

**FREIGHT RAIL TRANSPORTATION: ENHANCING
SAFETY, EFFICIENCY, AND COMMERCE**

HEARING

BEFORE THE

**COMMITTEE ON COMMERCE,
SCIENCE, AND TRANSPORTATION
UNITED STATES SENATE**

ONE HUNDRED FOURTEENTH CONGRESS

FIRST SESSION

JANUARY 28, 2015

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ONE HUNDRED FOURTEENTH CONGRESS

FIRST SESSION

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**FREIGHT RAIL TRANSPORTATION:
ENHANCING SAFETY, EFFICIENCY,
AND COMMERCE**

WEDNESDAY, JANUARY 28, 2015

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Committee met, pursuant to notice, at 10:03 a.m. in room SR-253, Russell Senate Office Building, Hon. John Thune, Chairman of the Committee, presiding.

Present: Senators Thune [presiding], Nelson, Blunt, Fischer, Moran, Johnson, Gardner, Daines, Cantwell, McCaskill, Klobuchar, Blumenthal, Markey, Manchin, and Peters.

**OPENING STATEMENT OF HON. JOHN THUNE,
U.S. SENATOR FROM SOUTH DAKOTA**

The CHAIRMAN. This hearing in the Commerce, Science, and Transportation Committee will come to order and we're delighted to have a great panel here to talk about railroad issues.

As 2013 and 2014's freight rail delays and service challenges highlighted, rail service is absolutely critical to our Nation's economy. South Dakota farmers scrambled to find rail cars and watched as rail turn times worsened, delaying shipments and creating grain shortage challenges for the record-breaking wheat, corn and soybean crops that we've had in our state.

However, those delays were not just limited to the north central United States; they also extended across the country and impacted every shipping sector and industry. Thankfully, this winter's relatively mild weather and better service have provided some improvements, but there's still work that needs to be done.

I was pleased that Genesee & Wyoming, the parent company of South Dakota's Rapid City, Pierre and Eastern Railroad has joined us for today's hearing. I look forward to hearing from Dave Brown, the Chief Operating Officer of Genesee & Wyoming, which is the largest Class II railroad in the country with over 100 short line and regional railroads, about the opportunities and challenges the RCP&E and other short line railroads face.

From automobiles, to coal, to ethanol, to agriculture, rail service moves goods from farm and factory to consumer marketplaces across the country and across the globe. The U.S. Department of Transportation notes that freight rail moves roughly 40 tons per person each year. As a Nation, we rely on cost-efficient, timely

service to move food, consumer products, and energy resources on a daily basis.

The private infrastructure that makes up our Nation's freight rail system is costly, as old tracks and equipment require ongoing maintenance and investment. Our nation's railroads continue to invest in new track, sidings, locomotives and car resources with the goal of serving their customers. Class I railroads and short lines alike face increasing demands for prompt, reliable and safe service.

In 2014, freight traffic increased nearly 5 percent over 2013 levels, and we should seek solutions that foster an even stronger freight rail network to meet this increasing demand.

The Federal Railroad Administration has proposed or finalized over 15 new freight rail safety rules since the passage of the Rail Safety Improvement Act of 2008, and many of these regulations will take effect in 2015.

Not only is the Positive Train Control, or PTC, mandate looming with its December 31 deadline, but the DOT has announced that it expects a crude-by-rail regulation to be published around May of this year.

Although the PTC deadline is quickly approaching, it remains unattainable. Through the end of 2014, railroads have invested over \$5 billion in PTC, and they expect to spend billions more in the coming years.

They have begun installation of the radio towers, locomotive technology, and other PTC infrastructure, but full compliance with the statutory requirements cannot be achieved by the end of this year. The FRA and the Government Accountability Office have documented the immense technical and programmatic challenges with implementing PTC.

As a result of these challenges, the DOT has reported that the deadline will not be met and has offered a proposal to ensure the benefits of PTC are realized. I look forward to working with my colleagues on a legislative fix to ensure that we can set a more realistic implementation timeline for this important safety improvement.

I'm also closely monitoring the proposed crude-by-rail requirements and I have expressed concerns to the Office of Management and Budget as well as to the DOT about the unintended harms that could result from the proposed rule. The DOT estimates its proposed crude-by-rail rule could cost nearly \$6 billion, and it acknowledges the rule would increase network delays and out-of-service time for rail equipment.

Without question, we must improve the safety of our Nation's rail system, but I am concerned about the unattainable deadlines that the rule proposes. Like the PTC mandate, there are very real impacts when Federal agencies set unreasonable and, in many times, unachievable deadlines.

Among other things, the DOT issued this proposed rule without analyzing the potential tank car shop capacity needed to retrofit or replace over 100,000 DOT-111 tank cars. Shippers have raised concerns about a tank car shortage with a disruption in energy supply transportation if DOT finalizes this rule with an unattainable deadline. I look forward to working with my colleagues, stake-

holders and the Secretary of Transportation on a realistic timeline for such a phase-out.

While safety can and should be improved, we certainly do not need to build in system-wide delays and congestion like we witnessed during the past year and a half. Our transportation network connects port to rail to truck. Delays and burdensome regulations, and failing infrastructure disrupt our Nation's economy and cost jobs, so we must work together to find workable solutions.

In addition, we must ensure that the Surface Transportation Board, which is tasked with resolving railroad rate and service disputes and reviewing proposed railroad mergers, can provide effective and efficient oversight to the rail industry.

This Committee has a great deal of work to do in addressing freight rail service and safety in addition to passenger rail reauthorizations. I hope members will bring forward thoughtful solutions as we address these challenges.

I'd like to turn now to my distinguished Ranking Member from Florida, Senator Nelson.

**STATEMENT OF HON. BILL NELSON,
U.S. SENATOR FROM FLORIDA**

Senator NELSON. Thank you, Mr. Chairman, and did you know that most of the witnesses are from Florida?

The CHAIRMAN. I did not.

Senator MCCASKILL. There's one from Missouri.

[Laughter.]

Senator NELSON. Three of the five. And just like your state is so dependent upon railroads, so are so many of our states. And my state of Florida actually developed a railroad. It was Henry Flagler that brought his railroad south. And as he brought it down the east coast of Florida, so developed Florida.

Said back in the old days, when they would, Henry Flagler would bring it as far south as a place like Saint Augustine, he built a hotel, which is now the Flagler Hotel. It is part of Flagler College in Saint Augustine; the oldest continuous settlement in the United States, by the way. We are celebrating 450 continuous years.

And then, he would move it further south and he would build another hotel. Palm Beach, The Breakers, a place that the two gentlemen to my right have been many times.

[Laughter.]

The CHAIRMAN. Now, I would say to the Senator from Florida, how does he know that?

Senator NELSON. Because I know the pattern of other Senators who like to come to Florida.

And so, it used to be said in the old days—the old-timers in Florida, back in the early part of the last century, would say that all the natives, which are called “Florida Crackers,” of which I am one, they'd live off of fish and alligators during the summer and they'd live off the tourists during the winter as Flagler would bring them further south.

And so, I'm going to submit my statement for the record. You have covered it; most of it.

Mr. Chairman, I would say that U.S. Department of Transportation estimates that the tonnage of freight moving by rail is going

to increase by 88 percent through 2035, and if we're going to handle this future growth we have to prepare and improve starting today.

And some recent events highlight the challenges that we're going to have to overcome. In the past year, high demand and a harsh winter has resulted in several delays in several parts of the country. Railroads have responded by investing record amounts to expand capacity, to expand equipment and to hire more crew.

And so, I want to hear from our witnesses. Do you think the situation is improving? And I want to hear about what you think about the industry's progress on safety.

Rail is already one of the safest ways of moving people and goods, but there are challenges. Positive Train Control, to prevent collisions and enforce speed restrictions; first recommended by the NTSB way back in 1969. Well, Positive Train Control will even make this industry even safer. And so, we've got a lot to do.

Mr. Chairman, I'll just short-circuit my comments so we can get right into the witnesses.

[The prepared statement of Senator Nelson follows:]

PREPARED STATEMENT OF HON. BILL NELSON, U.S. SENATOR FROM FLORIDA

I want to thank everyone for being here today.

I especially want to welcome several of the witnesses from Florida:

- Frank Lonegro, the Vice President for Service Design at CSX in Jacksonville, who has a significant amount of experience working on positive train control technology;
- David Brown, the Chief Operating Officer for Genesee & Wyoming, Inc., also in Jacksonville; and
- Bill Johnson, the former Director of the Port of Miami.

Your presence here today underscores the importance of freight rail not only to Florida, but also to our country.

Historically, railroads played a critical role in developing and uniting our growing nation.

Florida developed around railroads built by the likes of Henry Flagler, a pattern that was repeated around the country.

Today, freight railroads remain the backbone of the Nation's economy.

About 40 percent of all freight in the U.S. moves by rail, more than any other way. That amounts to an average 5 million tons of goods delivered by rail every day.

Freight railroads haul all types of goods that we depend on, from grain for our food to the clothes that we wear.

Railroads also connect thousands of communities to the global economy by bringing American goods to ports, like Port Miami, where they are exported abroad.

For our country to remain competitive, freight railroads must deliver goods safely, reliably, and efficiently.

But there's more to the story than just moving freight.

The freight rail industry employs more than 180,000 highly-skilled and well-paid professionals—nearly 25 percent of which are veterans.

Moving freight by rail also has other benefits like reduced highway congestion and cleaner air.

And, in many parts of the country, passenger rail service is provided over tracks owned and maintained by freight railroads.

While this hearing isn't focused on passenger rail, it will also be an important issue for me this Congress—especially when it comes to the development of high-speed rail.

Simply put, freight railroads are fundamental to the American experience and our daily lives.

Florida is a key example.

CSX alone operates more than 2,800 miles of track and employs over 5,000 people in Florida, while moving 1.1 million carloads of freight.

They are an integral part of Florida's entire economy—serving 12 ports and thousands of businesses.

Despite freight rail's great success story, we need to keep improving our system, and that's why I'm pleased the Chairman called this hearing today.

The U.S. Department of Transportation estimates that the tonnage of freight moving by rail will increase by 88 percent through 2035.

To handle this future growth, we've got to start preparing and improving today. Some recent events highlight challenges we will have to overcome.

Over the past year, high demand and a harsh winter resulted in severe delays in several parts of the country.

Railroads responded by investing record amounts to expand capacity, buy new equipment, and hire more crew.

I look forward to hearing if our witnesses think the situation is improving and the prospects for 2015.

I also look forward to hearing about the industry's progress on critical safety issues.

Rail is already one of the safest ways to move people and goods. The past two years for which data are available were the safest years on record.

But challenges remain.

Implementing Positive Train Control to prevent collisions and enforce speed restrictions—first recommended by the National Transportation Safety Board in 1969—will make an already safe industry even safer.

Despite the industry's efforts, however, this year's deadline for implementation will not be met, so we must create a workable path forward.

Another key safety issue we need to address is the shipment of crude oil by rail. Finally, Florida and the Nation cannot continue to grow unless we're moving freight efficiently.

Achieving this goal will also require connecting rail to other ways of moving goods, especially our ports.

I hope the Commerce Committee will continue examining these challenges and the solutions our country needs.

I thank Chairman Thune for calling this hearing and all of the witnesses for being here today. I look forward to your testimony.

The CHAIRMAN. Thank you, Senator Nelson.

And appreciate the important role that railroading played in the state of Florida, likewise in South Dakota. I've got deep family ties, as I've mentioned before in this committee, to railroading as they kind of made their way across the country and in our state of South Dakota.

We've got a great panel to talk about some of these issues today and I want to welcome all of you. Thank you for being here.

We've got Mr. Frank Lonegro. He's the Vice President of Service Design at CSX Transportation.

Mr. Dave Brown, as I mentioned earlier, is the Chief Operating Officer of Genesee & Wyoming Railroad Services, which serves our state of South Dakota.

Mr. Bill Johnson is the former Director of PortMiami and former Chair of the Florida Ports Council.

And, Ms. Michelle Teel. Ms. Teel is the Multimodal Director of the Missouri Department of Transportation.

And we have Mr. Chris Jahn who is here on behalf of The Fertilizer Institute where he serves as President.

So thank you so much for being here. I look forward to hearing from you. And we'll start on my left and your right with Mr. Lonegro.

STATEMENT OF FRANK LONEGRO, VICE PRESIDENT—SERVICE DESIGN, CSX TRANSPORTATION, INC.

Mr. LONEGRO. Good morning, Mr. Chairman, Mr. Ranking Member, and members of the Committee. I'm Frank Lonegro, Vice

President of Service Design at CSX and Chairman of the AAR's PTC Interoperability Committee.

Thank you for the opportunity to appear here today. I'm here to represent CSX as well as the freight rail industry and our views on the current state of Positive Train Control.

Safety is the highest priority of every American railroad. In preserving the safety of our workers, the safety of our communities, where we operate and the safety of rail passengers is the overriding factor in the thousands of decisions that we make every day.

Our steadfast safety focus has resulted in dramatic safety improvements. Since the year 2000, the freight train accident rate has fallen 42 percent. One way we achieve improvements in safety is through the consistent investment and infrastructure and in new technologies. America's railroads invest more than \$25 billion annually to ensure the safety, reliability and efficiency of the rail network.

For the last 6 years, we have also been investing in a key safety technology known as Positive Train Control, or PTC. PTC is not a single system but rather is a large number of subsystems that are linked together. Those components are designed to stop a train before certain types of accidents occur. The Rail Safety Improvement Act of 2008 requires Class I railroads to install PTC by the end of 2015, on main lines used to transport passengers or certain toxic materials.

PTC is being designed to prevent accidents in four specific situations: trains traveling beyond the allowable speed; trains traveling beyond their authority; trains traversing a misaligned switch; and trains entering a work zone. To do so, PTC must be able to determine the precise location, direction and speed of trains, warn train operators of potential problems, and stop the train if the operator does not respond. This is not an easy task.

Such a system requires the creation, and I do emphasize creation, of highly complex technologies that are able to analyze the many variables that affect train operations. As you can imagine, the length of time that it takes to stop a train depends on the train speed, the terrain, the weight and length of the train, the number and distribution of locomotives and the number of loaded and empty freight cars on that train.

PTC must take all of these factors into account reliably and accurately in order to safely stop the train.

