3,988	2,048	36,059
Percent Complete	27%	42%	55%	72%	83%	94%	100%	
Base Station Radios Installed	403	976	1,285	1,267	222	52	34	4,239
Percent Complete	10%	33%	63%	93%	98%	99%	100%	
PTC Route Miles Implemented	207	1,085	8,320	15,516	11,983	12,760	12,341	62,213
Percent Complete	0%	2%	15%	40%	60%	80%	100%	
Employees Trained	5,724	4,013	10,930	28,692	16,520	13,276	17,545	96,700
Percent Complete	6%	10%	21%	51%	68%	82%	100%	
PTC Spending ($M)	2,770	1,377	1,403	1,221	572	393	241	7,978
Cumulative Spending ($M)	2,770	4,147	5,549	6,771	7,343	7,736	7,978	

*The year 2018 and beyond column includes data for what the railroads currently project will remain to be done in and beyond 2018. Because of all the uncertainties associated with the development and installation of PTC, it is impossible to set forth a precise completion date. The railroads currently project that by the end of 2018, all hardware will be installed and PTC will be in operation on approximately 90 percent of the mandated PTC routes, by mileage. The industry continues to seek ways to speed progress while maintaining safe operations in order to achieve complete deployment as soon as possible.

Assumptions:

1 -70% confidence factor in accomplishing the above metrics.

2 - No FRA accomodation on yard movements in PTC territory. The spreadsheet only reflects the cost of equipping yard locomotives. The spreadsheet does not reflect the potential cost of operational impacts such as reduced operational efficiency and potential expenses that will be associated with resolving technical issues such as overloaded communications systems and the potential impossibility of accommodating PTC equipment on remote control locomotives.

3 - Costs represent capital expenses only, no operating or maintenance expenses.

ATTACHMENT C

ITC Sourced Specifications	Total	Started	Delivered to AAR and Published for Comment	Revised and Sent to Railway Electronics Standards Committee for Adoption	Final Version Released by AAR
Interface Control Documents	8	8	4	3	3
Requirements Specifications	14	14	12	9	8
Architectural Specifications	2	2	2	2	2
Database Definitions	2	2	4	3	2
Protocol Specifications	3	3	3	3	2
Recommended Practices	1	1	1	0	0
Test Plans	1	1	1	1	1
Test Reports	0	0	0	0	0
Total Specifications	31	31	27	21	18

TESTIMONY OF

THE HONORABLE MICHAEL P. LEWIS

DIRECTOR
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

ON BEHALF OF

THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS

REGARDING

NATIONAL RAIL POLICY: EXAMINING GOALS, OBJECTIVES AND RESPONSIBILITIES

BEFORE THE

SUBCOMMITTEE ON RAILROADS, PIPELINES AND HAZARDOUS MATERIALS
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
UNITED STATES HOUSE OF REPRESENTATIVES

JUNE 27, 2013

American Association of State Highway and Transportation Officials♦444 North Capitol Street, N.W., Suite 249, Washington, D.C. 20001♦202-624-5800

Thank you Chairman Denham, Ranking Member Brown and distinguished Members of the Committee for inviting me to participate in today's hearing on ***National Rail Policy: Examining Goals, Objectives and Responsibilities***. My name is Mike Lewis and I'm the Director of the Rhode Island Department of Transportation, Today I am testifying on behalf of the American Association of State Highway and Transportation Officials where I serve as President. I am also a member of the Northeast Corridor Commission.

AASHTO is the national association representing transportation departments in the 50 States, the District of Columbia, and Puerto Rico. It represents all five passenger and freight transportation modes: air, highways, public transportation, rail, and water. Its primary goal is to foster the development, operation, and maintenance of an integrated national transportation system.

It could be said that AASHTO's member states have been working to participate in a hearing such as this for more than a decade. For some years, AASHTO has urged Congress "to enact a National Rail policy which outlines the importance to the country of their being a national rail network capable of moving passengers and freight effectively and efficiently." AASHTO's position on rail policy has evolved through many years of State experience with delivering passenger rail service and working with and supporting large and small freight railroads.

To put AASHTO's views on this subject into context, I will summarize where we think we are now with freight and passenger rail, describe the work of AASHTO and its member States leading up to this point, and suggest where we should go from here. In the process I will offer AASHTO's views on national rail policy issues.

BACKGROUND

AASHTO's standing policy declares that:

> "A robust national rail transportation network that moves both passengers and freight effectively and efficiently across international borders, across state lines, and within regional and state boundaries is essential to this nation's continued economic growth and vitality.
>
> "A strong rail system would reduce highway congestion and airport capacity needs. It would improve America's competitiveness in world markets and it would contribute to the achievement of important public benefits such as: conserving energy, reducing greenhouse emissions, and providing transportation options for our citizens."

AASHTO's rail policy is based on the long-experience of the States with both freight and passenger rail, supported by the analyses contained in a series of reports issued between 2002 and 2013:

- **2002 AASHTO Freight Rail Bottom Line Report**
- **2002 AASHTO Intercity Passenger Rail Transportation Report**
- **2008 Update to the 2002 Intercity Passenger Rail Transportation Report**
- **2009 State Rail Planning Best Practices**
- **Intercity Passenger Rail: Achieving the Vision--2009**

- **2010 Unlocking Freight: Transportation Reboot**
- **2011—States Ramping Up Action on Passenger Rail**
- **2012—Passenger Rail Moves Ahead: Meeting the Needs of the 21st Century**
- **2013 Update of State Rail Planning Best Practices (forthcoming)**
- **2013 Update of Freight Rail Bottom Line Report (forthcoming)**

The analyses carried out for these reports supports the proposition that rail must be part of the balanced mix of transportation alternatives available to our nation's freight shippers and travelers.

The *AASHTO Freight Rail Bottom Line Report*, issued in 2002, calculated the consequences of investing or not investing in freight rail infrastructure and service for the economy in general and specifically for shippers, consumers, the traveling public, the environment and the highway system. It concluded that without strong investment in freight rail the resulting shift to roads would greatly increase highway maintenance costs and ultimately the overall costs of goods movement in the U.S. economy.

The report observed that:

> "Many states have already taken steps consistent with a public policy-driven approach, by investing directly in their rail systems, and by forming public-private partnerships to implement specific projects. But making increased levels of investment and realizing the public benefits of a strong freight-rail system at a national level will require a new partnership among the railroads, the states, and the federal government."

A number of projects referenced in *AASHTO Freight Rail Bottom Line Report* involve both Class 1 railroads and short-line and regional railroads, including the Alameda Corridor and Alameda East, the Washington State "Grain Train" and "Fruit Express," the Sheffield Flyover, and "double-stack clearance from Columbus to Norfolk."

The *2002 AASHTO Intercity Passenger Rail Report* presented for the first time a complete picture of the passenger rail corridors then in service or in a serious planning process. It provided confirmation of need and performance that gave a boost to the passage of PRIIA.

An updated *2008 Intercity Passenger Rail Report* was released prior to the passage of the American Recovery and Reinvestment Act and the creation of the High Speed and Intercity Passenger Rail Program by the Federal Railroad Administration. Subsequent federal funding announcements have yielded applications from 39 states, the District of Columbia and Amtrak requesting more than seven times the amount of funding available.