The task of deploying PTC in the United States includes: equipping 23,000 locomotives with onboard computers designed to know exactly when to take control of a train and bring it safely to a stop; completely rebuilding tens of thousands of miles of railroad signaling systems to be capable of interacting with the ultra-modern PTC system; deploying 35,000 sensors to communicate the status of signals and switches to the PTC system; completing a geospatial survey of 60,000 miles of rail infrastructure; building a new nationwide communication system designed for the massive data transmission requirements of PTC; and developing back office systems to feed the precise data requirements of PTC. And each railroad's PTC system must be interoperable with each of the 40 railroads that are developing PTC on their main lines since locomotives and

trains of one railroad frequently operate on the main lines of another.

In all of these areas, railroads have made significant progress. Railroads have also overcome significant regulatory challenges. For example, in 2013 the FCC required that all new PTC communications towers undergo statutory review. This required significant engagement with the State Historical Preservation Societies, the Native American Tribes, and others. Resolving this issue delayed the installation of these towers by more than a year. Thanks to the efforts of all involved, and specifically the efforts of this committee, we believe that this issue is now behind us.

As of the end of 2014, CSX has invested some \$1.2 billion on PTC and we expect to spend another \$300 million on PTC this year. The freight railroads, together, have spent over \$5 billion to date and expect to spend at least \$9 billion before PTC is fully operational.

It is important that PTC deliver the mandated functionality while also ensuring the safety and the efficiency of rail transportation.

Two principal risks illustrate why it is so important that we take the time necessary to do this job right. The first great risk is safety. An immature PTC system could actually create safety hazards. Candidly, we are still finding critical defects in the key pieces of PTC software we are receiving from our suppliers. Second, an immature PTC system could interrupt the free flow of rail cargo and rail passengers across the United States, which would impact our recovering economy.

The railroads remain committed to implementing PTC as quickly as possible and in a manner that ensures both the safety and the efficiency of the railroad network. Despite the railroad's best efforts and our substantial progress to-date, PTC will not be completed this year.

Thank you, Mr. Chairman, for calling this hearing and for your support for a PTC extension.

Thank you.

[The prepared statement of Mr. Lonegro follows:]

PREPARED STATEMENT OF FRANK LONEGRO, VICE PRESIDENT—SERVICE DESIGN,
CSX TRANSPORTATION, INC.

On behalf of CSX Transportation, Inc. (CSX) and the Association of American Railroads (AAR), thank you for the opportunity to appear before you today to discuss positive train control (PTC).

CSX operates a freight rail network spanning approximately 21,000 miles, with service to 23 eastern states, the District of Columbia and two Canadian provinces. We are part of a 140,000-mile U.S. freight rail network that serves nearly every industrial, wholesale, retail, agricultural, and mining-based sector of our economy. Whenever Americans grow something, eat something, mine something, make something, turn on a light, or get dressed, CSX or another freight railroad is probably involved somewhere along the line.

In this testimony, I will describe what positive train control is, the steps CSX and other freight railroads have taken to develop and implement this new technology, and explain why—despite railroads' best efforts—the existing statutory deadline for nationwide PTC implementation is unrealistic and should be extended.

What is Positive Train Control?

“Positive train control” (PTC) describes technologies designed to automatically stop a train before certain accidents caused by human error occur. The Rail Safety Improvement Act of 2008 (RSIA) requires passenger railroads and Class I freight railroads to install PTC by the end of 2015 on main lines used to transport pas-

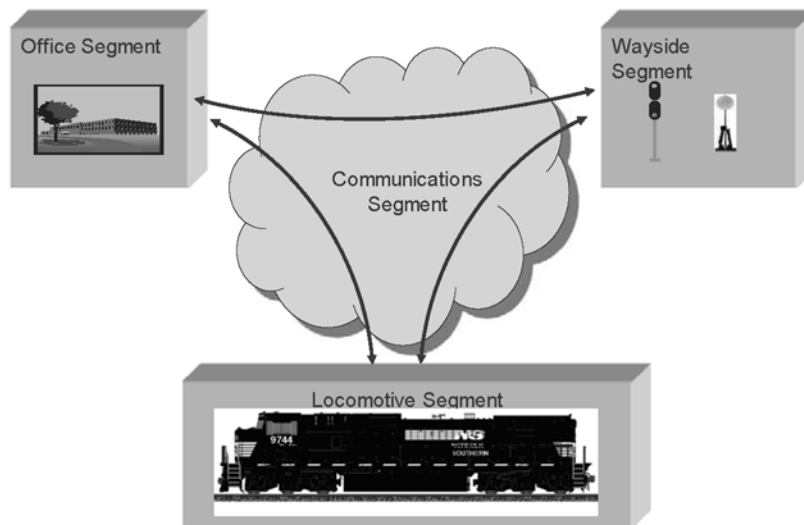
sengers or toxic-by-inhalation (TIH) materials.¹ Specifically, PTC as mandated by the RSIA must be designed to prevent train-to-train collisions, derailments caused by excessive speed, unauthorized incursions by trains onto sections of track where maintenance activities are taking place, and the movement of a train through a track switch left in the wrong position.² The PTC systems that will be installed to meet the statutory mandate are overlay systems, meaning they supplement—rather than replace—existing train control systems.

Positive Train Control is an Unprecedented Technological Challenge

A properly functioning 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 when approaching a stop signal, or slowing down for a speed-restricted area, the PTC system would apply the brakes and stop the train automatically, before the train passed the stop signal or entered the speed-restricted area.

PTC System Interactions

Each segment requires highly complex technologies and information processing capabilities.



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 in order to safely stop the train.

The development and implementation of PTC systems constitute an unprecedented technological challenge for railroads (See Attachment A). Tasks involved include:

- A complete physical survey and highly precise geo-mapping of the approximately 60,000 miles of railroad right-of-way on which PTC technology will be installed, including geo-mapping of nearly 440,000 field assets (mileposts, curves, grade crossings, switches, signals, and much more) along that right of way.

¹ TIH materials are gases or liquids, such as chlorine and anhydrous ammonia, which are especially hazardous if released into the atmosphere.

² A switch is equipment that controls the path of trains where two sets of track diverge.

- Installing PTC technology on more than 22,900 locomotives.
- Installing over 35,000 “wayside interface units” (WIU) that provide the mechanism for transmitting information to locomotives and the train dispatching office from signal and switch locations along the right of way.
- Installing PTC technology on over 3,300 switches in non-signalized territory and completing signal replacement projects at more than 14,500 locations.
- Developing, producing, and deploying a novel radio system and new radios specifically designed for the massive data transmission requirements of PTC at 4,000 base stations, 31,000 trackside locations, and on 22,900 locomotives.
- Developing back office systems and upgrading dispatching software to incorporate the data and precision required for PTC systems.



PTC locomotive cab display unit

In all of these areas, railroads have made substantial progress. As of the end of 2014, 13,000 locomotives were at least partially equipped with PTC, out of the 22,900 that will require PTC installations; some 19,000 WIUs are deployed, out of 35,000 that will ultimately be required; and close to 1,500 of the 4,000 base station radios were installed. These statistics represent the incredible effort railroads have made toward installing the nationwide, interoperable PTC network. However, there is no question that much more work remains to be done.

More Time is Needed to Ensure Safe and Effective Implementation

CSX and other freight railroads have been working tirelessly, and spending tremendous amounts of money, to meet the PTC mandate. As of the end of 2014, CSX has invested some \$1.2 billion on PTC. We expect to spend another \$300 million this year. Our current estimate for the total cost of PTC on our railroad is at least \$1.9 billion. Freight railroads together have so far spent well over \$5 billion—of their own funds, not taxpayer funds—on PTC development and deployment, and expect to spend at least \$9 billion by the time PTC is fully operational nationwide. This does not include the hundreds of millions of additional dollars needed each year to maintain the railroads’ PTC systems when they are complete.

Despite these huge expenditures, 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 had to be developed from scratch—more time is needed for full implementation.

Much of the railroads' efforts to date has been directed toward development and initial testing of technology that can meet the requirements of the legislation and which can be scaled to the huge requirements of a national system. For example, production and installation of the new radios was possible only after a long period of development and testing. Essential software and hardware for many PTC components are being deployed, and rigorous testing of these components are being performed. Only after this work is completed and the technology has been installed can the task of testing each of the individual parts, and the system as a whole, be completed.

This task is made particularly complex by the need to ensure that PTC systems are fully and seamlessly interoperable across all of the Nation's major railroads. It is not unusual for one railroad's locomotives to operate on another railroad's tracks. When that happens, the "guest" locomotives must be able to communicate with, and respond to commands from, the "host" PTC system. Put another way, a CSX locomotive has to behave like a Norfolk Southern locomotive when it's traveling on NS's tracks; a BNSF locomotive must be compatible with Union Pacific's PTC system when it's on UP tracks, and so on. That's much easier said than done, and ensuring this interoperability has been a significant challenge.³

It is also critical that the many potential failure points and failure modes in PTC systems are identified, isolated, and corrected—all without negatively impacting the efficient movement of goods by rail throughout the country. This is incredibly important. The PTC systems the railroads ultimately develop must work flawlessly, day in and day out, or risk seriously impairing operations on key parts of the U.S. freight rail network. The damage that would cause to our Nation's economy would be enormous.

In addition, the Federal Railroad Administration must review each railroad's PTC safety plan and certify each railroad's PTC systems after the development and testing of the components are complete. Only then can a railroad's PTC installation be completed and placed into operation.

Railroads knew when the PTC mandate was passed in 2008 that the technological challenges related to PTC would be immense. But railroads have also faced significant non-technological barriers to timely PTC implementation.

Most notably, one such challenge involves regulatory barriers to the construction of antenna structures. As part of PTC implementation, railroads must install over 35,000 wayside antenna structures nationwide to transmit PTC signals. Approximately 97 percent of these structures are relatively small poles, between 6 and 60 feet high, installed on railroad rights-of-way alongside railroad tracks. The remainder, approximately 3 percent, are larger base stations similar to traditional telecommunication towers. Depending on the location, these larger structures may or may not be located on a railroad's right-of-way.

The railroad industry had been working with the Federal Communications Commission (FCC) for years to license the wireless spectrum necessary for PTC. Despite this work, an issue arose in early 2013 that neither the rail industry nor the FCC foresaw: the FCC's requirement that the railroads submit the poles that support PTC antennas for historic preservation and tribal review. The FCC's historic preservation review process requires railroads to provide information (height, location, etc.) on each antenna structure to historic preservation officers within state governments and Native American tribes so that the states and tribes can determine if the installations will negatively impact areas of historic, cultural, or religious significance.

It quickly became clear that the FCC's existing process was inadequate for a deployment on the scale of PTC and in the time frame mandated by the RSIA. In fact, in May 2013, the FCC asked the railroads to stop filing applications for review while the agency developed a new process for PTC antenna structures. In the meantime, railroads were asked to cease the installation of these structures, creating a huge impediment to timely PTC implementation.

To its credit, the FCC was willing to work with the railroads to find a workable solution. (The rail industry is also grateful to members of this committee for the attention they gave this issue.) As far as the railroads are concerned, the current approval process, put in place in May 2014, is functional, and installation of antenna structures is now going forward. That said, the 2013 construction season and part

³Some have questioned why railroads don't all simply implement identical PTC systems, thereby ensuring interoperability. That's not possible because a railroad's PTC system must function within the parameters of that railroad's existing communication and dispatching system. These existing systems vary from railroad to railroad.

of the 2014 construction season was essentially lost for PTC wayside antennas, setting the railroads back significantly in their implementation plans.

Despite these setbacks, railroads' aggressive implementation of PTC will continue. However, it is simply not possible to complete a nationwide, interoperable PTC system by the end of 2015. Adjusting the implementation deadline would more accurately reflect railroads' considerable efforts to design, test, approve, produce, distribute, install and train 100,000 employees on the use of this incredibly complex technology. Rushing PTC development and installation and foregoing a logical plan for sequencing its implementation would sharply increase the likelihood that the system would not work as it should, which is an outcome that serves no one's purpose.



An example of a PTC antenna structure near other railroad signals.

Some have suggested that the railroads have somehow not tried hard enough to meet the existing statutory deadline. That is simply not true. I have been intimately involved in the PTC development and implementation process at CSX since it began, and I know how much we have devoted to PTC. I'm proud of CSX's and other railroads' efforts, and I'm sure that those involved in PTC at other freight railroads would say the same thing. We in the railroad industry are fully committed to PTC, but it must be done correctly. That's simply not possible by the end of this year.

The "Business Benefits" of Positive Train Control

Some have claimed that railroads will achieve billions of dollars in "business benefits" from PTC because PTC will allow trains to be more tightly spaced, thereby reducing train delays and increasing a rail line's capacity without the need to install new track. Any industry that invests billions of dollars in a new technology will try to leverage those investments into operational improvements, even if the main purpose of that technology is to enhance safety. That said, the rail industry has yet to identify any substantial "business benefits" for the foreseeable future attributable to PTC deployment as mandated under RSIA.

That's mainly because of the urgency to comply with an extremely challenging statutory deadline, railroads have not had the luxury of developing and implementing supplemental PTC technologies that, in addition to safety benefits, have the most promising potential operational benefits. It is far less likely that the first-generation PTC systems being deployed now will yield meaningful business benefits compared with second-or third-generation PTC systems that might come a decade or two later.

Moreover, many of the business benefits some have claimed will be achieved by PTC actually have little or nothing to do with PTC. For example, many of the claims that PTC will reduce train delays and allow more trains to move over a rail line presuppose the use of “precision dispatching.” This term refers to the use of complex computer algorithms to analyze a variety of factors (such as the priority levels of different trains, train crew availability, and the location and schedules of other trains) to decide in what order and when trains on a railroad’s network should travel. But there is no direct relationship between the use of precision dispatching and PTC implementation: the development of precision dispatching has begun and would continue if PTC did not exist.

In fact, it’s possible that PTC could actually make existing rail operations less efficient, especially if it is put into place without adequate testing. As I noted above, the PTC systems railroads are developing have essentially had to be created from scratch—they don’t exist anywhere in the world. By necessity, a fully functioning PTC system is enormously complex, and the failure of a single part within that complex system means the entire PTC system will not work as it should. If that happened, the affected rail line would be substantially operationally degraded until the failure was corrected. It goes without saying that the inefficiencies this would create, and the damage it would cause to our economy, are best avoided. That’s another key reason why the PTC development and implementation process should not be rushed.

Conclusion

Since enactment of the RSIA, CSX and other railroads have devoted enormous human and financial resources to develop a fully functioning PTC system, and progress to date has been substantial. However, despite railroads’ best efforts, the immense technological hurdles are such that a safe, reliable, nationwide, and inter-operable PTC network will not be completed by the current deadline. Railroads remain committed to implementing PTC as early as possible and are doing all they can to address the challenges that have surfaced, but more time is needed to ensure safe and effective implementation on the Nation’s vast freight and passenger rail networks.