The *State Rail Planning Best Practices* was issued shortly after the passage of PRIIA which required state rail plans including both passenger and freight as a condition for the receipt of federal passenger rail grants. Despite the fact that the requirement has been

waived for all grants to date, today, 43 states have current rail plans or are in the process of updating them. AASHTO's members believe that freight rail and passenger rail cannot be addressed separately. What is needed is world class rail and freight rail not one or the other.

The *2009 AASHTO report Unlocking Freight: Transportation Reboot* reported on the role of freight rail in the context of the nation's multimodal freight transportation system. Since 2002, substantial private investment, along with significant public participation, has strengthened the foundation of the freight rail system. Projects such as those referenced above have updated and adapted the system to function within the demands of the current national and global economies.

These reports for both freight and passenger rail describe early and significant activity by states and the need for a strong federal partner and substantial federal investment.

In January 2013 the Northeast Corridor Commission released its report, *Critical Infrastructure Needs on the Northeast Corridor*. This report serves as an informational resource that describes the improvements needed to reduce delays, achieve a state-of-good-repair, and build capacity for growth on the NEC.

Demand for rail service in the NEC is at record levels. The NEC, however, cannot continue to accommodate rising demand due to infrastructure that is highly congested and in need of repair. Hundreds of its bridges and tunnels are now over a century old; major portions of its electrical power supply system date from the 1930s or earlier; and signal systems rely on decades-old installations. With more than 2,000 trains per day and major segments at or near capacity, operating the NEC leaves little room for error, while capacity chokepoints preclude the increases in service necessary to accommodate growing demand.

The projects were identified through a consensus-based process by the NEC Commission's members, which include representatives from the NEC States, U.S. DOT, and Amtrak. The report recognizes that additional investment is necessary to renew and enhance the NEC as a world-class, high-performance rail corridor supporting the economic development and international competitiveness of the region and the nation with job creation, improved reliability of existing services, and a foundation for future mobility and economic growth.

WHERE WE ARE TODAY

Freight. *Without strong investment in freight rail the resulting shift to roads will greatly increase highway maintenance costs and ultimately the overall costs of goods movement in the U.S. economy.*

Of the projects referenced in the *AASHTO 2002 Freight Rail Bottom Line Report*, most were completed and succeeded, some not. Regardless of project outcome, the development process significantly contributed to the "new partnership among railroads, the States, and the federal government," which was called for in the report. And this partnership has evolved well beyond

where it was in 2002. The public benefit analysis used for the first time in the *AASHTO Freight Rail Bottom Line Report* has become the standard for analyzing public/private rail projects such as the Heartland Corridor (the double-stack clearance project described in the report), the National Gateway Corridor, and CREATE, all of which have apportioned shares of investment among the federal government, State governments and industry based on analyses of private and public benefits.

A 21st century transportation system requires adjusting the disconnection resulting from the development of ports, rail, highways, and airports at different times. CREATE includes a large component of highway-rail, rail-rail, and rail-transit crossings. The Alameda Corridor, the grandfather of big public-private freight projects, is a grade separation and Alameda East is a series of crossings improvements. The Heartland and National Gateway projects are in part major intermodal connector projects responding to shifting patterns of international and domestic demand. These and similar projects are largely a function of adapting to the ever-changing global economics and logistics.

In the area of freight transportation, two of AASHTO's Board Members have been selected to serve on the National Freight Advisory Committee, which had its first meeting on June 25. They are Anne Schneider, Secretary, Illinois DOT, and Mike Tooley, Director of the Montana DOT. Schneider is also the Chair of AASHTO's Standing Committee on Rail Transportation. The Advisory Committee is clearly a place to work on integrating rail with the other modes.

Another rail freight related area in which States have been especially active is short line rail financing. The short lines provide the essential connective tissue in the freight rail system and are frequently at the center of State and local economic development strategies. Today there are active short line financing programs in twenty States. One recent financing example comes from Connecticut. Last month Governor Patrick Malloy announced an $8 million Connecticut investment in four of their regional railroads:

> "Improving our freight rail infrastructure is a critical component of strengthening Connecticut's economy. Upgrades to tracks and crossings for rail freight certainly improve our overall transit system, but also create good jobs and a strong system for future commerce. These improvements will allow more freight to be moved safely at higher speeds, while at the same time ease highway gridlock and reduce air pollution."

State Supported Passenger Rail Corridors. *For many years preceding the passage of Passenger Rail Investment and Improvement Act of 2008 (PRIIA), a number of States developed and delivered passenger rail services without federal capital and operating assistance. With the enactment of PRIIA, the number of States seeking and supporting intercity passenger rail service has grown to at least thirty seven.*

In fiscal year 2013, fifteen States either partially or completely supported Amtrak service on 74 of the total 110 corridor routes defined in PRIIA Section 209. Under the provisions of PRIIA Section 209, all short-distance Amtrak corridor services must become State-supported routes and States must pay the proportional costs associated with their respective corridor route. The States and Amtrak developed a single, nationwide standardized methodology for establishing and

allocating the operating and capital costs incurred – and calculated by Amtrak -- on Amtrak of routes "of no more than 750 miles between endpoints" . The implementation of the new cost accounting methodology is scheduled for the beginning of fiscal year 2014 and States are currently in individual contract negotiations with Amtrak to provide funding for the remaining corridors.

The agreed upon cost methodology that Amtrak will use will compute:

- Operating expenses for routes using a formulation that defines direct route costs and associated additives, and
- Capital charges for the use of Amtrak-owned assets.

The Amtrak Performance Tracking (APT) system, Amtrak's recently-implemented cost accounting system, which is linked to Amtrak's financial and operating systems, provides the cost basis that the States and Amtrak used to evaluate options for assigning service area route costs.

The Federal Railroad Administration met with the States and Amtrak to address the issue of transition assistance to the States during the phase in of the new methodologies for route and capital costs. Because the States and Amtrak have been negotiating over the methodology, States did not receive the fiscal year 2014 expenditure forecast until April, 2013. Therefore, the States have been using June, 2012 budget planning documents from Amtrak in working with their legislatures and governors to develop funding strategies to cover increased costs. The FRA's proposal to assist States with transition assistance is providing financial support to the States while they work to put funding mechanisms in place.

Many railroad costs, both costs directly related to the services provided and those shared among services, by their nature are incurred through jointly used crews, crew bases (locations where train crews report for work), support teams/facilities, maintenance facilities, and stations. Therefore, cost allocation methods and procedures are needed to fairly apportion these costs. The Amtrak Performance Tracking (APT) system will provide the basis for allocating "to each route the costs incurred only for the benefit of that route and a proportionate share, based upon factors that reasonably reflect relative use, of costs incurred for the common benefit of more than one route".

In some cases, Amtrak and the States may agree to use supplemental financial data to adjust the results of the APT system, including, for example, local methodologies for measuring fuel consumption, which are not available nationally. Pursuant to part (b) of Section 209, if changes to Amtrak's financial systems result in a material change to the results of the APT system, Amtrak will work with its State partners to update this policy in a manner consistent with the intent of Section 209.

Northeast Corridor – PRIIA Section 212. *The Northeast Corridor Commission was authorized in PRIIA in recognition of the inherent challenges of coordinating, financing, and implementing major system improvements that cross multiple jurisdictions.*

The Northeast Corridor Commission is comprised of members from each of the Northeast Corridor States, Amtrak, and the U.S. Department of Transportation and includes non-voting representatives from freight railroads, commuter railroads, and States with connecting corridors.