Attachment A

PTC DATA⁴

Table 1.—Equipping Locomotives with PTC

Railroad	ARR	BNSF	CN	CP	CSX	KCS	NS	UP	Total
# to be equipped	54	6,000	1,000	1,000	3,900	614	3,811	6,532	22,911
# partially equipped to date	27	671	238	225	1,825	301	1,993	4,394	9,674
# fully equipped	17	2,389	72	146	812	0	0	0	3,436

Table 2.—Railroad Signal Personnel Hired or Retained Due to PTC

ARR	4
BNSF	447
CN	117
CP	35
CSX	554
KCS	36
NS	659
UP	569
<i>Total</i>	<i>2,421</i>

⁴The data in this Attachment is based on estimates as of December 31, 2014, 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, 2014.

Table 3.—Integrated WIU Installation

Railroad	ARR	BNSF	CN	CP	CSX	KCS	NS	UP	Total
# integrated WIUs required to be deployed	55	6,648	1,036	591	5,250	658	5,486	11,399	31,123
# integrated WIUs deployed to date	14	4,171	85	423	1,915	363	1,805	8,700	17,476
# integrated WIUs remaining to be deployed	41	2,477	951	168	3,335	295	3,681	2,699	13,647

Table 4.—Stand-alone WIU Installation

Railroad	ARR	BNSF	CN	CP	CSX	KCS	NS	UP	Total
# stand-alone WIUs required to be deployed	2	417	488	114	894	148	487	1,615	4,165
# stand-alone WIUs deployed to date	0	262	0	6	122	56	51	1,167	1,664
# stand-alone WIUs remaining to be deployed	2	155	488	108	772	92	436	448	2,501

Table 5.—Signal Replacement Projects

Railroad	ARR	BNSF	CN	CP	CSX	KCS	NS	UP	Total
# locations of signal replacement required	0	4707	177	63	2,100	391	2,851	4,252	14,541
# locations replaced to date	0	2,579	125	52	1,134	304	975	3,262	84,31
# locations remaining to be replaced	0	2,128	52	11	966	87	1,876	990	6,110

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	45	417	227	225	700	133	617	974	3,338
	# equipped with power to date	7	262	0	41	130	54	38	58	,590
	# remaining to be equipped with power	38	155	227	184	570	79	579	916	2,748
	# equipped with WIUs to date	6	262	0	41	130	54	38	58	,589
	*#remaining to be equipped with WIUs	39	155	227	184	570	79	579	916	2,749
# non-signaled switch locations needing switch position monitors	# needed	0	0	227	248	700	133	617	974	2,899
	# equipped to date	0	0	0	117	130	54	38	58	397
	# remaining to be equipped	0	0	227	131	570	79	579	916	2,502

Table 7.—Communications Deployment

Railroad		ARR	BNSF	CN	CP	CSX	KCS	NS	UP	Total
# Base station 220 MHz radios	# needed	35	731	181	112	1,285	85	736	847	4,012
	# installed	8	521	26	18	395	0	242	282	1,492
	# of future installations needed	27	210	155	94	890	85	494	565	2,520
# Wayside location 220 MHz radios	# needed	84	6,015	1,751	663	5,299	806	4,763	11,877	31,258
	# installed	19	4,098	184	28	2,160	0	1,147	4,136	11,772
	# of future installations needed	65	1,917	1,567	635	3,139	806	3,616	7,741	19,486
Locomotive 220 MHz radios	# needed	54	6,000	1,000	1,000	3,900	614	3,811	6,532	22,911
	# installed	16	2,389	72	75	812	0	10	1,855	5,229
	# of locomotives remaining to be equipped	38	3,611	928	925	3,088	614	3,801	4,677	17,682

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		2,800	88,447	25,630	16,468	114,731	9,641	52,000	130,000	439,717
# track miles required to be GIS mapped	# miles mapped to date	600	19,886	257	1,515	21,565	0	10,904	21,150	75,877
	# miles to be mapped	0	2,164	4,043	696	0	2,227	0	0	9,130
# track miles required to be data processed	# miles processed to date	600	16,318	257	1,183	21,565	293	10,904	21,150	72,270
	# miles re- maining to be pro- cessed	0	5,732	4,043	1,028	0	1,934	0	0	12,737
# track miles GIS data to be converted to PTC subdiv files	# con- verted to date	130	14,888	257	1,162	5,809	154	608	300	23,308
	# remain- ing to be converted	470	7,162	4,043	1,049	15,756	2,073	10,296	20,850	61,699

*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-signalized 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	Completed
BNSF	Completed
CN	1st quarter 2015
CP	March 2015
CSX	Completed
KCS	1st quarter 2015
NS	Completed
UP	Completed

Table 10.—PTC Investment

Railroad	PTC investment through December 31, 2014 (\$)
ARR	103,000,000
BNSF	1,230,000,000
CN	105,400,000
CP	196,945,493
CSX	1,178,000,000
KCS	82,400,000
NS	814,349,713
UP	1,496,700,000
<i>Total</i>	<i>5,206,795,206</i>

Table 11.—Training

Railroad	Category 1	Category 2	Category 3	Category 4	Category 5	Total
ARR	110	9	199	250	30	598
BNSF	1,234	728	12,018	7,054	859	21,893
CN	857	240	2,550	1,120	200	4,967
CP	550	100	1,600	900	250	3,400
CSX	1,315	445	14,085	900	1,275	18,020
KCS	202	44	1,526	493	130	2,395
NS	2,150	445	12,000	6,275	1,780	22,650
UP	2,324	710	13,546	8,450	914	25,944
<i>Total</i>	<i>8,742</i>	<i>2,721</i>	<i>57,524</i>	<i>25,442</i>	<i>5,438</i>	<i>99,867</i>

Categories of employees requiring training (49 C.F.R. 236.1041):

- (1) Persons whose duties include installing, maintaining, repairing, modifying, inspecting, and testing safety-critical elements of the railroad's PTC systems, including central office, wayside, or onboard subsystems;
- (2) Persons who dispatch train operations (issue or communicate any mandatory directive that is executed or enforced, or is intended to be executed or enforced, by a train control system subject to this subpart);
- (3) Persons who operate trains or serve as a train or engine crew member subject to instruction and testing under part 217 of this chapter, on a train operating in territory where a train control system subject to this subpart is in use;

- (4) Roadway workers whose duties require them to know and understand how a train control system affects their safety and how to avoid interfering with its proper functioning; and
- (5) The direct supervisors of persons listed in paragraphs (a)(1) through (a)(4) of this section.

The CHAIRMAN. Thank you, Mr. Lonegro.
Mr. Brown.

**STATEMENT OF DAVID A. BROWN, CHIEF OPERATING
OFFICER, GENESEE & WYOMING INC.**

Mr. BROWN. Good morning, Mr. Chairman, Ranking Member Nelson and members of this committee. My name is David A. Brown. I was appointed Chief Operating Officer of Genesee & Wyoming in October, 2012, and in this capacity I oversee the management and operations of the 116 railroads owned by G&W.

G&W is a global railroad holding company that owns freight railroads in the U.S., Canada, Australia, the Netherlands and Belgium. In the U.S., we own two Class II regional railroads and 105 Class III short line railroads located in 39 states. Based on the diversity of G&W short line holdings, we believe we are able to offer a relevant perspective on safety and efficiency of the short line industry.

I would like to address four areas for consideration by this committee within the focus of this hearing. First, short line and regional railroad safety. Second, the infrastructure challenges facing short line railroads. Third, the uncertainty created for short line and regional railroads associated with the PTC mandate. And fourth, the importance of short line and regional freight railroads as part of the national rail freight network.

Like the railroad industry as a whole, G&W-owned railroads have dramatically improved their safety performance over the past decade. We have become an industry leader in safety through an intense, multi-faceted approach that focuses on building a culture of safety.

As a result of this intense safety culture, 101 of 113 G&W-owned railroads completed 2014 with zero FRA reportable injuries, which yields a consolidated injury frequency rate that is safer than any Class I railroad and nearly six times safer than the short line industry average. We believe the same attention to detail that is required to eliminate injuries translates to every area of operations resulting in efficient, well run freight service for our customers. Our objective is simply for every G&W-owned railroad to stay injury-free every day.

Eighty-six percent of all short line shipments are interchanged with the Class I railroad demonstrating the interdependence between the short line railroads and the Class I carriers. This demonstrates the true network nature of Class I, II and III railroads.

However, if a short line cannot handle the same weight of a freight car as its Class I connection, the utility of the short line service to its customers suffers. The speed and weight limitations on short line routes are most often due to aged rail and bridge structures. Limiting car weights and train speeds can ensure safe operations over these lines, but that does not address the lost eco-

nomics caused by lighter freight shipments and slower service speeds faced by the customers dependent on our short lines.

Since 2004, Congress has provided a Short Line Tax Credit to help short line and regional railroads improve their lines, replace their rail and upgrade their bridges; all to serve their customers with more competitive freight services.

Since 2005, the credit has spurred over \$1.5 billion of private investment in railroad infrastructure. The credit was extended on December 19 of last year with support from 15 members of this committee. Unfortunately, it expired on December 31, 2014. I strongly encourage the Senate to renew it so as to continue encouraging the private sector during 2015 to invest in short line and regional railroad infrastructure improvements.

PTC implementation is led by the Class I industry, and has not yet addressed areas of serious concern to the smaller freight railroads. The vast majority of focus on PTC implementation has been done by the Class I carriers and their suppliers without consideration to the financial and physical constraints of short line railroads. Little attention has been given to these new PTC systems, but will interface with connecting short line operations referred to as, Frank mentioned, interoperability.

The majority of short lines that will be required to implement PTC are doing so because of a physical interaction with a Class I railroad. While the FRA created PTC exemptions for certain short line operating situations, short line railroads have no clear guidance on how to meaningfully apply these exemptions to actual situations.

In addition to the significant costs associated with purchasing and installing PTC on short line, locomotives, the technology being used for PTC requires on-going technical support and maintenance that is largely unavailable on short line railroads. The expense and difficulty in acquiring this support could be significant.

Clearly there is not enough time between now and December 31 of this year for this to happen. For these reasons, I encourage members of this committee to develop a fixed period of extension of the existing PTC deadline and to clarify the exceptions of short line railroads as they relate to Class I operations and Class I PTC-implementation requirements.

From a short line perspective, it is amazing how focused one becomes on superior customer service when your railroad only has a few customers to serve, and those few customers must provide the cash to meet your payroll. Our part of the overall rail freight industry is highly capable of providing that First Mile/Last Mile of service safely and efficiently.

To that end, I ask the members of this committee to consider the following: appreciate and understand the significant role short line and regional railroads play as part of the U.S. rail freight network; support extension of the Short Line Tax Credit and allow the continuation of expanded reinvestment of private capital back into the short line and regional railroads across the country; understand that the economics and financial resources of short line and regional railroads are limited, and recognize that the burdens of regulations and mandates like PTC fall heavily on the small railroads.

Thank you.

[The prepared statement of Mr. Brown follows:]

PREPARED STATEMENT OF DAVID A. BROWN, CHIEF OPERATING OFFICER,
GENESEE & WYOMING INC.

Introduction

My name is David A. Brown. I was appointed Chief Operating Officer of Genesee & Wyoming Inc. in October, 2012, and I have management oversight responsibility of the 116 railroads owned by G&W. Thank you for the opportunity to take part in this hearing today, and to briefly review the important role of regional and short line freight railroads in enhancing safety, efficiency and commerce across the United States.

As background, G&W is a global railroad holding company that owns short line and regional freight railroads in the United States, Canada, Australia, the Netherlands and Belgium. In the United States, we own two Class II regional railroads and 105 Class III short line railroads located in 39 states. These railroads, which range from as few as two to as many as 670 track miles, are each locally managed companies intensely focused on providing their on-line customers with safe, flexible, and efficient freight service. Based on the diversity of G&W short line holdings, we believe we are able to offer a relevant perspective on safety and efficiency of the short line industry.

The typical U.S. short line railroad has light traffic density, interchanging freight from the one or two major customers on its line with a connecting Class I railroad. U.S. short line railroads thus serve a fundamental and essential purpose: To provide the critical "First Mile/Last Mile" of service connecting their communities and customers to the national rail freight network.

In my comments today, I would like to address four areas for consideration by this Committee within the focus of this hearing: Short line and regional railroad safety, the infrastructure challenges facing short line railroads, the uncertainty created for short line and regional railroads associated with the Positive Train Control mandate enacted through the 2008 Rail Safety Improvement Act, and finally, the importance of short line and regional freight railroads as part of the national rail freight network.

Short Line and Regional Railroad Safety

As with any heavy industry, and indeed any mode of transportation, safety must be in the forefront of all efforts in railroad operations. At the same time, short line operations must provide a high level of local service that is critical to their customers' viability. Providing this local service is physically intense, creating risks of human harm and physical damage if not done properly and with care.

Like the rail industry as a whole, G&W-owned railroads have dramatically improved their safety performance over the past decade. We have become an industry leader in safety through an intense, multi-faceted approach starting with the orientation of every new employee, continuing with both classroom and on-the-job training, coaching and support from both line managers and fellow employees, and continuous analysis of how to improve the safety of operations. Two examples of investments at G&W to support this approach are:

1. The implementation of a DuPont safety training program for railroad employees, which focuses on the relentless identification and elimination of unsafe behaviors and unsafe conditions in the work environment. This program was developed by DuPont, a recognized safety leader, and adopted to the railroad industry. The program is critical to instilling a culture of safety with all employees, and participation has been expanded to include customers and members of the G&W Board of Directors.
2. G&W constructed, equipped and staffed a state-of-the-art training center in Jacksonville, Florida, which includes a locomotive simulator and fully functioning air brake "rack" to aid in train handling and safety training. Numerous classes, both for hourly employees and field managers, are conducted by senior managers with a passion for safety and professionalism. We plan to link these classes with remote field locations via Internet tele-video conferencing, allowing for more frequent and responsive training to meet specific needs.