The expectation is that by coming together to take collective responsibility for the Northeast Corridor (NEC), these disparate stakeholders will achieve a level of success that far exceeds the potential reach of any individual organization.

Realizing a bolder vision for the future requires unprecedented collaboration. Comprehensive planning is difficult for a system that spans eight States and the District of Columbia, supports nine passenger rail operators, including four of the five largest commuter rail services in North America, serves four freight railroads, and has four separate infrastructure owners. It is a challenge to ensure that near-term capital projects align with long-term infrastructure and service plans. A key charge for the Commission is to work with its members to develop strategies for coordinated action.

By bringing the key stakeholders to the table, the Commission is making a difference in the governance of the Northeast Corridor. For the first time, all of the stakeholders are joining together in an attempt to develop a Corridor-wide five-year capital program. This is part of a desire among the Corridor's owners and operators to take shared responsibility for the Corridor and to share in decision-making. The NEC intends to have a draft five-year program that is agreed to by all of the Corridor's owners and operators this fall.

The five-year program will inform the cost allocation process that the Commission is currently undertaking. A major responsibility of the Northeast Corridor Commission is the development of a standardized formula to allocate costs, revenues, and compensation among NEC owners and operators that ensures each service takes the full financial responsibility for its use of NEC infrastructure and related facilities. The statute also requires that there is no cross-subsidization between commuter, intercity, and freight transportation.

Fundamental to reaching agreement and implementing a new approach to corridor maintenance and development is that funds generated by increased State and Amtrak financial contributions do not replace Federal funding, but remain in the Corridor to leverage higher levels of overall federal and State investment.

Section 305 Next Generation of Corridor Equipment Pool Committee (NGEC Committee). *AASHTO supports reauthorizing the NGEC Committee at the fiscal year 2008 authorized level of $5 million and supports the continued eligibility of rolling stock and locomotive equipment as eligible capital expenses.*

A key component of PRIIA was a directive to Amtrak to establish the Next Generation Corridor Equipment Pool Committee (NGEC) "…to design, develop specifications for, and procure standardized next-generation corridor equipment."

The NGEC Executive Board held its initial organizational meeting in January 2010. The Board is comprised of representatives from eleven (11) States, Amtrak, and the Federal Railroad Administration (FRA). Subcommittees have been established to carry out specific responsibilities, including a technical subcommittee that has benefitted from the participation of hundreds of private sector experts from dozens of equipment manufacturers, supplier companies

and railroad operating companies and agencies. AASHTO was retained to provide support services.

PRIIA requires that equipment purchased with federal funds comply with specifications developed by the NGEC Committee. In addition to developing standardized specifications, the NGEC Committee is ensuring that equipment consistent with these specifications is procured.

In a remarkably short time since January 2010, the NGEC has developed, adopted, and promulgated five specifications for next generation rail equipment. A ground-breaking multi-state procurement has been completed and another is underway. The specifications (with date of approval) are for:

- Bi-level cars (7/31/2010)
- Single-level cars (2/15/2011)
- Single-level trainsets (3/16/2011)
- Diesel-electric locomotives (7/2/2011)
- Diesel Multiple Units (DMUs) (9/4/2012)
- A specification for dual-mode locomotives is currently under development.

In 2012, the California Department of Transportation served as the lead State and the Illinois Department of Transportation participated on behalf of itself and Missouri, Michigan and Iowa. This historic procurement effort required unprecedented cooperation among the States, their counsels, and procurement officers to reconcile differences among the States and make a group purchase possible. Amtrak provided technical expertise and the FRA provided substantial support and coordination throughout the process. A similar effort is currently underway, led by the Illinois DOT, for the procurement of diesel-electric locomotives.

The Committee's achievements can be described in terms of the specifications it has developed and the current and future procurements it is supporting. However, the benefits produced are broader, deeper, and more far-reaching. States and the federal government will spend less on passenger rail equipment and Amtrak, its funding partners and other passenger rail operators will have lower operating and maintenance costs. The U.S.-based rail equipment manufacturing and supply industry will increase their output and employ more workers. Ultimately, and most importantly, the traveling public will get more and better equipment to satisfy its demand for rail travel as part of the nation's multimodal passenger mobility system.

WHERE DO WE GO?

By 2050 the population of the United States will increase by 100 million and we will need to move 4 billion more tons of freight per year. It is inconceivable that the nation will be able to satisfy the future demand for personal and goods mobility without an expanded, efficient and integrated rail system. To get there from here a strong state/federal partnership will be central, as it is for the ongoing development and preservation of the highway system.

Federal Role. AASHTO believes that there is a Federal investment role for intercity passenger rail in the Northeast Corridor, in State Supported Corridors, and in improving intercity passenger rail service, including long distance trains. Congress has the opportunity to describe this role more clearly but such clarification should not have the effect of jeopardizing current services. For example, current intercity passenger trains serving distances over 500 miles should remain a Federal priority.

There is a federal role in the maintaining the "backbone" for supporting the continued operations of the various business lines for intercity passenger rail including the safety and security of such business lines.

National Rail Policy. National rail policy, must be just that a national policy. As called for in the 2008 legislation, AASHTO supports the development of a National Rail Plan that should be a vision for both freight and passenger. This vision should be part of a larger vision for a national transportation network and incorporate planning tools and maps to be illustrative of infrastructure needs.

Intercity Passenger Rail Funding. Congress and the Administration provide for long term stable funding for intercity passenger rail with dedicated, guaranteed funding similar to the Highway Trust Fund with firewalls, guaranteed levels of spending and contract authority.

Rail Financing Tools. Financing must be an important piece of the national rail policy and should include the full range of financing techniques from grants to tax incentives and including improvements in TIFIA and RRIF.

National High-Performance Rail System. AASHTO supports the FRA's proposal for a new, coordinated approach to rail investments entitled the National High-Performance Rail System (NHPRS). The NHPRS would replace and consolidate existing rail programs including the Amtrak grants and capital assistance for intercity passenger rail with a focus on current passenger rail service and a separate category focused on expanding and improving the passenger and freight rail networks to accommodate growing travel demand.

Expedited Project Delivery. AASHTO supports application of the MAP-21 project delivery streamlining measures to rail projects both freight and passenger. The reduction in the amount of time that it takes for a rail project to move from planning to actual construction could be reduced in half and thus save countless millions in escalating construction costs. Agencies of the USDOT should accept lead federal agency responsibilities on state transportation projects of the type that would typically fall under the purview of their specific USDOT agency, even when the project does not appear as fully funded in the TIP with part of the funding passing through that USDOT agency at the time of the environmental document.

Appropriate environmental documentation for transportation projects is typically determined by the known or anticipated source of the project funds. For those projects that anticipate use of federal funds, a federal environmental document (CE, EA or EIS) is generally prepared. In many cases, application for federal funding sources requires a completed federal environmental document.

A federal environmental document requires the cooperation of a federal lead agency. The difficulty for state transportation agencies is that the actual funding may not be available to

construct the project at the early stages of project planning when the environmental document must be performed. Because the future federal funding has not been committed, the federal transportation agencies do not want to commit to be the lead federal agency on a project where the project does not appear as fully funded in the TIP. This reticence is understandable because of the resource requirements associated with being the lead federal agency on any transportation related environmental document.

Safety. Safety continues to be a top priority for the State departments of transportation. We must continue to do everything in our power to eliminate traffic fatalities and traffic injuries. We must look at corridor specific measures that will reduce fatalities and injuries and allow States the flexibility to use new technology, combining of resources and to partner with the private sector in innovative approaches that will lead toward zero deaths, including those at rail highway grade crossings.

AASHTO urges Congress to reauthorize Operation Lifesaver funding in the new rail safety bill so that their important lifesaving work can continue.

Operation Lifesaver (OL) is the national nonprofit rail safety education organization whose mission is to end collisions, injuries and deaths at highway-rail grade crossings and on rail property. OL offers free rail safety education programs in the 50 States, and its trained volunteers across the U.S. reached more than 2.7 million people last year through presentations at schools, trucking companies, school bus districts, police departments, and special events like safety trains, community and state fairs, and enforcement activities targeting drivers near rail crossings.

Section 206 of the 2008 Rail Safety Improvement Act authorizes Federal Railroad Administration funding for OL, which supports the lion's share of OL's safety education programs. These education tools include e-Learning training for professional drivers and school bus drivers and in-person rail safety instruction for law enforcement and other first responders. OL works with State DOT's, the railroads, transit agencies, and U.S. DOT to target high-risk railroad crossings and rail corridors and focus safety education messages to the those geographic areas and audiences. OL safety messages are reaching new and expanded audiences through both traditional and social media. Over its 40-year existence, OL has helped reduce the number of rail crossing collisions by 83 percent, from a 1972 high of roughly 12,000 annual incidents to approximately 1,953 incidents in 2012. However, trespassing on railroad rights-of-way is on the rise, and every year since 1997, more people have been killed while trespassing on tracks than from vehicle-train collisions at railroad crossings.

Research. AASHTO and its members support the reauthorization of the National Cooperative Rail Research Program (NCRRP).

This program was established in PRIIA and the NCRRP conducts applied research on problems important to freight, intercity and commuter rail operators. AASHTO and its members participate in the NCRRP through selection of research proposals. Research is necessary to solve common operating problems, to adapt appropriate new technologies from other industries, and to introduce innovations into the rail industry. The NCRRP carries out applied research on problems that are shared by freight, intercity passenger, and commuter rail operating agencies and are not being adequately addressed by existing federal research programs. The NCRRP undertakes research and other technical activities in a variety of rail subject areas, including

design, construction, maintenance, operations, safety, security, policy, planning, human resources, and administration.

The primary participants in the NCRRP are (1) an independent governing board, the NCRRP Oversight Committee (ROC), appointed by the Secretary of the U.S. Department of Transportation with representation from freight, intercity passenger, and commuter rail operating agencies, other stakeholders, and relevant industry organizations such as the Association of American Railroads (AAR), the American Association of State Highway and Transportation Officials (AASHTO), the American Public Transportation Association (APTA), and the National Association of Railroad Passengers (NARP) as vital links to the rail community; (2) the Transportation Research Board of the National Academies as program manager and secretariat for the governing board; and (3) the FRA as program sponsor. The NCRRP benefits from the cooperation and participation of rail professionals, equipment and service suppliers, other rail users, and research organizations. Each of these participants has different interests and responsibilities, and each is an integral part of this cooperative research effort.

The governing board for the NCRRP was named by US DOT in early 2012 and met in May 2012 to select initial research projects using its one year of program funding. Projects selected include the following:

- Comparison of Passenger Rail Energy Consumption with Competing Modes
- Intercity Passenger Rail Service and Development Guide
- Intercity Passenger Rail in the Context of Dynamic Travel Markets
- Building and Retaining Workforce Capacity for the Railroad industry
- Alternative Financing Approaches for Passenger and Freight Rail Projects
- Developing Multi-State Institutions to Implement Intercity Passenger Rail Programs
- Legal Aspects of Rail Programs

Work is underway on these initially-selected research topics. Continuation of the NCRRP will be contingent on the PRIAA reauthorization process and subsequent annual funding decisions.

In addition to continuing the NCRRP the Congress should reinstate the National Cooperative Freight Research Program. This program was authorized in SAFETEA-LU but not continued in MAP-21. It has produced a substantial body of work that has provided useful intelligence for practitioners on both the public and private sides of freight transportation, including rail. It is unfortunate and probably inadvertent that in MAP-21, which has substantial freight transportation provisions that the research program intended to inform policy and practice in this area was not continued. It should be reauthorized.

CONCLUSIONS

Today, we are discussing national rail policy at a time in history when all of the nation's transportation systems have matured. Highway, rail, maritime, and air—passenger and

freight—have developed from different points in time, independently and with little effort in the public sector to coordinate and integrate. Just last week AASHTO issued the *AASHTO Maritime Freight Transportation Bottom Line Report*. One theme of that report is the need to understand the connections and interrelationships among the modes of transportation to maximize the performance of each and of the system as a whole. Another theme is the mix of ownership and authority. Maritime has a very complicated arrangement of public and private and federal, state, and local responsibilities. Highway infrastructure is public with the most heavily-used portion of the system owned and managed by states with substantial support from the federal government. Freight rail is a private sector enterprise with public regulation and some public investment. Passenger rail is a publicly-funded service operating on shared infrastructure, most of which is owned by private freight rail companies.

It is clear that as we move forward towards a national rail policy we should be clear about the objectives, as AASHTO policy puts it:

"A robust national rail transportation network that moves both passenger and freight effectively and efficiently across international borders across state lines, and within regional and state lines, and within regional and state boundaries is essential to this national's continued growth and vitality....A national rail transportation policy is needed."

To achieve the objectives, however, we must be flexible with respect to organization and process. Progress toward these objectives will be incremental. It will require unprecedented coordination between the public and private sectors and between the federal government and state governments. It will involve integration of modes of transportation beyond anything we have seen in the past.

It will be a long journey, but today is a good day to start.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
AASHTO
THE VOICE OF TRANSPORTATION

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August 1, 2013

The Honorable Jeff Denham
Chairman, Subcommittee on Railroads, Pipelines, and Hazardous Materials
Committee on Transportation and Infrastructure
U.S. House of Representatives
2165 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Denham:

Thank you for providing me with the opportunity to testify before the Subcommittee on Railroads, Pipelines, and Hazardous Materials on June 27, 2013 concerning "National Rail Policy: Examining Goals, Objectives, and Responsibilities." It was an honor to present my oral testimony and provide written testimony for the record on behalf of the American Association of State Highway and Transportation Officials (AASHTO).

As requested, I have attached my responses to additional questions for written response for the record and I have also provided an electronic version of this response to Erin Sulla of your Committee staff.

If you have any questions, please do not hesitate to contact me.

Sincerely,

Michael P. Lewis
Director, Rhode Island Department of Transportation
President, American Association of State Highway and Transportation Officials

Committee on Transportation and Infrastructure
Subcommittee on Railroads, Pipelines, and Hazardous Materials
Hearing on "National Rail Policy: Examining Goals, Objectives, and Responsibilities"
June 27, 2013
Questions for the Record

Questions from Rep. Denham:

During the June 27th hearing, Chairman Denham requested information from each witness concerning a timeline for implementing Positive Train Control (PTC) by region, as the railroad system is an integrated network, operated by different corporations. Please provide information to the Committee concerning the progress, the challenges and obstacles, and overall timeline for implementing PTC, by region.