These examples highlight the culture of safety that is pervasive at G&W-owned railroads, emphasizing that everyone should go home to their families after a day of work in the same condition as when they arrived. As a result of this intense safety culture, 101 of 113 G&W-owned railroads completed 2014 with zero reportable injuries, which yields a consolidated injury frequency rate that is safer than any

Class I railroad and nearly six times safer than the short line industry average. Our real target, however, is for every G&W-owned railroad to stay injury free, every day. We believe the same attention to detail that is required to eliminate injuries translates to every area of operations, resulting in efficient, well run freight service for customers. In fact, in biennial satisfaction surveys of every G&W railroad customer worldwide, in which we have consistently outperformed the trucking and overall railroad industries, the attributes of our employees rated highest by customers in every survey are “commitment to safety” and “professionalism”.

Finally, for the good of the short line industry and our Nation, G&W also supports the Short Line Safety Institute being established cooperatively by the American Short Line and Regional Railroad Association (ASLRRA) and the Federal Railroad Administration. This effort will take the lessons learned in our industry on the importance of establishing and reinforcing a culture of safety on short line and regional railroads and help bring this understanding to all Class II and III operations in a cooperative, open-learning way.

Infrastructure Challenges facing Short Line Railroads

The vast majority of the almost 550 short line railroads in the United States were created though Class I railroads disposition of light-density branch and secondary lines. By their nature, these lines were generally not as well maintained as the core main lines of the Class I operations, and typically went through a period of declining revenues and investments prior to being sold or leased to a short line railroad. When sold the condition of these lines often necessitates slower-speed operations and weight limitations on the freight cars handled over the lines.

A recent, high-profile example of a Class I disposition is the new Class II Rapid City, Pierre & Eastern Railroad (RCPE). The RCPE has 670 miles of former Class I track. At the time of the sale, RCPE faced a record grain harvest on top of an existing railroad backlog. RCPE management quickly expanded its startup plan to add the employees, locomotives and grain cars to move the harvest offline to its three Class I connections.

Only a very small portion of South Dakota grain is needed in-state; our role on the RCPE is to be an efficient, safe, and reliable means for the farmers in the state to reach their distant markets by working with our Class I connections. This is typical of many short line and regional railroads. According to ASLRRA, 86 percent of all short line shipments are interchanged with a Class I railroad, demonstrating the interdependence between short line railroads and the Class I carriers. This demonstrates the true network nature of Class I, II and III railroads.

However, if a short line cannot handle the same weight of freight car as its Class I connection, the utility of the short line service to its customers suffers. The speed and weight limitations on short line routes are most often due to aged rail and bridge structures. Limiting car weights and train speeds can ensure safe operations over these lines, but that does not address the lost economics caused by lighter freight shipments and slower service speeds faced by the customers dependent on these short lines.

Since 2004, the Federal government has provided a tremendous boost via the Short Line Tax Credit to help short line and regional railroads improve their lines, replace their rail, and upgrade their bridges, all to serve their customers with more competitive freight services. The credit allows Class II or III railroads to invest more of what they earn into improving their own railroad infrastructure. A railroad must spend a dollar for every 50 cents in credit, so the credit maximizes private investment in capital improvements. The total available credit is capped at the equivalent of \$3,500 per mile per railroad.

According to ASLRRA, since 2005 the credit has spurred over \$1.5 billion of private investment in railroad infrastructure. The national Railroad Tie Association estimates that the credit has allowed short lines to purchase and install more than 750,000 railroad ties per year over and above their normalized purchases. All of the new rail, ties, ballast and bridges afforded by the credit directly benefit customers such as the South Dakota farmer shipping wheat to market, the Florida paper manufacturer and the Ohio steel manufacturer serving customers in the Midwest, and the California carrot distributor shipping to eastern markets. All of these customers, now served by G&W-owned railroads, and thousands more across our country directly benefit from the increased private infrastructure investments made through the Short Line Tax Credit.

The credit was extended on December 19 of last year after action in Congress, including the direct support of 251 House and 51 Senate co-sponsors of bills calling for the extension of the credit. The Senate count included 15 members of this Committee. Unfortunately, what was extended on December 19, 2014 expired on December 31, 2014. I strongly encourage you to help thousands of short line served compa-

nies across the Nation and reinstate this credit as soon as possible so as to continue to encourage investment during 2015 in short line and regional railroad infrastructure improvements. These investments will directly improve the ability short line and regional rail to serve their customers, providing a vital link to the national rail freight network.

Uncertainty Created for Short Line Railroads with the Positive Train Control Mandate

Perhaps the only certainty with Positive Train Control (PTC) is the inability of the industry to meet the December 31, 2015 full implementation deadline mandated by the 2008 Rail Safety Improvement Act. While a vast amount of attention and resources has been expended to development and implementation of PTC on the Class I railroads, there is tremendous uncertainty on how this mandate will affect short line and regional railroads, and we are less than a mere 12 months from the current deadline for implementation. This level of uncertainty is due to several factors:

- The vast majority of focus on PTC implementation has been done by the Class I carriers and their suppliers, without consideration to the financial and physical constraints of short line railroads. Little attention has been given to how these new PTC systems will interface with connecting short line operations (referred to as “interoperability”). For example, many short line locomotives are older and cannot be rationally equipped with a functional PTC system, as the cost to equip is more than the entire locomotive is worth.
- The majority of short lines that will be required to implement PTC are doing so because of a physical interaction with a Class I carrier. This could be, for example, operating over a short distance of the Class I PTC-equipped line to enter its yard to interchange traffic, or an at-grade “diamond” crossing of the short line and Class I PTC-equipped tracks. While the Federal Railroad Administration created PTC exemptions for certain short line operating situations, short line railroads have no clear guidance on how to meaningfully apply these exemptions to actual situations.
- In addition to the significant costs associated with purchasing and installing PTC on short line locomotives, the technology being used for PTC requires ongoing technical support and maintenance that is largely unavailable on short line railroads. The expense and difficulty in acquiring this support could be significant.

To resolve these issues will require a fair and reasoned approach by all parties, and clearly there is not enough time between now and December 31 of this year for this to happen. For these reasons, I encourage members of this Committee to develop a fixed period of extension of the existing PTC deadline, and to clarify the expectations of short line railroads as they relate to Class I operations and Class I PTC-implementation requirements.

Importance of Short Line Railroads as part of the National Rail Freight Network

The freight railroad network is both unique and an important element of the competitive future of the Nation. It is difficult to imagine another industry of so many diverse ownerships working closely together to provide generally seamless and competitive services to a such a wide variety of different customers. Nor an industry that holds itself open as “common carriers” that maintains at its own expense and liability so much infrastructure. The network works through the learned experiences of many, many years of successes and failures: from the bankruptcy and collapse of almost the entire Northeastern rail system in the 1970s to the birth and growth of hundreds of short line railroads over the last 30 years.

From a short line perspective, it is amazing how focused one becomes on superior customer service when your railroad only has a few customers to serve, and those few customers must provide the cash to meet your payroll. Our part of the overall rail freight industry is highly capable of providing that “First Mile/Last Mile” of service safely and efficiently. To that end, I ask the Members of this Committee to consider the following:

- Appreciate and understand the significant role short line and regional railroads play as part of the U.S. rail freight network.
- Support extension of the Short Line Tax Credit, and allow the continuation of expanded reinvestment of private capital back into the short line and regional railroads across the country.

- Understand that the economics and financial resources of short line and regional railroads are limited and recognize that the burdens of regulations and mandates like PTC fall heavily on the smaller railroads.

Going forward, G&W and, I am sure, the other regional and short line railroads of our country are ready to tackle the future issues and land future opportunities, and along the way help grow our economy and improve our environment. Thank you for giving me this opportunity to present this information today.

The CHAIRMAN. Thank you, Mr. Brown.
Mr. Johnson.

**STATEMENT OF BILL JOHNSON, FORMER DIRECTOR,
PORTMIAMI, AND FORMER CHAIR, FLORIDA PORTS COUNCIL**

Mr. JOHNSON. Mr. Chairman, Senator Nelson, and members of the Senate Committee on Science and Transportation—Commerce, Science, and Transportation, my name is Bill Johnson and it is my pleasure to speak with you today.

I'm speaking to you this morning as a former Director of PortMiami, as a former Chair of the Florida Ports Council. I'm also today, currently serving as my community's Director of Water and Sewer, one of the nation's largest public utilities. Beginning on March 1, I step into the role at the state level, as Florida's new Secretary of Commerce and CEO of Enterprise Florida.

Throughout my 35-year public service career, which is largely focused on infrastructure development, I've seen firsthand the impact of infrastructure on a community's ability to thrive economically and, of course, the need to properly connect to existing and new infrastructure at the local, state and national levels. I strongly believe that, in order for these types of infrastructure projects to move forward, there needs to be partnerships with private sector and, of course, participation of all three levels of government.

When I became Director of PortMiami in 2006, we were faced with the reality of an aging infrastructure. And infrastructure that did not meet the needs of a growing seaport and a changing economy that depended on regional trade as a key job generator. While South Florida is known worldwide as the "Cargo Gateway of the Americas," to remain competitive our region needed to address the challenges posed by the expansion of the Panama Canal. PortMiami is the second largest economic engine in South Florida, second only to Miami International Airport, and our port contributes approximately \$30 billion annually direct and indirect to the local, state and national economies.

PortMiami supports 225,000 jobs annually, both directly and indirectly. It is projected that the new infrastructure being completed at our port, including the deepening of our channel to a depth of 50 feet, will add more than 30,000 new high paying jobs over the next several years. And I would say that these are really high paying jobs. The average job through PortMiami with a High School Diploma is over \$56,000 a year.

However, in addition to deepening the channel to accommodate a new generation of super post-Panamax container ships, PortMiami had to address the inland logistics challenges including how to move goods on and off its port linking South Florida to markets on the East Coast and throughout America.

Our approach was to implement a three-part, which Senator Nelson is very much aware of, a three-part development strategy that focused on capital improvement projects and infrastructure investments that would support cargo growth and not only by virtue of a deeper channel, but also projects such as the new port tunnel, the re-introduction of on-dock rail, stronger bulkheads and the acquisition of new super Post-Panamax cranes.

I'm briefly going to touch on all three and how they interconnect to make our port a stronger, if you will, more valuable port.

Currently, the U.S. Army Corps of Engineers is hard at work, would create Lakes Dredge and Dock Company to deepen our channel to 50 feet. This project will be completed on time this summer, summer 2015; making our port, PortMiami, the only port south of Norfolk, Virginia on the East Coast at that water depth; the same depth as the Panama Canal. In fact, Miami will be at a 50 foot depth one year in advance of Panama's improvements.

The dredge project is supported by the strengthening of bulkheads, completed, in order to accommodate the larger container vessels and also the acquisition of some of the world's largest gantry cranes. This allows us to load and unload, if you will, containers timely and efficiently.

As Senator Nelson is very much aware, there has been an important introduction of a new project last summer, and that's the construction of PortMiami Tunnel. This tunnel links our port to the Nation's highway system, and it provides four lanes under the Biscayne Bay with a seamless connection with no traffic signals to allow us to move our container and our cruise passengers in and out efficiently.

This is a successful project because it was a public-private partnership. It involved all three levels of government; the Federal, the state and the local. The project opened on time and under budget. It shows what can be done when you partner in an open fashion.

Vehicles now, of course, travel, if you will, from our port and is somewhere in the range now of about 26,000 vehicles a day using the PortMiami tunnel.

Importantly, for this committee and for our port is on-dock, the restoration of on-dock rail. Again, this another great example of America working smart. This was a public-private partnership involving all three levels of government; our national government, our state and our local. Today, from PortMiami, with our partners at Florida East Coast Rail, that's FEC—and Senator Nelson referred to Henry Flagler. We utilize the same rail system that Mr. Flagler brought to Florida back, you know, over 100 years ago.

This rail improvement allows us from our port to connect to over 70 percent of the American population; from our port, from one to 4 days. Within 4 days we can get you to Chicago to Heartland of America to Cleveland faster and at less cost via rail. Huge, important. And again, it was a partnership with Washington, our state government and local and our private sector partners.

On-dock rail is a critical component of PortMiami's growth strategy. And no, no port, I believe, can be successful without on-dock rail. Rail is essential to the movement of goods and people in America. Our new FEC port partnership allows shippers, again, to reach

over 70 percent of our Nation's population in one to 4 days. It's a win-win.

In summary, PortMiami is in the midst of the most ambitious capital program in its 100-year history. It's all about connectivity. It's all about the ability to reach markets faster and safer. We believe that the new connections, OK, to Asia with the expanded canal will help America protect or help all of us in America be able to grow or trade. These are new opportunities for all of us that do business globally.

Global trade and freight movement should be at the forefront of economic developments at the local, state and national levels. Our Nation's transportation systems, which depend on rail, OK, are vital to moving the Nation's commerce and supporting our economy. The system demands proper planning and investment, key investment, to keep freight movement expeditious and cost effective. Infrastructure projects that improve the network of how our region and our Nation moves goods contributes to the entire economic growth in many, many ways. We all know those, construction jobs, obviously a wide range of logistics jobs, on and on and on.

The bottom line for me, we need to continue to support a smart investment in our rail system.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Johnson follows:]

PREPARED STATEMENT OF BILL JOHNSON, FORMER DIRECTOR OF PORTMIAMI AND FORMER CHAIR, FLORIDA PORTS COUNCIL; SPEAKING ON BEHALF OF JUAN KURYLA, PORT DIRECTOR, PORTMIAMI

Mr. Chairman, Sen. Nelson and members of the Senate Committee on Commerce, Science, and Transportation, my name is Bill Johnson and it is my pleasure to speak to you today on behalf of Port Director Juan Kuryla who is in Asia promoting Port Miami and as the former Director of PortMiami and former Chair of the Florida Ports Council. I am currently serving Miami-Dade County as the Director of Water and Sewer and, commencing March 2, I will be taking the reins at the state level as the Secretary of Commerce and CEO of Enterprise Florida. Throughout my public service career, which has largely focused on infrastructure development, I have seen firsthand the impact of infrastructure on a community's ability to thrive economically, the need to properly connect existing and new infrastructure at the local, state and national levels. I also strongly believe that, in order for these type of projects to move forward, there needs to be partnerships with the private sector and at all levels of government.

When I became Director of PortMiami in 2006, we were faced with the reality of aging infrastructure that did not meet the needs of a growing seaport and changing economy that depended on regional trade as a key job creator. While South Florida is known worldwide as the *Gateway to the Americas*, to remain competitive our region needs to address the challenges posed by the expansion of the Panama Canal. PortMiami is the second largest economic engine in South Florida, second only to Miami International Airport, and it contributes \$30 billion annually to the local and state economies. PortMiami supports 225,000 jobs, both directly and indirectly, in the State of Florida. It is projected that new infrastructure investments at the port, including deepening the port's channel to minus 50-feet, will add more than 30,000 jobs over the next several years.