Safety is a top priority for the state departments of transportation. However, we do not have a direct role in establishing a timeline for the implementation of Positive Train Control (PTC). We understand that technology, environmental review and other factors may make implementation vary from region to region and recognize the importance of interoperability. We will continue to work with the railroads, FRA and passenger rail operators to ensure federally mandated timelines are met.

In your testimony, you state that comprehensive planning on the Northeast Corridor is difficult, given its length and the number of States and operators involved. What policies do the States believe would be helpful to improve governance and decision-making among NEC stakeholders?

The Passenger Rail Investment and Improvement Act of 2008 (PRIIA) established the premise for the Northeast Corridor that a partnership among the stakeholders to address rail service planning and infrastructure investment will more effectively meet the current and future mobility needs of the public, enable operational efficiencies and spur economic growth rather than each stakeholder acting individually. The states support policies that further this vision.

Ongoing discussions for developing a standardized methodology for cost-sharing on the Northeast Corridor have raised the issue of governance. There is the expectation that in paying fully-allocated costs to infrastructure owners, operating agencies will have a greater role in joint capital planning as well as decision-making on network priorities, such as scheduling and dispatching. States along with other stakeholders are engaged in a collaborative effort to develop a corridor-wide five-year infrastructure investment program. While much work lies ahead in this process, this is an important step forward in enhancing future intercity, commuter and freight operations in the Northeast Corridor.

Does AASHTO believe that the PRIIA Section 209 process will help improve services along Amtrak's State Supported Routes by ensuring that States have a larger stake in their operations?

PRIIA Section 209 will help improve services along Amtrak's State Supported routes because it will provide States with an opportunity to tailor their services to meet the needs of their riders and budgets of their States. The PRIAA 209 Pricing Policy and Methodology has been developed to provide States with a menu of services which can be purchased from Amtrak - or another vendor – such as rolling stock, equipment maintenance, advertising, call center/reservation support and food service. PRIIA 209 States have the ability to determine schedules and consist size, establish performance standards, set ticket prices, etc. and customize their routes so that it enhances the customer experience, improves mobility, and contributes to the bottom line.

If so, wouldn't such a model be beneficial for the long distance routes as well?

The complexity and logistics associated with the operation of Long Distance Trains does not lend itself to this level of involvement nor does it provide States an opportunity to customize the route to meet the needs of its riders. For instance, a State would not have the ability to determine schedule of a train – which may pass though their state in the middle of the night. A state could not purchase its own equipment, nor could it choose to contract food service to a 3rd party. While it is important that States and Amtrak maintain communication regarding Long Distance Routes, and work together to maximize the public benefit, it would be difficult for states to contribute to an operation over which it would have very little influence.

What are some of the MAP-21 or other streamlining provisions for FHWA and/or FTA that would be most valuable for your members if applied to the FRA? Are there other specific streamlining provisions you would like to see applied to rail projects that are not in MAP-21?

Delegation of FRA Categorical Exclusion Authority to the States and Adoption of Additional Categorical Exclusions
SAFETEA-LU Section 6004 created a program that authorizes USDOT to delegate its responsibilities for projects that qualify for categorical exclusions (CEs) under NEPA to State DOTs. Alaska, Utah and California have been delegated CE authority and have indicated that the delegation is effective at delivering faster environmental reviews. FRA should have the authority to delegate its CE responsibilities to the states. In addition, FRA should adopt the general process language and appropriate CEs within the FHWA/FTA regulations (23 CFR Part 771) to provide more consistency in environmental reviews for multimodal projects.

Increased use of Programmatic Agreements
SATETEA-LU Section 6002 authorized the use of programmatic approaches to meeting environmental review requirements. MAP-21 Sections 1305 and 1318 provide further encouragement for the use of programmatic approaches. FRA should be afforded the same authorization and encouragement to develop and use programmatic agreements. In addition, FRA should recognize and accept in their environmental reviews, the agreements that other DOT modal administrations have developed with environmental resource agencies.

Statute of Limitations
SAFETEA-LU created a 180-day statute of limitations for challenges to federal approvals of highway and transit projects. MAP-21 Section 1308 further reduced this time to 150 days.

Issuing the notice in the Federal Register is discretionary. If a notice is not issued, the NEPA approval or decision remains subject to the general six-year statute of limitations for civil actions against federal agencies. Since 2005, FHWA and FTA have issued hundreds of SOL notices. State DOTs consider this a valuable streamlining tool because it provides certainty after the environmental process has been completed. The 150 day statute of limitations for projects should be established for FRA projects.

Using the Transportation Planning Process to Support NEPA Reviews
In addition to making changes to the NEPA process itself, MAP-21 also sought to expedite project delivery through changes in statewide and metropolitan transportation planning.

Integrated Planning
Section 1310 of MAP-21 provides new authority to expedite environmental reviews by allowing the NEPA process to adopt analyses and decisions made by States and MPOs during the transportation planning process. Prior to MAP-21, this authority existed in the transportation planning regulations (23 CFR Part 450). As the MAP-21 process is more complex and cumbersome than the process outlined in existing regulation, FRA should be provided the statutory authority to carry forward planning decisions into NEPA with the flexibilities that exist in the planning regulations.

Programmatic Mitigation Plans
Section 1311 of MAP-21 allows States and MPOs to develop "programmatic mitigation plans" as part of the statewide or metropolitan transportation planning process. This authority should be provided to FRA. In addition, this language should go beyond what is provided in MAP-21 to ensure that programmatic mitigation plans - if developed - are actually considered and used during the permitting stage of project development.

Early Coordination
Section 1320 of MAP-21 requires the USDOT and other Federal agencies, at the request of a State or local planning agency, to provide technical assistance on accomplishing early coordination activities. This early planning authority should be required of FRA.

Consistent Environmental Review Processes
Section 6002 of SAFETEA-LU created a new set of procedures for expediting the environmental review process for projects that require an environmental impact statement (EIS). MAP-21 Section 1305 made refinements to the SAFETEA-LU process and reduced unnecessary procedural requirements to assist in achieving the full streamlining potential of this section. This environmental review process should be expanded to include FRA projects.

Condensed Final EIS; Combining Final EIS and Record of Decision (ROD)
Section 1319 of MAP-21 streamlines the preparation of an EIS in two ways. First, it allows a "condensed" format to be used for the Final EIS, if the comments on the Draft EIS are found to be "minor." Second, it directs U.S. DOT to issue the Final EIS and ROD as a single document, to the maximum extent practicable, with certain exceptions. State DOTs have already started successfully using these streamlining measures. These streamlining authorities should be provided to FRA.

Activities Allowed Prior to NEPA Completion

Section 1302 of MAP-21 broadens States' ability to acquire right-of-way prior to completion of the NEPA process, using both Federal and non-Federal funds. This authority should be provided to FRA.

Could you give an example of a situation where the federal lead agency has been reluctant to commit to being the lead agency for environmental review of a project?