However, in addition to a deeper channel to accommodate a new generation of super-sized container vessels, PortMiami must also address inland logistical challenges including how to move goods on and off the port linking South Florida to markets along the Eastern Seaboard and Midwest.

Our approach was to develop a three-part development strategy that focused on capital improvement projects and infrastructure investments that would support cargo growth not only by virtue of a deeper channel, but also such projects as a new port tunnel, the re-introduction of on-dock rail, stronger bulkheads, and the acquisition of new Post-Panamax gantry cranes. I'd like to touch on each of those projects.

Deep Dredge, Bulkhead Strengthen and New Gantry Cranes

The U.S. Army Corps of Engineers awarded a contract to Great Lakes Dredge and Dock Company to deepen the Port's channel to a minus-50 feet. When the project is completed this summer, PortMiami will be the ONLY port south of Norfolk, Virginia at -50 feet when the expanded Panama Canal opens in 2016. The dredge project is supported by the strengthening of the bulkheads in order to accommodate larger cargo vessels and the acquisition of new gantry cranes capable of loading and off-loading the super-sized ships.

Port Tunnel

Construction of the Port Tunnel, linking the Nation's interstate system with port facilities, was completed in May 2014, and has been operational since last August. The project was delivered both on-time and on-budget. The tunnel, like a number of port projects, was a private-public partnership managed by the Florida Department of Transportation in conjunction with Miami-Dade County, the City of Miami and our private sector partners, the Miami Access Tunnel and Bouygues Civil Works. The tunnel not only benefits PortMiami, but has also greatly improved traffic flow in downtown Miami. Pedestrians and automobiles no longer compete with the 18-wheeler cargo trucks for space on our downtown residential and commercial streets. Vehicles now travel from the Interstate to PortMiami without crossing a SINGLE traffic signal.

On-Dock Rail Connection

Another public-private project of great importance to PortMiami was the re-introduction of on-port rail. In partnership with Florida East Coast Railway (FEC), we have restored freight rail linking our port to an intermodal center with links to the national railway system. We are currently moving hundreds of containers on a daily basis as part of FEC's regular service. While the tunnel connects our port facilities directly to the Interstate and the State of Florida, the rail connects PortMiami to the Southeastern U.S. and beyond.

On-dock rail is a critical component of PortMiami's growth strategy. No modern port can be successful without on-dock rail. The new FEC-Port partnership allows shippers to reach more than 70 percent of the U.S. population from Miami within one to four days. In global trade, it's all about time to market and this connection has afforded South Florida an important competitive advantage.

In summary, PortMiami is in the midst of the most ambitious capital program in the Port's 100-year history. It is all about connectivity—fast and efficient connections to transportation systems and markets. We believe with new connections to Asian markets via the expanded Canal, there are great new opportunities for those of us who do business in this part of the world.

Global trade and freight movement should be at the forefront of economic development efforts at the local, state and Federal levels. Our nation's transportation network, which depends on rail, is vital to moving the Nation's commerce and supporting our economy. The system demands proper planning and investment to keep freight movement expeditious and cost-effective. Infrastructure projects that improve the network of how our region and nation moves goods contribute to economic growth in multiple ways. These include not only construction jobs created to build the new infrastructure, but also a wide-range of logistics jobs in the goods distribution and retail industries. By allowing goods to reach domestic and international markets efficiently, we can provide consumers a broader variety of goods with minimal, added cost for transport, if any. Delay in bringing goods to market causes price inflation and deters American business, not to mention the harmful environmental impacts of idle machinery stalled at various system chokepoints.

In closing, without the ability to move our goods and people efficiently, a community cannot grow.

Thank you for the opportunity to address you this morning.

About PortMiami

PortMiami is Miami-Dade County's second most important economic engine contributing \$30 billion annually to the local economy and supporting more than 225,000 jobs in South Florida. It is recognized as the Cargo Gateway of the Americas.

Miami's unique geographic position makes the Port easily accessible to Caribbean and Latin American markets, as well as those of Asia and Europe by way of the Panama Canal.

PortMiami is also known worldwide as the Cruise Capital of the World, welcoming more cruise passengers to its terminals than any other port in the world.

Our Mission

PortMiami's mission is to operate and further develop the world's leading cruise port and the largest container port in the State of Florida; to maximize its assets and strengthen its advantage for future growth; promote international trade and commerce as a vital link between North and South America and a growing center for global trade; support sustainability and operate in an environmentally responsible manner.

Our business plan and quarterly performance reports outline PortMiami's strategic alignment, performance measures as well as our ongoing progress toward meeting those objectives. The documents include a table of organization that defines the reporting relationships within the department.

Foreign Trade Zone 281

FTZ 281 is a General Purpose Foreign Trade Zone established under the Alternative Site Framework (ASF). The ASF provides an expedited process to becoming an FTZ site. Since its authorization in August 2012 by the Foreign Trade Zone Board, we have 27 sites that have been designated with approximately 3.0M square feet available for foreign trade zone logistics operations.

Mission & Vision

To make Miami-Dade County's international trading community more profitable and competitive by providing quick and easy access to foreign trade zone benefits.

Geographic Impact

FTZ 281 stretches from Southwest Eighth Street to the Broward County line, from Miami Beach in the east to the Urban Development line in the west. This area encompasses many industrial areas and critical logistics components including:

- Miami International Airport
- Opa-locka Airport
- PortMiami
- Railyards and other transportation infrastructure

The CHAIRMAN. Thank you, Mr. Johnson.
Ms. Teel.

**STATEMENT OF MICHELLE TEEL, P.E.,
MULTIMODAL OPERATIONS DIRECTOR,
MISSOURI DEPARTMENT OF TRANSPORTATION**

Ms. TEEL. Thank you, Chairman Thune and Ranking Member Nelson for inviting me to participate in this hearing. Thank you, also, to our Missouri senators, Senator Blunt and Senator McCaskill, for your support of transportation. I am so pleased to be here to share the state experience on freight rail safety, efficiency and commerce.

Situated in the center of the United States, Missouri is the crossroads for our Nation's railroads. Missouri is the fourth most rail intensive state, annually carrying more than 420 million tons of goods. Nearly 20 million additional trucks a year would be needed to move this same amount of freight on our highways in Missouri.

We have more than 4,800 miles of track, 3,800 public rail crossings and six Class I railroads operating within the state. We're also proud to have two of the top three rail terminals in the country. Kansas City Terminal Railway is the second largest terminal in the country. Approximately 250 freight train movements occur at KCT every day. Missouri is also a home to Terminal Railroad Association of St. Louis the third largest terminal in the country.

At the Missouri Department of Transportation, safety is our highest priority and we do everything within our ability to make our transportation system as safe as possible. When we recently saw Bakken crude oil shipments increase, Missouri's railroad safe-

ty inspectors worked with the railroads and with the Federal Railroad Administration to make certain those routes received our highest attention.

The rise of railroad movements also spurred MoDOT to increase their railroad safety inspection staff. So, in a time when resources are scarce, this decision demonstrates MoDOT's commitment to rail safety and the safety of our citizens.

In Missouri, we value our strong relationships with the nation's second and third largest terminal railroads. We know Missouri's terminal railroads are an important national asset, moving a significant amount of freight, including hazardous materials. They allow multiple railroads to use common infrastructure thus maximizing efficiencies and minimizing environmental impacts.

Amtrak and the state-sponsored Missouri River Runner, passenger rail service contracted through Amtrak, also use these nationally significant terminal railroads. Six passenger trains traverse KCT each day. As I mentioned earlier, approximately 250 freight movements occur every day at KCT, which is obviously driving our nation's economy.

With Positive Train Control regulations, the terminal railroads were only required to install PTC if they had passenger movements with no regard to operation volume, population density, tonnage or commodities moved, including hazardous materials. So recently, MoDOT received a letter from Amtrak regarding PTC improvements in Kansas City and St. Louis terminals, which is attached to my testimony. This letter indicates Amtrak is receiving invoices from Kansas City Terminal for the implementation of Positive Train Control.

The estimated total cost for installation in KCT is about \$32 million, and Missouri's share for that state-sponsored passenger rail service is approximately \$20 million and \$2 million a year for maintenance in Kansas City alone. So to give some scale to this, Missouri's cost to fund the entire passenger rail service between Kansas City and St. Louis is about \$9 million a year. And the service operates on Kansas City Terminal for only about 6 of the entire 250 miles of the passenger rail route.

So while we agree, PTC helps improve rail safety, we do not believe MoDOT and Amtrak should be required to bear the cost of the entire PTC system in the terminals considering the volume of hazardous materials and other commodities in these dense population areas. MoDOT sent a response letter to Amtrak and another to the FRA regarding this issue, and I've attached both of those letters to my testimony as well.

You'll see in our letters, MoDOT stands ready to work with the FRA, with the railroads, Amtrak, and lawmakers to address this important issue. We know there will be an on-going and dynamic discussion that we hope, ultimately, leads to a more informed and more importantly a more equitable method of implementing PTC in our nation's largest rail terminals.

Again, I'd like to thank you for the opportunity to share our views on this very important topic, and reinforce that the Missouri Department of Transportation stands committed to improving the safety of our entire transportation system.

Thank you.

[The prepared statement of Ms. Teel follows:]

PREPARED STATEMENT OF MICHELLE TEEL, P.E., MULTIMODAL OPERATIONS
DIRECTOR, MISSOURI DEPARTMENT OF TRANSPORTATION

Thank you, Chairman Thune and Ranking Member Nelson for inviting me to participate in this hearing. I am Michelle Teel, the Missouri Department of Transportation (MoDOT) Multimodal Operations Director. I'm so pleased to be here to share the state experience on freight rail safety, efficiency, and commerce.

Situated in the center of the United States, Missouri is the crossroads for our Nation's railroads. Missouri is the fourth most rail intensive state by tonnage, annually carrying more than 420 million tons of goods. Nearly 20 million additional trucks a year would be needed to move this same amount of freight on Missouri's roads. Missouri also has more than 4,800 miles of railroads, 3,800 rail crossings on public roads, and six Class One railroads operating within the state. Kansas City Terminal Railway (KCT) is the second largest terminal in the country. Approximately 250 freight train movements occur at KCT every day. Missouri is also home to Terminal Railroad Association (TRRA) of St. Louis. TRRA is the third largest terminal in the country. All sorts of commodities move through these terminals every day from places like Long Beach California and Powder River Valley. You don't have to wait long in Missouri to see a unit train of coal or a load of hazardous materials.

Safety is MoDOT's highest priority, and we do everything within our ability to make our transportation system as safe as possible. When we recently saw Bakken crude oil shipments increase, Missouri's railroad safety inspectors worked with the Class One railroads and the Federal Railroad Administration (FRA) to make certain those routes received our highest attention to help ensure the safe movement of goods. We checked curves of tracks, intersections with roads, and the operations of these movements to give Missouri the safest rail system possible. The rise of railroad movements also spurred MoDOT to increase railroad safety inspection staff. In a time when resources are scarce, the decision to increase railroad safety inspection staff demonstrates MoDOT's commitment to rail safety. With rail movements on the rise, we believe these actions are prudent to make certain our citizens and railroads are safe.

In Missouri, we work closely with the Nation's second and third largest terminal railroads to promote safe and efficient rail transportation. We know Missouri's terminal railroads are an important national asset, moving a significant amount of freight, including hazardous materials. They allow multiple Class One railroads to use common infrastructure, thus maximizing efficiencies and minimizing environmental impacts. The state sponsored Missouri River Runner passenger rail service and Amtrak also use these nationally significant terminal railroads to move passengers. Six passenger trains traverse KCT each day, moving people to and from our Nation's largest population centers. Moreover, as I mentioned earlier, approximately 250 freight movements occur every day at KCT, driving our Nation's economy.

When positive train control (PTC) regulations were created, the FRA made the ruling through their interpretation of The Rail Safety Improvement Act of 2008, that terminal railroads would only have to install PTC if they had passenger movements. However, MoDOT believes PTC installation requirements should not be triggered by a small amount of passenger rail traffic, but rather should be based on operation volume, population density, tonnage, and commodities moved—especially hazardous materials. This would be consistent with the rest of the PTC rules and applications nationwide.

Recently, MoDOT received a letter from Amtrak regarding PTC improvements in KCT and TRRA. This letter laid out that Amtrak had begun receiving invoices from KCT for the implementation of PTC. As KCT views the law through FRA interpretation and subsequent regulation, the only requirement for implementing PTC in the terminal is the six passenger train movements per day, not the 250 freight movements through this dense population center. Amtrak explained in the letter the estimated total cost for installation in KCT will be about \$32 million. The letter states Missouri's share for the state sponsored Missouri River Runner passenger rail service (contracted through Amtrak) is approximately \$20 million and about \$2 million a year for maintenance in KCT alone. To give some scale to this—Missouri's cost to fund the Missouri River Runner passenger rail between Kansas City and St. Louis is approximately \$9 million per year. The service operates on the KCT for only about 6 miles of the entire 250 mile route.

MoDOT believes PTC helps improve rail safety. However, requiring MoDOT and Amtrak to bear the cost of the entire PTC system in the terminals—considering the

volume of hazardous materials and other commodities in these dense population areas—does not seem to comply with the intent of the law. While this issue impacts Missouri the most severely, Illinois and California are also impacted by this FRA interpretation.

MoDOT sent a response letter to Amtrak and another to the FRA, regarding the Amtrak letter. I have attached both of these letters to my testimony, along with the letter received from Amtrak. You will see in our letters, MoDOT stands ready to work with the FRA, railroads, Amtrak, and lawmakers to address this important safety issue. We know there will be an on-going and dynamic discussion ultimately leading to a more informed and equitable method of implementing PTC in our Nation's largest rail terminals.

I would like to thank you for the opportunity to share our views on this very important topic. Missouri stands committed to improving the safety of our entire transportation system.

ATTACHMENTS

NATIONAL RAILROAD PASSENGER CORPORATION
Washington, DC, November 14, 2014

Mr. ERIC CURTIT,
Administrator of Railroads,
Missouri Department of Transportation,
Jefferson City, MO.