Texas Example: Lone Star Rail District has been advancing an important and needed passenger rail project since 2003 that addresses critical issues of mobility, transportation capacity, freight movement expedition, air quality, and safety in the nationally significant and growing I-35 trade corridor between the Austin and San Antonio metropolitan regions. The agency has followed a standard project development process, using Federal Transit Administration (FTA) guidelines to study feasibility, and then to develop a Locally Preferred Alternative that was adopted by the agency's governing board and by the policy boards of the Austin and San Antonio metropolitan planning organizations. It was subsequently determined that due to the large scope of the project (both geographically - encompassing two metropolitan regions, and practically - involving both a passenger rail and freight rail component), it would have been inappropriate and counterproductive to engage in the full FTA New Starts process.

The decision was made instead, since the service development plan envisions both regional and intercity passenger rail service operated on existing freight rail lines, to approach the Federal Railroad Administration to commit to be the federal lead agency on the environmental review of the project. Despite a well-defined project, a clear need, local support, and support from TxDOT (the project is included in the state's Rail Plan, and was endorsed by letter and in several presentations to FRA by TxDOT's Rail Director), FRA declined three times in the span of two years to step up into the role of federal lead agency. This led to project delays, additional expense, and credibility issues which threatened to seriously harm or kill the project.

In the end, through discussions with the Department of Transportation, the Federal Highway Administration (FHWA) stepped forward to lead the federal environmental review effort, thanks largely to Administrator Mendez's leadership and in recognition of the project's suitability for the Transportation Infrastructure Finance and Innovation Act (TIFIA) and Projects of National and Regional Significance (PNRS) programs.

Ohio DOT Example: The Oasis Line as part of the Eastern Corridor Program in Cincinnati, OH. The Oasis line was identified in a Tiered EIS that FHWA was the lead agency for. Out of the Tiered EIS, the individual projects of this region were identified and each project established separate purpose and need, funding, etc. So, the vast majority of projects out of this program were highway, bus, etc., so they were all picked up by FHWA. The Oasis line is a light rail project and we coordinated with FTA. However, because that project wasn't part of FTA's new starts program, the FTA chose not to participate. So, we merged the line in with a highway project as the two lines were expected to be part of the same footprint and FHWA took the lead. As the NEPA studies were developed, we found out the footprint wouldn't be the same for both the highway and light rail, so FHWA backed out of leading the light rail project. So, we approached FTA to be lead and thus far, they still don't want it since it's not thru their New Starts. So, how do you pursue a light rail project and try to get it going without a federal lead?

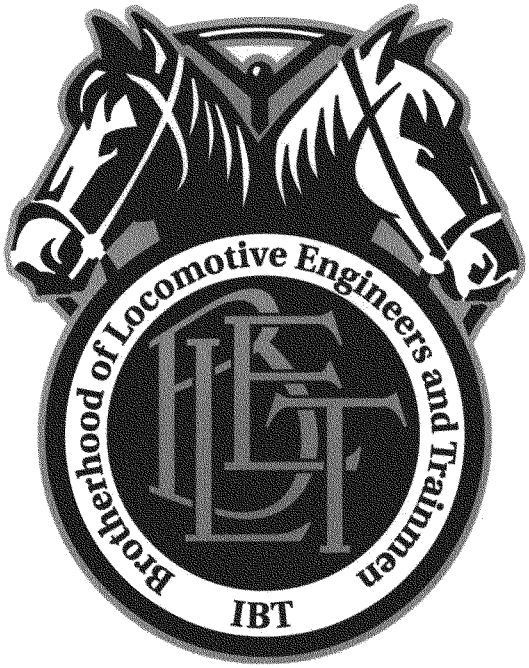
With regard to the section 209 process, where states are picking up the tab for their state supported route costs, are there any new statutory authorities states would like going forward? Do you need better or more detailed billing requirements from Amtrak, and if so, what types of detail would you like to see?

We would like Congress to authorize the Federal Railroad Administration (FRA) to establish a PRIIA 209 State Corridor Advisory Commission (consisting of States, Amtrak and FRA) to review or modify, cost methodologies, contracts, performance standards, reporting requirements and accounting principles and other issues associated with the pricing and operation of PRIIA 209 State Corridor Routes and to mediate associated disputes which may occur between States and Amtrak in the delivery of service or negotiation of contract and pricing terms.

Second, AASHTO supports the designate of a full-voting representative of State Supported Services to serve on the Amtrak Board of Directors. This member of the Board could be nominated by the S4PR Coalition and/or AASHTO for consideration. State-supported services are a growing part of Amtrak's business and will soon represent over $500 M in annual revenue (state-payments and retained ticket revenue). Formal representation on the Board would help ensure states interests are not only protected, but also promoted.

Third, it would be beneficial for transparency and consistent application of the methodology, to establish an independent audit for Amtrak to assure that costs attributed to Route Cost categories, which are subsequently allocated or charged to States, only include items directly associated with the operation of routes and do not contain costs which are either backbone costs, and therefore not attributable to States, or are overhead costs which are included in additive rates.

And finally, we would like to see language that would include a revision to policy stating that "at no time shall a state's or states' payment to Amtrak for a particular route cost or additive - exceed the full route loss as reported in Amtrak's APT system for that item."



Testimony of John Tolman
Vice President and National Legislative Representative
Brotherhood of Locomotive Engineers and Trainmen
Before the House Committee on Transportation & Infrastructure Hearing on National Rail Policy: Examining Goals, Objectives, and Responsibilities
June 27, 2013

Good morning, Chairman Denham, Ranking Member Brown, and Members of the Subcommittee. My name is John Tolman and I am Vice President and National Legislative Representative for the Brotherhood of Locomotive Engineers and Trainmen, which is a Division of the Teamsters Rail Conference.

On behalf of more than 37,000 active BLET members and over 70,000 Rail Conference members, I want to thank the Committee for the opportunity to discuss a comprehensive national rail policy, and how this issue impacts the men and women working on our nation's railroads.

The need for a National Rail Policy ("NRP") has long been established in order to focus passenger and freight rail investment and provide clarity to states and regions about the growth of our nation's railroads. This need was identified and codified by Congress in the Rail Safety Improvement Act of 2008 ("RSIA"). Section 307(b)(j)(2) of the Act directed the Administrator of the Federal Railroad Administration to "develop a long-range national rail plan consistent with approved State rail plans and the rail needs of the Nation as determined by the Secretary in order to promote an integrated, cohesive, efficient, and optimized national rail system for the movement of goods and people." A preliminary plan was delivered to Congress a year after the enactment of that legislation. A progress report on the Plan was submitted to Congress in September 2010.

The BLET — along with many other organizations — commented on the preliminary plan. In our comments, the BLET expressed, and continues to articulate, our support of the concept of a unified national plan for our nation's passenger and freight railroads, as it is consistent with our desire for long-term planning and financing of rail, and passenger rail in particular. Freight and passenger rail are the answer for many of our nation's transportation problems. Rail is energy efficient, relieves highway congestion, and provides flexible and viable alternatives as our population continues to grow. It also is imperative that any National Rail Policy or Plan would protect the interests of the men and women who work on America's railroads.

In order for our nation to meet the economic and environmental challenges that we face, we must continue to invest in infrastructure and continue to develop and plan for new means to get goods and people from place to place, while doing it in the most fuel efficient means possible. Rail is clearly the best means of doing this.

In Amtrak, the nation has a national passenger rail service provider, which has been working to integrate its operations with those of the freight railroads for more than 40 years. Amtrak, and its employees, have the knowledge, skills and abilities to develop, implement and grow passenger rail in this country. Now is the time to provide a long-term funding solution for Amtrak and our national passenger rail system. The cycle of nickel and diming the system shortchanges the public's need for high quality transportation and our economy's need to move people to and from work.

Amtrak and other intercity and commuter railroads have done great work and continue to set ridership records. This is all while Amtrak is underfunded. In spite of this, they continue to make great strides in passenger rail. They have moved ahead with providing a version of positive train

control that will help protect their employees and the public -- some of which has been in place since 1996.

Troubling is the recently proposed House Appropriations budget for fiscal year 2014. This will also affect ridership on Amtrak and commuter rails by forcing delays in completing equipment maintenance by cutting work hours. As reported by *Congressional Quarterly*, Amtrak President and CEO Joseph Boardman stated that the House's proposal "was not thought out at all." He also added, "It doesn't pay for any of the equipment that's on order and we fall further behind on the Northeast Corridor." Clearly, the House's proposal is a step in the wrong direction that cuts into bone and harms more than it helps.

Further, the bill would cut the Federal Railroad Administration's budget by $468 million dollars, or about 40%. It would impair FRA's ability to enforce safety laws and hire congressionally mandated inspectors. This is an unacceptable level of funding for the agency that oversees rail safety.

On the freight side, intermodal freight transportation is the way of the future, with goods moving from ship to truck to train, on a seamless network, and to do this we need to ensure that our nation's infrastructure is well planned to allow for these transfers. Unfortunately, the House 2014 spending plan leaves TIGER out entirely, and also tries to cut this year's award pool in half by rescinding $237 million before the DOT can get the already-awarded 2013 grants out the door. This program has helped meet the need for infrastructure upgrades around the country and has always had more demand than available funding affords – upgrades which our nation will need in coming years, as traffic congestion on our nation's highways is expected to grow exponentially over the next 30-40 years. This will necessitate even more use of rail as we move forward. Additional freight will come to rail from our over-crowded highways, and at the same time, our railroads must be prepared to provide new services and handle multi-modal containerized shipments.

In this century, the cost of fuel is expected to increase from the near record levels that we have seen in recent years, and railroads are poised to meet this challenge. Railroads have improved their fuel efficiency by 23 percent between 1990 and 2007. Each ton of freight transported via rail can move more than 450 miles per gallon of fuel consumed.

While the freight side of the industry is investing billions annually in its infrastructure and is well positioned to handle any additional freight that comes its way, we must also ensure these continued investments are made not only to expand capacity but also to improve safety.

The preliminary National Rail Plan points out the benefits from the implementation of positive train control ("PTC"), which is currently required to be installed by 2015 on all Class I mainline track where certain hazardous materials are transported and on mainline track over which intercity or commuter rail passenger transportation is regularly provided. PTC will save lives, and the BLET strongly supports the implementation of PTC on our nation's railroads.

The NRP Progress report issued in 2010 acknowledges that there is a "concomitant need for transporting more freight and improving safety." The BLET agrees wholeheartedly that safety

and efficiency are factors that form an essential bond. At a forum on February 27, 2012, at the National Transportation Safety Board, the NTSB asked, "Is PTC on Track?" The question was answered by a majority of Class I Railroads — with the exception of BNSF — and the answer was "No." It was astonishing that the railroads said directly to the NTSB, which is charged with investigating transportation accidents, that they were not going to comply with the legal deadline mandated in the RSIA. They have had over seven years to work on this, and now they come to Congress begging for an extension, yet this issue has been on the NTSB most wanted list since the early 1970's. Again, this is unacceptable. This technology will prevent the most egregious and catastrophic accidents where HAZMAT or passenger trains are involved protecting the public and railroad employees, and needs to move forward.

Too often, cost benefit analysis is used as the sole objection against moving ahead on a project. Forgotten is the most vital cost of doing business — that of providing a safe workplace for employees who perform the work that provides for business growth and the industry's multi-billion dollar profits. To argue otherwise is to state that a train is worth more than a person's life. Labor's voice is included in the debate not because we are scientists, lawyers or economists, although we count those professions among our ranks, but because we are the practitioners who are reporting what occurs from the field for our own, our employers' and the public's safety benefits. Perceived costs are calculated by forecasted assumptions. The resulting picture will be different depending on the assumptions of time and discounting practices that are inserted into the equation by a certain statistician.

Actual costs are borne in the field in blood and limbs. If we could rewind time and freeze frame the moment before any fatal accident — such as Macdona, Texas in 2004 or Graniteville, NC, in 2005 — occurred and talk to that train crew, who among us would like to explain to the train crew and town residents that they would die in the accident, not from the accident itself but from smoke or hazardous materials inhalation because the Congressionally-mandated emergency escape breathing apparatus ("EEBA") failed a cost benefit analysis? We understand how ridiculous the point would be no matter how academically sound an economic analysis it was. These are just two of the many accidents leading up to the Rail Safety Improvement Act's passage in 2008 mandating EEBA.

Most of the safety improvements we ask for are feasible to provide. PTC, although expensive in the near term, will only get more expensive the longer the carriers procrastinate on its implementation. The values and benefits of that person's lost life are not being captured. Those are the lessons that the unfortunate individuals who gave their lives teach us — the living — about safeguarding life. We understand it is not part of rail carrier's corporate charter to do what is morally right. But when it comes to safeguarding people against loss of life and injuries, we, as employees, expect our employers to do what is morally correct anyway. Let's not waste the opportunity to learn the lessons that the lost lives in our industry have presented to us. Let's not fail to strive for reducing the lives lost year after year; let's work to implement simple, inexpensive preventive and escape opportunities for the public and the employees. As Ed Hamburger from the AAR testified last week in the Senate, "Job Safety is the number 1 issue." Let's walk the talk and get things done together.

The safety benefits we enjoy today — from automatic couplers to fire extinguishers — could all fail cost benefit analysis depending on the assumptions made when doing the math; yet safety laws recognize their utility because the need for curbing and limiting the severity of accidents and injuries is so high. We do not argue over the water bill when our house is on fire. We cannot choose to worship one form of economic and statistical analysis while simultaneously ignoring medical science related to fatigue analysis.

The cost of fighting implementation and compliance with safety laws needs to be computed in any economic analysis. The cost of inaction needs to be figured. Competing costs between stakeholders and market failures need to be examined. The railroads have been noted with distinction as one of the best places to seek post-military employment. Not unlike our country's servicemen and women, railroad workers are everyday heroes who help our nation function. They work and give their time at all hours of the day and night and get injured and give their lives. Why not give them all the safety advantages that are available to make railroad catastrophes a rare thing relegated to history? In other words, let's treat our returned vets — and their coworkers who place their lives on the line for the American economy — as well as we treated them when their lives were on the line for the nation.

When examining the human factors in an accident, we need to include not just decisions by train crews, but also decisions by management and assumptions that are used as tools to prevent the advancement of safety. When talking about railroad safety, arguments overstating cost and understating benefits have proven themselves to sometimes be points that are technically correct and functionally useless when it comes to implementing PTC and fatigue mitigation. They are moot points and footnotes to substantive discussions about safety. We have seen the Class I rail carriers literally move mountains to install tracks after derailments, yet PTC is too difficult for them and requires a time frame with no end. Scheduling trains to provide predictability for employees, to provide a mere 10-hour call in advance of when a person needs to return to work cannot be too difficult for the industry to achieve. We simply don't believe these things cannot be achieved because we have seen these things accomplished before by railroads with far fewer resources and less cash on hand.