RE: POSITIVE TRAIN CONTROL ON KANSAS CITY TERMINAL RAILWAY AND THE
TERMINAL RAILROAD ASSOCIATION OF ST. LOUIS RAIL LINES

Dear Mr. Curtit:

As you may be aware, Amtrak has received initial bills totaling approximately \$8.8 million from Kansas City Terminal Railway (KCT) and from the Terminal Railroad Association of St. Louis (TRRA) concerning the installation of Positive Train Control (PTC) on: (1) KCT's main line in Kansas City between Rock Creek Junction and Santa Fe Junction and (2) TRRA's main line in St. Louis between Grand Avenue and the Amtrak Station. The State-supported *Missouri River Runner* service uses these lines. The long-distance *Southwest Chief* uses a portion of the KCT route in Kansas City and the *Texas Eagle* uses the TRRA route in St. Louis.

KCT and TRRA are asserting that the existence of passenger trains on these lines is the only reason why PTC must be installed under the final PTC Rule recently issued by the Federal Railroad Administration. Amtrak currently is in an arbitration litigation with KCT and in discussions with TRRA as to whether and to what extent these bills, and any subsequent bills for installation and maintenance, are indeed incremental costs which KCT and TRRA have incurred or will incur solely due to the presence of passenger trains, and if so what amount would be due to KCT and TRRA for reimbursement. If reimbursement is appropriate, Missouri would, pursuant to the PRIIA §209 Cost Methodology Policy, be responsible for a substantial portion of the cost of this installation and subsequent maintenance.

To date, Amtrak has made no payment to KCT or TRRA and has posed various questions and asserted potential defenses. In response, KCT has informed us that the estimated total cost of installation will be about \$32 million. If passenger trains were required to pay that amount, prorating by train counts and routes, approximately \$20 million will be Missouri's share and the balance will be Amtrak's share. Although KCT has not provided any estimate to Amtrak of its annual maintenance costs, such annual maintenance costs could be about 10 percent of the installation cost, i.e., about \$2 million per year for Missouri's share.

Also in response, TRRA has informed us that it is still in the preliminary engineering phase of its development and does not have a total cost estimate for its PTC installation. TRRA's installation involves Missouri's *River Runners*, Illinois' *Lincoln Service*, and the long-distance *Texas Eagle*. Amtrak's rough order of magnitude estimate of the portion of the TRRA PTC installation cost west of the Amtrak station in St. Louis is about \$0.7 million. If passenger trains were to be required to pay that amount, prorating by train counts, approximately \$0.45 million is the state of Missouri's share and the balance is Amtrak's share. Although TRRA has not provided any estimate to Amtrak of its annual maintenance costs of PTC, such annual maintenance costs could be about 10 percent of the installation cost, i.e., about \$45,000 per year for Missouri's share.

Amtrak is not in a position to fund PTC expenses on state-supported routes, and indeed pursuant to the PRIIA §209 Cost Methodology Policy, these costs on the *River Runner's* route fall to Missouri. Since KCT and TRRA have begun to issue

bills, please advise Amtrak's Mr. Michael Franke by December 1, 2014, of Missouri's commitment to pay Amtrak for the PTC expenditures as described above. Amtrak requires this commitment to continue to operate this state-supported service beyond the PTC effective date of December 31, 2015. If Missouri is unable to commit to this by December 1, 2014, then Amtrak must take steps to notify KCT that the *River Runner* service will end and KCT need not install PTC on any trackage that is not used by Amtrak's *Southwest Chief*.

Amtrak is sending a similar letter to other states in this situation. Currently these states are Illinois (*Lincoln Service*) and California (*Pacific Surfliners*).

I look forward to hearing from you.

Sincerely,

DJ STADTLER,
*Executive Vice President
and Chief Operations Officer.*

CC: Joseph Szabo, FRA
Jay Commer
Mike Franke
Paul Vilter
Keith Holt
Robin McCarthy
Jad Roberts

MISSOURI DEPARTMENT OF TRANSPORTATION
Jefferson City, Mo, December 23, 2014

Mr. PAUL NISSENBAUM,
Associate Administrator,
Federal Railroad Administration,
Washington, DC.

Dear Mr. Nissenbaum:

My purpose in writing is to formally request that the Federal Railroad Administration (FRA) review its interpretation of the August 2014 final rule on positive train control (PTC). Specifically, the Missouri Department of Transportation (MoDOT) seeks FRA's reversal of its interpretation exempting the Terminal Railroad Association of St. Louis (TRRA) and the Kansas City Terminal Railway (KCT) from paying for the cost of installing positive train control on the Missouri portion of its network. It is our understanding that the Illinois Department of Transportation is submitting a similar request to you in regard to TRRA's Illinois network.

TRRA and KCT cite FRA's interpretation of the short-line railroad exemption, which currently includes both Terminal railroads. The St. Louis and Kansas City Terminals, however, are unlike other short-lines in that they are owned 100 percent by Class 1 railroads that are subject to the PTC mandate at their own expense. The St. Louis and Kansas City Terminals thus do not in any way fit into the "small business" category of other short-lines.

KCT has already sent Amtrak an initial invoice for PTC work in Kansas City. Amtrak, in turn, is citing Section 209, stating that PTC installation is an operational cost that should be borne by the states supporting passenger rail service. Accordingly, Amtrak is estimating that Missouri will need to identify \$20 million in funding to cover PTC installation on KCT's infrastructure and \$450K in TRRA for Missouri's share of the PTC installation. Missouri, however, believes that PTC is a fixed capital asset whose cost allocation should at least be governed by an as-yet undetermined division of fixed capital asset costs between the states and Amtrak. But the entire need for such an allocation discussion would be eliminated if FRA reverses its interpretation as we request, and requires TRRA and KCT to fund the installation of PTC on its own—just like FRA is mandating the class 1s to install PTC at their own expense on other qualifying infrastructure owned by them.

I have instructed Eric Curtit, MoDOT's Administrator of Railroads, to work with you on this issue. Please follow up with Eric directly. Thank you for your consideration.

Sincerely,

DAVID B. NICHOLS, P.E.,
Director.

cc: Joe Shacter, IDOT

The CHAIRMAN. Thank you, Ms. Teel.
Mr. Jahn.

**STATEMENT OF CHRIS JAHN, PRESIDENT,
THE FERTILIZER INSTITUTE**

Mr. JAHN. Thank you, Mr. Chairman and Ranking Member Nelson, and members of the Committee. We appreciate the opportunity to talk to you today about rail service issues.

The fertilizer industry and agriculture depend on safe, reliable and cost-effective rail service. And in fact, nearly, all fertilizer shipped in North America touches the rail transportation system at some point. The delivery of fertilizer in a timely manner is critical to the 2 million American farmers who produce enough food to feed our citizens and generate over \$400 billion annually in economic output. And, in fact, 40 to 60 percent of a crop's yield is due directly to fertilizer.

So it's vital that this committee understands that the availability of an efficient rail service is not a season issue for agriculture. Our industry works to support farmers 24 hours a day, 7 days a week. And the sheer production of volume of production in the industry couldn't possibly be transportation just two times a year during the spring and fall planting seasons. And, in fact, this takes place year round.

In addition, our members have relatively little storage. And so, if they don't have reliable rail service, those plants have to shut down. So just as the railroad industry has changed in the last 35 years since the Staggers Act has passed, farming has as well due to advanced agriculture. So, for example, last spring in May of 2014, the country as a whole went from 29 percent of acres planted to 73 percent acres planted. That's 40 million acres that were planted in a 2-week period.

So farmers rely on the robustness of the transportation system, especially the railroads now more than ever. And so, given our reliance on rail service, The Fertilizer Institute supports policies that will promote greater competition between railroads and improve the efficiency and effectiveness of the Surface Transportation Board. For example, last spring the STB required the BNSF and CP to track fertilizer shipments. The transparency helped to improve service that desperately needed it.

However, we're concerned that the recent STB order, establishing temporary reporting requirements and the Board's purposed rule-making a permanent reporting requirement do not include separate tracking of fertilizer shipments. Given our importance to agriculture and the time length of delivery and application of fertilizer, we feel that it's appropriate to be included in that permanent reporting order. Farmers at the April 2014 STB hearing testified to that fact.

We're also concerned about other issues that effect rail service. For example, the new crude oil tank car standards proposed by DOT could have the unintended impact of crowding out shop capacity for maintenance required for other cars. Further, the proposed speed restrictions for High-Hazard Flammable Trains, which do not include fertilizer, could add significant congestion to an already overburdened network.

Moreover, it's likely that the trains under the rulemaking may have significant number of cars that do not contain flammable liquids.

We're also concerned about the deadline for deploying Positive Train Control, which we've heard a lot about this morning. As you all know, this covers tens of thousands of miles of track. And while we have very strongly supporting the effort to deploy PTC and enhance rail safety, we want to make sure that it does not erode the railroad's commitment to their common carrier obligation to transport toxic inhalation cargo.

And the reason for that is rail service is vital to the transportation of anhydrous ammonia, which is used a direct application fertilizer particularly in the Midwest. It's also used in the production of many other types of fertilizers. And as others have said before today, rail is in fact the safest transportation option for anhydrous over land. So we want to make sure that those 30,000 tank cars that are transported annually, we want to make sure that we continue to have the right to ship over-the-rails. Because, it takes four trucks to replace one rail car. And that's just—that would not be possible to do in a timely manner.

So in conclusion, I want to thank again the Committee for allowing us to be here. Our partnership with the railroads is crucial in helping feed a growing world and we dependent on that safe, reliable and cost-effective service. And we want to work with the Committee, the Surface Transportation Board and our partners within the railroads to make sure that that happens.

Thank you.

[The prepared statement of Mr. Jahn follows:]

PREPARED STATEMENT OF CHRIS JAHN, PRESIDENT, THE FERTILIZER INSTITUTE

My name is Chris Jahn. I am the President of The Fertilizer Institute (TFI) which is the national trade association representing the fertilizer industry. TFI represents virtually every primary plant food producer, as well as secondary and micronutrient manufacturers, fertilizer distributors and retail dealerships, equipment suppliers and engineering construction firms, brokers and traders, and a wide variety of other companies and individuals involved in agriculture. The Institute's members play a key role in producing and distributing vital crop nutrients, such as nitrogen, phosphorus and potassium, which are used to replenish soils throughout the United States and globally to produce healthy and abundant supplies of food, fiber and fuel. Fertilizers make it possible for farmers to grow enough food to feed the world's 7.2 billion people. Research has confirmed that 40–60 percent of crop yields are attributable to commercial fertilizers nutrient inputs.

The fertilizer industry depends on safe, reliable, and cost-effective rail transportation to deliver fertilizer, which is essential to U.S. food production. While fertilizer shippers also utilize other modes of transportation to move their products, nearly all fertilizer shipped across North America touches the rail transportation system at some point, between its production and ultimate application by the farmer. In 2011–2012, 61 million material tons of fertilizer products were sold in the U.S. The delivery of fertilizer products in a timely manner is critical to farmers. There is only a narrow window of opportunity to apply the right fertilizer source, at the right rate, at the right time and in the right place. If farmers do not receive their fertilizer in a timely manner, there are potential consequences for food security and the environment. Limited nutrient access during key utilization periods reduces crop yields which means lower production and potentially higher food prices for consumers. Additionally, the inability of farmers to access nutrients during these periods could encourage use during inopportune times such as frozen or wet conditions. This could potentially increase nutrient losses to surface and ground waters.

The 2013/2014 winter was particularly challenging for our members due to extreme cold temperature and higher than normal snowfall totals limiting rail capacity and threatening the timely delivery of sufficient fertilizer to farmers. TFI greatly

appreciated the Surface Transportation Board's (STB) intervention last spring to track fertilizer shipments on the BNSF Railway and the Canadian Pacific Railroad. Given our members' reliance on rail transportation and significant service issues, TFI fully supports policies that will promote greater competition between railroads and improve the efficiency and effectiveness of the STB.

TFI commends the STB for last year's efforts to increase transparency when it comes to rail service by requiring Class I rail carriers to provide key service metrics. TFI is, however, concerned that the Board's October 8, 2014, order establishing temporary reporting requirements similar to last winter do not separately track fertilizer rail shipments. Furthermore, we are concerned that the Board's recently-proposed rulemaking to adopt permanent reporting requirements does not require separate reporting for fertilizer shipments which are critical to the placement of fertilizer in time for the spring and fall planting seasons. Notably, the Board's proposed reporting requirements include grain and ethanol, two products whose production would be greatly impacted without timely application of fertilizer. Moreover, the Board's emphasis on these other commodities provides incentives for rail carriers to prioritize them over fertilizer shipments when allocating rail cars. As farmers at the April 10, 2014, STB hearing on rail service testified, timely fertilizer shipments are a very serious concern.

On a separate issue, TFI members have expressed concerns regarding the new crude oil tank car rules proposed by the Pipeline and Hazardous Materials Safety Administration. Under the proposed rules, rail car maintenance facilities will be inundated by orders to retrofit older tank cars for crude and ethanol over an unreasonably short span of time. This will crowd out capacity for the routine inspections and maintenance required by other cars. This will be to the detriment of other commodities, including fertilizer. Furthermore, the proposed speed restrictions for High-Hazard Flammable Trains (HHFT) could apply so broadly that they could add significant congestion to the already congested national rail network.

The Rail Safety Improvement Act of 2008, which mandated that railroads implement Positive Train Control (PTC) by the end of 2015 on main lines that handle toxic-by-inhalation (TIH) materials, also is of concern to TFI members which ship and receive TIH materials in the form of anhydrous ammonia used in most all nitrogen based fertilizers, some finished phosphate fertilizers and several intermediary applications that produce finished goods for use in the home. Rail transportation is essential to the safe and reliable movement of anhydrous ammonia. In most cases, the safest and often only feasible mode of bulk long distance transportation of anhydrous ammonia is by rail. Shipment of ammonia by truck alone would place four trucks on the Nation's highways for every railcar. Shipment by barge is only feasible between a very limited number of ammonia production and storage facilities located on a navigable waterway. Rail has proven to be the safest and most economical mode for TIH shipments over land.

The existing PTC mandate would apply to over 70,000 miles of track and the rail industry unequivocally has declared that it cannot meet the current statutory deadline for most of this track. TFI strongly supports efforts to enhance rail safety, including the deployment of PTC. However, our members have concerns the railroads would cease or substantially curtail TIH transportation if they are unable to meet the statutory deadline. We are also concerned that railroads may curtail TIH transportation in order to reduce the number of rail lines that must install PTC. Therefore, PTC implementation must not erode the common carrier obligation. TFI members must have access to rail transportation for anhydrous ammonia in order to meet the demands of U.S. farmers for optimal crop production. For these reasons, TFI supports Chairman Thune's legislation from last Congress that would extend the PTC implementation deadline.