In addition to ensuring safety, one of the keys in any national rail policy is the need for a symbiotic relationship between freight rail and passenger rail. The interconnectivity of the nation's freight and passenger rail systems must be maintained due to the way the system has developed over the past 150 years with passenger and freight rail sharing corridors and rights of way.

With America's continued population growth, passenger rail is in a good position to respond to our nation's mobility needs by taking cars off the roads and passengers out of our nation's airports. Many critics of passenger rail seem to believe that its future is limited. However, this is short sighted. If the Interstate Highway System had been built only in regions where travel demand was greatest and incomes were the highest, it would not have generated the same level of connectivity and economic benefits for the entire nation as it has. A national policy must take all factors into account, including connectivity and the ability to provide service nationwide. Amtrak was created to provide a National Rail Passenger System, not just to meet the demand and needs on the NEC. Now is not the time to nickel and dime the system; now is the time to

stimulate the economy and invest in jobs through the creation of a good rail passenger system throughout the nation. For every $1 billion invested, such a program could create 47,000 good-paying, middle class jobs.

The workers currently employed by our nation's railroads are among the most highly trained and skilled employees in the world. They are entitled to a safe work environment and any comprehensive rail policy should not interfere with their ability to keep and expand their work. Congress must require the jobs generated by a national rail policy be safeguarded for railroad workers, and ensure these workers are protected by federal laws relating to railroad workers, including the Railway Labor Act, Railroad Retirement Act and the Federal Employers Liability Act. The industry also should be required to implement the mandates included in the RSIA that still remain unfinished, including Positive Train Control, emergency escape breathing apparatus, fatigue, and risk reduction, to name only five of the nine mandates that are unfulfilled.

In conclusion, we would like to reinforce the need for Amtrak's long-term funding and the continued need for cooperation between freight railroads and labor to provide stimulus to our industry and the economy, and the need to do all this while making the critical strides to enhance rail safety. Once again, I thank Chairman Denham and Ranking Member Brown and the Members of the Subcommittee for the opportunity to address you today.

Responses of John Tolman, Vice President & National Legislative Representative of the Brotherhood of Locomotive Engineers and Trainmen to Questions for the Record from the Hearing on "National Rail Policy: Examining Goals, Objectives, and Responsibilities"

Questions from Rep. Denham:

During the June 17th hearing, Chairman Denham requested information from each witness concerning a timeline for implementing Positive Train Control (PTC) by region, as the railroad system is an integrated network, operated by different corporations. Please provide information to the Committee concerning the progress, the challenges and the obstacles, and overall timeline for implementing PTC, by region.

Thank you for your question regarding Positive Train Control ("PTC"). As Vice President and National Legislative Representative, I am not in a position to comment on the different carriers' specific timetables for implementation of PTC. What I can say is that the Class 1 Freight Railroads have made it clear that they need more time to implement the requirements of the law. The Rail Safety Improvement Act of 2008 ("RSIA") mandated a December 31, 2015, deadline. This is true of all the Class 1 Railroads save Burlington Northern Santa Fe ("BNSF"). BNSF has said they plan to meet the deadline. Amtrak also says it will meet the deadline. BNSF and Amtrak have been working on PTC and providing the necessary resources to take it from design to reality. The part that gives us pause is the unnecessary collisions that are PTC preventable that will happen not just between now and the RSIA deadline, but also between the deadline and any extension that Congress allows the railroads to have. PTC had its forerunners in the 1920's. The National Transportation Safety Board ("NTSB") first recommended PTC's predecessor of an advanced train control system in 1970. In 1990, the NTSB said PTC was the number one thing it wanted in a list of safety improvements. The railroads were given seven more years by the RSIA to implement PTC. Having the will to meet a seven-year timetable has been a big challenge for the Class 1 Carriers who will not meet the deadline. As late as the fall of 2011, one Class 1 Railroad CEO stated that it would be "a terrible waste of money," and amount to "token savings." We adamantly disagree because the employee and public deaths prevented by the technology are nearly priceless because of their vast worth. It is hard to imagine that this particular CEO was fully behind implementing PTC in late 2011, when it is clear that he thought it was a waste of money.

In any case, we believe that a corporation who has been diligently trying to meet the deadline and falls just short should be given the necessary time to implement vs. having them abandon the work and resources they have already committed. However, railroads continue to hedge on the implementing regulations for PTC and are seeking a myriad of exceptions for scenarios of en route failure, yard movements and tonnage thresholds for PTC. The carriers have also listed interoperability, technical issues with back office servers, and infrastructure problems of installing

communication towers and radio spectrum interagency issues with the Federal Communications Commission ("FCC"). While we understand that these issues are obstacles that have no cheap and easy fix, the law did mandate them to be done and in a timely manner to achieve the safety that has been missing in the industry. We are fearful that any relaxing of the deadline will simply mean more foot dragging and legislative and judicial moves designed to out-maneuver the law. This simply delays much needed safety protections for our members and the public.

Questions from Rep. Corrine Brown:

Given sequestration, are there any policies or safety measures that you feel are at risk as a result of cost cutting?

There are three main areas impacted with regard to Sequestration and Cost-Cutting policies and safety measures:

1) Amtrak and FRA funding are always a concern. While the FRA safety account was funded at the levels they requested in the recent omnibus bill, Amtrak's capital and operating levels were lower than the combined amount in their request. Amtrak has operated on a shoestring since its founding in 1971, and has operated with a superb safety record. However, they face the need for greater capital expenditures in coming years in order to maintain that level of safety.
2) Railroad Retirement: A 9.2% cut to unemployment and sickness benefits. This was an unintended consequence of the sequester as no one believed it would actually take effect. When it did, the extra weeks of unemployment insurance provided by President Obama's Stimulus Package were cut. However, these cuts ended up applying to the regular 39 weeks allotted for Railroad Retirement eligible workers only due to the Budget Control Act. Only benefits over and above the regular allotment of 39 weeks (as part of the Stimulus) were cut for everyone else on unemployment.

You mentioned the issue of predictability of work scheduling. Can you talk about some of your concerns about what is going on in the field and what Congress can do to address it?

This is an excellent question. Railroaders work mostly in unpredictable work shifts that are initiated by being "on call." Railroaders mostly work without schedules. Saying that their "schedules are unpredictable," half misses the point because they have no schedule in the first instance. Also being on call makes sleep cycles very disrupted due to being penalized for missing a call.

We believe Congress can act by making technical corrections to the hours of service by providing a 10-hour call to duty. This gives the employee a chance to get some rest and know when he or she will have to report for work. This is not a silver bullet, but will enable employees to gauge their rest before they go to work according to

their individual needs. Fatigue is a problem of great significance in the railroad industry and has led Congress to act in the Rail Safety Improvement Act of 2008. Unfortunately, many of the Act's provisions regarding fatigue have gone unimplemented due to carrier opposition to change in calling practices and attempts to apply medical science to the problem of fatigue have been resisted by the Class 1 rail carriers.

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