We continue to monitor a host of important issues before the STB and other regulatory agencies. Topics such as unilateral railroad mandates, railroad pricing power, and reassignment of third party liability to the shippers are major concerns for our industry. These and the other aforementioned items will have a major impact on our member's abilities to serve and supply farmers and meet our goal of feeding the U.S. and the world.

While there is not a single solution to the ongoing rail service challenges, TFI, on behalf of our members appreciates this opportunity to share some of our freight rail service concerns. We look forward to working with this Committee and Congress on these issues moving forward.

The CHAIRMAN. Thank you, Mr. Jahn, and thank you to all of you for your great testimony.

And Senators, we'll start with 5-minute rounds and then see where it goes and how much participation we have. We'll probably have time to do another round of questions depending on how many people show up.

I want to start with you, Mr. Brown. As you know, South Dakota's Genesee & Wyoming property, the Rapid City, Pierre and Eastern Railroad, which I alluded to earlier, hands off a significant portion of rail traffic to the Canadian Pacific, which is a Class I railroad. During the early months of the transition following G&W acquisition of the line, there were challenges in managing power and car resources and in effectively handing off trains. My question is: How do short lines manage service with Class I railroads and how does that vary among Class I railroads?

Mr. BROWN. It's certainly we have a great—first of all, we're a customer of every Class I railroad. As a short line holding company, our various railroads are a customer of every Class I. We're also partners. So in the case of RCP&E and, our partnership with CP as we started that operation, we manage it on a very much multiple, you know, interactions per day basis. We look at ourselves in our various railroads as an extension of the Class I's, into the First Mile/Last Mile environment.

For example, in South Dakota, which is a fantastic operation that we successfully began in last year and it has progressed well. And we've seen there were some challenges as we started that operation. There often are as we integrate a new property into the portfolio of railroads that G&W owns. So we establish strong communication channels operationally so that every day, various times through the day, we're planning for locomotives and how many cars are going to be available for our customers. We've purchased and brought into that railroad over 2,000 cars of our own in addition to what CP had previously supplied to that railroad when it was part of their network.

So we bought our own locomotives. We brought those into that operation and we hired over 180 South Dakotans to operate that railroad, and they've done a fantastic job of—yes, sir.

The CHAIRMAN. And I'm sure you have to be careful about what you say in terms of your interchanges with the Class Is, but are there differences between Class Is?

Mr. BROWN. Certainly.

The CHAIRMAN. I mean, you obviously interact with a lot of Class Is.

Mr. BROWN. Right. Every one of them. So, yes, every single Class I, and there are differences.

I understand the networks having formerly worked for two Class Is and having been well-acquainted with the rest of them. So there are differences that I see that there's a lot of attention in the Class Is, all of them in terms of enhancing their capacity, improving their fluidity, and I'm seeing results that say they're being successful in improving where everywhere that we connect with them.

It's progressing well. We all know last winter was—

The CHAIRMAN. Right.

Mr. BROWN.—off the scale as far as its impact and that has largely been recovered.

The CHAIRMAN. Yes. And we're glad to see the improvements as well.

Mr. Lonegro, there are disruptions in the rail network that have cascading impacts. And the question is: how can we better manage major bottlenecks like the one in Chicago that impact the fluidity that Mr. Brown eluded to of the entire rail system? And then, as a sort of a more perhaps specific question, how have railroads changed their planning for severe winter weather events like the one that we're experiencing in the Northeast right now?

Mr. LONEGRO. Thank you, Mr. Chairman.

In terms of Chicago, clearly Chicago is the crossroads of all of North American's railroads. It's the most efficient way to interchange traffic from west-to-east and east-to-west. So it's a natural place where all railroads come together; as it has been historically. You know, Chicago is a situation where congestion on any one railroad can impact other railroads. There are also a series of switching carriers within Chicago that make connections between railroads that don't naturally or physically exist.

Chicago last winter suffered from the same challenges that Mr. Brown just spoke of in terms of the winter as well as the additional volume that we all experienced starting in the second quarter of last year. There are two ways, I think, to help look at Chicago. One of those is investment.

And when you look at the create projects or the great public-private partnership, multibillion-dollar, multi-decade series of projects that help both freight railroads as well as passenger railroads and in the individual investment of many railroads as we all look to make our interchanges and our individual rail networks as sufficient as possible, there are a series of committees that are operational committees on the ground every day in Chicago. We call it the CTCO, the Chicago Traffic Coordination Office. We each have members that sit on that coordination office and their job is literally to try to get freight from one side of Chicago to the other side of Chicago every day. They have gone into a very revised series of what they call "OPCON," or Operating Condition changes so that, if any one railroad gets in trouble, that railroad has to bring forward a plan to alleviate that congestion. If they are unable to do so, then the other railroads pitch in and begin to divert traffic to alternative interchanges.

So there is a lot happening right there. Amtrak has put together a blue ribbon panel to look at that. Class Is have put together a retired executive panel to look at ways to improve Chicago fluidity. Many of us have looked at alternative interchanges. We just opened one with the BNSF in Smithboro, which is just Northeast of St. Louis, so that if we do get into a situation where traffic needs to be diverted from Chicago, or maybe doesn't have to go to Chicago at all, we do have those alternative gateways that can help reduce the congestion in Chicago.

To your winter question: Obviously, last winter took many of us by surprise; probably the worst winter in 30 to 40 years. We have winter every year, it's just a question of how extreme it is, how much snow, how much precipitation, how much cold there may be. And so, you know, we did dust off our plans and make sure that they were each as up-to-date as possible. It's making sure we have

the supplies of the right components for freight cars and locomotives and rail that are temperature sensitive. You know, everything that we deal with by and large is steel and steel reacts to temperature both extremes on the low end and extremes on the high end.

We also have invested in new equipment, what are called switch heaters and jet blowers. It is, in essence, how we clear the railroad of snow and ice to make sure that the equivalent of the exit ramp off of the main line remains fluid. And then, it gets down to communication and making sure we understand where certain trains may be in trouble in getting crews and additional power out there to rescue a train that might have had a locomotive failure or track failure or car failure.

The CHAIRMAN. Thank you.

And anything you can do in Chicago, I know there's a lot being done, but that was a huge, as you know, bottleneck in last season.

My time's over. I've got some PTC questions but I'm sure my other colleagues will get to those.

So, Senator Nelson.

Senator NELSON. So, Mr. Lonegro, you all have been trying to implement Positive Train Control. There have been some complications. What can we do to help you and how does the extension figure into that?

Mr. LONEGRO. Well, certainly this committee plays a major role in introducing legislation to extend the deadline for PTC. We're appreciative to the Committee and, certainly, your sponsorship or co-sponsorship and Senator Thune and Senator Blunt's sponsorship of the extension that you introduced in the last session. And we look forward to continuing that discussion with you in this session of Congress.

The extension will be used for the following. The next handful of years, say 3 years or so, will be the continued deployment in the infrastructure side. The 30,000 locomotives that I mentioned in my opening testimony, 23,000 locomotives in my opening testimony, in the tens of thousands of miles of signal replacement that we have to do in order to bring it up to the type of technology that can interface with Positive Train Control.

So the hardware deployment will continue significantly in the next 3 years. Certainly, the software is not yet in its final form and we will look forward to working with our suppliers to try to get it into final form. And, in some respects, that merely starts the process of testing in a laboratory and then testing in the field in order to make sure that it works in an operating environment. And so, the safety and the efficiency of that.

And I think it's important to remember the amount of money and the dedication. Literally, at CSX we have 1,000 people working on PTC, the industry literally has thousands of people working on Positive Train Control and they've, in essence, made it their career and life's work in order to deliver this technology for the safety of our workers and our communities and the passengers who run on our railroad.

Senator NELSON. Mr. Johnson, you started the interactivity and connectivity of rail to the Port of Miami before you actually did the tunnel, the tunnel for trucks, and the rail obviously for rail. Share

quickly, distill your answer, with the Committee why the rail connectivity was so important.

Mr. JOHNSON. Without rail, Port of Miami literally could not grow. And this is true for a number of ports. Miami is at the end of a long peninsula; Miami, PortMiami, Port Everglades as well. Both ports have had substantive rail improvement. You've got the major road quarter, I-95, it's already heavily congested. And for PortMiami to grow from just under a million TEU containers to 4 million, there's no way to move that product. The success for PortMiami and the billions of dollars that have been invested without rail, you don't need a billion-dollar port tunnel, you don't need 50 feet of water.

The ability in this Nation to move the product through, if you will, an intelligent road system and a rail system is vital; whether it's the Port of LA in Long Beach, whether it's the Port of Miami. Without that interconnectivity, you cannot connect your port to America and then globally. And this is a global, obviously, trading environment we live in. So rail is really the heart of it all.

And Senators, you know I made it very well-known, the linchpin was securing Federal support, which we did through TIFIA with former Secretary of Transportation LaHood. It was, in fact, that ability to again partner with Washington with our state government, Governor, and of course local and our private sector partner, FEC. A true win for my port and I think it's a win for America; interconnectivity through rail.

Senator NELSON. And by the way, I might point out to my colleagues, that was a part of the much maligned appropriations bill that was trying to give an economic jolt to the country from the depths of the recession back in 2009.

Mr. Brown, I have been out on a couple of your railroads and given the fact that we've got some real problems with fiery crashes, with oil tankers, on the Class I and then you passed that over to your short line railroads, what are these challenges of transporting the crude for the short lines in addition to the Class I?

Mr. BROWN. I would suggest that it is somewhat unique in the short line world. We certainly support enhanced tank car safety standards that are currently underway. We have, over all of the G&W-owned properties, we've established some safety protocols and precautions based upon the type of hazardous materials that are transported over those unique properties; their volume as well as the existing level of maintenance of the infrastructure.

So it is unique in the sense that our railroads do vary in that level of maintenance of the infrastructure depending on traffic density, car weights. We talked about, I mentioned, rail conditions as well as bridge structures, so we look at where those were, say, crude-by-rail might be operating across a G&W-owned railroad and we enhance our infrastructure maintenance as well as apply operating protocols and procedures for safety.

Senator NELSON. Thank you.

The CHAIRMAN. Thank you, Senator Nelson.

I have, in the following order, Senators Blunt, Cantwell, Gardner who is no longer with us, and McCaskill. So Senator Blunt and then Senator Cantwell and then the double shot from Missouri, Senator McCaskill.

**STATEMENT OF HON. ROY BLUNT,
U.S. SENATOR FROM MISSOURI**

Senator BLUNT. All right.

So Ms. Teel, thank you for being here again. I think this is the second time we've had you testify on a couple of different issues in the last year and we all appreciate you being here. And Senator McCaskill and I particularly do.

On the Amtrak route in Missouri that is state-sponsored, what's the status of Positive Train Control now as it relates to the Department of Transportation?

Ms. TEEL. So right now we operate that service on mostly Union Pacific's rail line. So Union Pacific, being a Class I railroad, is installing the PTC at their cost.

Where we're running into a situation is with the terminal railroads, and they're in a tough spot. You know, we are great partners with the terminal railroads. In fact, Mike McCarthy, the President of St. Louis, The Terminal Railroad Association, is here today. And we're also great partners with the Kansas City Terminal. They're in a tough situation because were it not for the passenger rail activity they would not be required to install PTC. So they host us and we don't have a funding source to pay for PTC.

In fact, every year it's a challenge just to get the \$9 million that we need to operate Amtrak because we don't have any dedicated funding in the state of Missouri for passenger rail. So to come up with an additional 20-plus million in capital on additional on-going maintenance for just that small section in both of those terminal railroads is going to be a real concern for the state of Missouri and possibly impact the future of passenger rail. So we're really concerned about that, in particular, in regards to those terminal railroads.

Senator BLUNT. And has the Department of Transportation given you any guidance on what you can or can't do or what the terminal railroads have to do?

Ms. TEEL. You know, Amtrak is actually working very close with those terminal railroads. We contract with Amtrak then Amtrak contracts with the railroads. And they've been working closely on trying to figure out how to pay for this, but ultimately the way the law and the interpretation is today those responsibilities are going to fall on the passenger rail portion because of the Class III railroad exemption of passing PTC.

Senator BLUNT. So the responsibility would fall on the terminal railroad or the state as the sponsor of Amtrak?

Ms. TEEL. The state and Amtrak.

Amtrak has some national routes that flow through both St. Louis and Kansas City terminals and then we obviously have the state-sponsored route that goes back and forth between St. Louis and Kansas City. So breaking those into a proportion that each Amtrak and the state of Missouri would have to pay their fair share for the portion of PTC that is impacted in those terminals.

Senator BLUNT. OK.

Mr. Lonegro, on this topic in general, I know you can tell from Senator Nelson's comments and Senator Thune's comments and many others on this panel that we've been concerned that the Government itself has been one of the obstacles to meeting the dead-

line. Where will railroads generally be by the end of 2015 and what would be a reasonable deadline to, now that hopefully the FCC and others are working with railroads, to actually get this accomplished?

Mr. LONEGRO. So a couple of questions embedded within that, I'm sure you know.

In terms of the Government, certainly the FCC and the tower issue that we confronted last year in and going back from about mid-2014 to mid-2013, certainly was a major obstacle that we've since overcome. We are working closely with the FCC on what we call the tower or the antenna height waiver, which we are working closely with them. We need that to get through the FCC.

And then, there are some cross border issues between the United States and Canada that have to get resolved also. In other words, if a train is coming in from Canada, in order for it to be PTC-enabled when it hits the boundary between Canada and the United States, it has to begin to converse with PTC while it's still in Canada. Right, so we have to get through that cross border issue.

At the FRA level, we meet with them quarterly and discuss issues. I think the dialogue has been very candid. At the same time, as you all know, when the Congress passed the Rail Safety Act, about one page of that legislation was Positive Train Control and it has turned into, you know, hundreds if not thousands of pages of regulation which became final in August of last year. So some six years after the legislation was initially passed, we finally have the recipe, so to speak, from the regulatory perspective on what we're required to do.

Senator BLUNT. On the tower-siting issue at FCC, your railroad particularly is impacted by that. Am I right on that?

Mr. LONEGRO. We are impacted by it, but the industry has about 20,000 towers that have to go through that process. The majority of those are in the Western U.S. We certainly have our fair share, but it pales in comparison to what the western railroads have to put through the process.

Senator BLUNT. My last question as my time runs out, is the FCC now doing what they need to be doing for tower-siting to happen or are we still looking at an obstacle there?

Mr. LONEGRO. We're still looking at an obstacle only because every tower has certain documentary requirements; so we have to do field surveys, put documentation together get it to the FCC, the state preservation societies and the American Tribes in order for them to review it. So every tower, every one of those 20,000 sites has probably 100 days or so, you know, review process that it has to go through. So there still will be obstacles there based on the streamline process.

Senator BLUNT. OK.

Now, the question I didn't get answered, it may have been unfair for everybody, but how long do you think it'll take your railroad to comply with PTC?

Mr. LONEGRO. If everything goes well, and that's a huge caveat I know to the answer, our plans take us to 2020.

Senator BLUNT. Thank you, Chairman.

The CHAIRMAN. Thank you, Senator Blunt.

Senator Cantwell.

**STATEMENT OF HON. MARIA CANTWELL,
U.S. SENATOR FROM WASHINGTON**

Senator CANTWELL. Thank you, Mr. Chairman, and thank you for holding this important hearing. Earlier, I was looking at the members and attendants and I always think, save the Senator from Florida, I bet you Washington ports export products from every single state that was represented here this morning; and from fossil fuel products to agricultural products, we're the second largest port now with the combined Seattle Tacoma alliance. And so, ports are us and freight and freight movement is critically important for us to keeping our competitive advantage and it's also very important for us as it relates to the growing market outside the United States. And doubling of the middle class around the globe in the next 15 years is a great economic opportunity for the United States.

I do want to make one note to your comments earlier. My viewpoint on the rail car issues is that we should go faster. The administration should get those new recommendations implemented. I say that because with the 44 percent increase in the number of rail cars carrying crude in the last 6 years.

My constituents who are now seeing these trains through every major city in our state, just because of the way they enter the state and go out to the refineries, they're literally hitting Spokane through the tri cities, through Vancouver, up through Tacoma, Seattle, Everett, and then up to the refineries. So these rail cars are going through every major population center.

In fact, Seattle is now debating whether they want to make some new requirements, keeping the commuter trains and these rail trains which go into these same tunnels at various points in time, make rules regarding that. So it's a very big issue for us. So I'm anxious for them to act and I just wanted to make that a point.

But for our panel today, and I would say, Mr. Chairman, I hope that we do play, the Commerce Committee, a very big role in surface transportation issues as that debate happens on, throughout the Senate and throughout the House. I feel like our committee has some very important role to play on safety and security on those. And so, we'll look forward to that.

But I wanted to ask our witnesses, again, because freight is so important, Mr. Johnson or Mr. Loney, about implementation of the freight mobility board recommendations and how we—what would your recommendations be on how will we move to get those recommendations adopted by Congress so that we can improve our competitiveness of the infrastructure?

Mr. JOHNSON. Typically, your ports are going to approach it with their rail partners. So we in part, for example, at the Port of Miami we really work closely with Florida East Coast Rail because, truly, they are our partner. So we're looking for their advice, their input. We have our governmental folk, of course, who work with us on issues here in Washington, but we are concerned in terms of implication of cost, delay.

So the big thing for us is making sure that on the regulatory side that things obviously don't become over burdensome but also that there's a focus on really supporting the necessary dollars for the in-

frastructure. That really is the key for us. And the programs that have happened historically, and Senator Nelson hit on that.

The TIGER program was really, really instrumental, particularly for our ports, and that linkage between rail. We secure 23 million out of TIGER too for rail. And without that TIGER Grant that project would not have happened. Of course, the State of Florida pumped in 11 million, my private partners from Florida East Coast put in money. So to me as a former port director, really the focus, the regulatory stuff, is very important, but we're really sort of focused on that infrastructure plan and how we make those funding decisions happen. And I think that's true probably for most ports in America.

Senator CANTWELL. So getting those recommendations implemented, Mr. Lonegro?

Mr. LONEGRO. Yes, ma'am.

I think in terms of the partnership that we talked about, certainly the short lines are major partners for the Class I railroads. About 20 percent of our freight either originates or terminates on a short line. CSX serves 70 East Coast and Gulf ports. And so, certainly the ports are big customers and partners for us as well.

Certainly the funding on both of those constituents is going to be really important. Our job, by and large, is to work with our customers to develop properties where they can site new rail-served facilities whether they be at the port or inland ports or simply manufacturing as that comes back onshore which is a wonderful thing for us. And then, to provide great service.

And one of things that certainly was a challenge in 2014 was doing exactly that. We've hired thousands of people that can run trains, we have invested over a billion dollars in locomotives. So we believe we have a good line-of-sight into good service this year. Certainly regulatory certainty is an important thing for us. The balance and the balanced regulation on the economic side will certainly keep that in balance.

So, thank you.

Senator CANTWELL. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Cantwell.

Senator Gardner.

**STATEMENT OF HON. CORY GARDNER,
U.S. SENATOR FROM COLORADO**

Senator GARDNER. Thank you, Mr. Chairman, and I apologize for my absence as I attended a small business committee hearing upstairs.

Great to have you all with us today.

In your testimony today and the written testimony, you've talked about the need to improve safety on our rail systems of which Congress, we passed the law for that purpose, and you've talked about the effort made to respond to that law. We've also heard about a number of the technical barriers, though, that have delayed the rail company's ability to fully test and implement this technology by the end-of-the-year deadline. Obviously, all of us are in strong support of railroad safety and the safe freight, safe rail system. And I know everyone here is as well.

What I didn't hear too much about today and I'd like to get into it a little bit more is another type of safety and that deals also with our national security, and that concern being the issue of cybersecurity. Safety technology requirements from the law basically allows a computer to overrule human error when operating a train, as I understand. When this happens, then the system or the rail line shuts down until the problem is solved. As we hear more about cyber attacks on our country, I'm concerned that not giving enough time for this technology to operated could me we unnecessarily open our rail lines up to cyber attacks and other concerns.

In the name of safety, is there an issue that we are not addressing that could in fact make our rails less safe?

Mr. LONEGRO.

Mr. LONEGRO. Thank you, Senator.

I believe that we are working on cybersecurity in the realm of PTC. We have one of the most well-known national labs that's looking at it from an independent, third-party perspective to make sure the cybersecurity challenges are accounted for. As I know you are aware, cybersecurity is always a defensive measure; right? And so, every day there are new ways that either nation—states or individuals can attempt to infiltrate whether it's governmental or business or personal, you know, accounts and technologies.

I think the important thing in the PTC realm is that the data transmissions and the communication's networks are encrypted with state-of-the-art encryption; so certainly the messages and the data transmissions are secure as anything else we're able to transmit today.

The other thing, and I think again it's important to note where you talked about the technology coming in and taking over control of the train, the only interface of PTC is to the breaking system. Right? There is no throttle control by the system for Positive Train Control. So, you know, the failsafe mode for Positive Train Control is to bring the train to a stop.

Senator GARDNER. To a stop. OK.

And in your opinion—and anybody else would like to address the question, please feel free to.

In your opinion, is there adequate time, though, to provide the kind of testing that you're carrying out?

Mr. LONEGRO. No is the answer. Certainly not against a December 31, 2015 deadline. You know, the security elements, the safety elements, of being able to test all of this and, you know, to hire smart people to try and break into it, are certainly things that we will do. But you can't actually do that until the system is complete.

Senator GARDNER. Yes. Thank you.

Mr. Chairman, I yield back.

The CHAIRMAN. Senator McCaskill.

Thank you, Senator.

**STATEMENT OF HON. CLAIRE McCASKILL,
U.S. SENATOR FROM MISSOURI**

Senator MCCASKILL. As you can tell, my voice is not what it should be which is a cause for rejoicing in many places around the country and in this complex. So I will not spend a lot of time questioning today. I want to associate myself with comments and ques-

tions of my colleague, Senator Blunt. And I have a number of questions I'll submit for the record about issues, such as the transporting of crude which is one of the reasons I support the pipeline. I'm one of many but it's one of the major ones that the transportation of crude across my state is an everyday occurrence and something that we're concerned about in terms of overall safety.

This issue with the Kansas City Terminal Railroad is complex, it's hard and I just want to state for the record that it is unacceptable that we would disrupt passenger service in Missouri over this issue. It's unacceptable. We have tens upon thousands of people that rely on the trains in Missouri. It isn't like the Northeast quarter, but it's essential in my state.

And so, I would like to see—everyone knows that Congress is going to probably adjust this deadline and I would like there to be a more realistic target for the deadline, which gives us time to try and work this out among the various players that need a way in and help here. This can't be all on Amtrak, it can't be all on MoDOT and frankly the question is whether or not this is the right way to put all of that responsibility there because of what the rule currently states.

So I hope we can get quick action on the PTC delay bill in order to give some more certainty to the environment in Missouri so we can make sure that we have and continue passenger rail service.

I apologize for my voice and I'll submit the rest of the questions for the record.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator McCaskill.

Senator Fischer.

**STATEMENT OF HON. DEB FISCHER,
U.S. SENATOR FROM NEBRASKA**

Senator FISCHER. Thank you, Mr. Chairman.

Everybody up here has some health issues today. So I would apologize as well.

Mr. Lonegro, could you talk a little about your overall capital investment plan and what might happen to that plan if government did things to either restrict your revenue or change your regulatory structure based on how much revenue that you generate?

Mr. LONEGRO. Thank you, Senator.

Certainly all Class I railroads are spending at record levels both because of the growth that we've seen as well as making sure that we run a safe and efficient rail network. And, as luck would have it, we just released the details of our CSX Capital Plan to our customers. One of the things that we've done in the last few months is truly open up a transparent dialogue with our customers around service as well as around the capital expenditures.

And so, you know, rail as you know is a very capital intensive business. We're going to put in 3 million tons of ballast, 3.2 million crossties, we're going to rebuild 95 locomotives, buy 200 new ones, and spend \$100 million on technology. In the \$2.5 billion capital plan that we have, and I think it's important to note that \$300 million of that is for Positive Train Control. Additional regulation generally costs money and certainly having some balance there and being able to look at what I'll call the aggregate weight of all the

regulation, I think is an important thing. And certainly, as you get into reregulation topics, anything that constrains the topline will ultimately constrain the ability for us to reinvest in the railroads.

Senator FISCHER. So, when we look at the STB revenue adequacy standard, that will affect your ability to invest in the future?

Mr. LONEGRO. It could. It depends on certainly all railroads meeting that revenue adequacy test and certainly looking at the future growth opportunities that we have. If we're unable to build capacity in order to hand, you know, handle that additional growth, then, yes, it could.

Senator FISCHER. And then, just one question on the PTC that you've been asked about on the regulations there. What are the challenges that you see in getting it installed? We've heard some that Congress has highlighted, but what do you see as that and, when it's finally deployed, what are the challenges that you will be facing?

Mr. LONEGRO. So a fair interpretation of that question would be: What have we been doing?

And certainly designing the requirements we—

Senator FISCHER. And how are going to do it in the future?

Mr. LONEGRO. Absolutely.

We literally started from scratch. Now, many people have testified that Positive Train Control in theory has been around for a long time and it has. It certainly did not, you know, it wasn't able to comply with the requirements that we've received as part of this. And so, the most mature piece of software was the onboard system and yet we haven't received the final version of that to be able to comply with these requirements. So the software has been a challenge.

You know, every railroad's information technology infrastructure is slightly different. Right? The dispatching systems, for example, are all different. And those have to be integrated in such a way that they can speak the language of PTC.

The railroad signaling infrastructure, which runs a very safe railroad, has to be replaced to get up to the modern technology that PTC represents. And so, we're investing, literally, billions of dollars in replacing prematurely, in many respects, the signaling system.

The communications infrastructure; we've literally have built as an industry our own brand new radio network. You know, we're all blessed with cellular technology but as you know, especially, you know, in more rural parts of the country and out West, cellular is not a ubiquitous, you know, communications vehicle. So we had to invest in our own radio frequency in order for that to happen; you know, making sure that is safe and secure, to the earlier question that we had, is an important thing from an IT perspective.

Moving forward, what are the challenges; right?

The challenges are technical in scale, right, because of the reasons that I just mentioned and certainly some of the regulatory hurdles that we've had, and may likely encounter in the next handful of years.

The care and feeding of the system will be expensive. You know, when you, for example, for us at CSX, we'll spend at least \$1.9 billion on PTC; right? The majority of that is in the new signaling system and in the technology and the retrofits of locomotives. Much

of that is hardware and software; right? That has to be replaced every so many years. Right? And the support of the systems that we procure from other people have a maintenance cost every year. So, you know, hundreds of millions of dollars of incremental cost every year will come to the railroads in order to continue to support this technology going forward.

Senator FISCHER. Do you think it is wiser to look at seeing the implementation of this on a regional basis or do you think we're going to reach a point where we're going to be able to flip a switch and have the whole country lined up?

Mr. LONEGRO. I absolutely don't believe we'll flip a switch and do what we call a hot cutover. This technology needs to be phased in. There are people that need to be trained. So specifically crew bases that run our trains, the engineering or what we call "maintenance of way," and communications and signals workforce in the field, all have to be trained on this. We have about 32,000 people in our company and 80 to 90 percent of those folks will have to be trained on Positive Train Control. So the training element of things. You know, all of the time tables, what we use to run the railroad, will have to be updated. The dispatching system runs the railroad by segments. And so, those segments have to be cutover into PTC.

So we see, you know, a very methodical phase-in to this, hopefully starting with, I'll say, some of the easier territories or less dense traffic territories first and ultimately getting up to place, you know, where interoperability will be, you know, of a significant magnitude. Think of places like Chicago where you have so many railroads that are coming together. Washington, D.C. and Northern Virginia will be similar in that thing.

Senator FISCHER. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Fischer.

Very quickly, Mr. Brown—Mr. Lonegro, you said 2020 for PTC.

Mr. Brown, when do you see your railroad being—

Mr. BROWN. Yes, well, in our situation of course, we have to work with all the Class Is. So every Class I has some unique qualities to what they're developing. Although, very similar but some unique qualities. So it depends upon the Class I's completion of their projects.

So I really can't give a date without having every Class I come to the table with a, you know, how they see their, as Mr. Lonegro mentioned, the phase-in of their systems. Everywhere that we interface with a Class I as it is phasing-in its system we will then phase-in our system. So it very much depends upon the Class I timetable.

The CHAIRMAN. OK, thank you.

I have Senator Daines, Markey and Moran.

**STATEMENT OF HON. STEVE DAINES,
U.S. SENATOR FROM MONTANA**

Senator DAINES. Thank you, Mr. Chairman, and thank you for holding this hearing today.

I represent the state of Montana. We are home to over 3,000 miles of railroad track and we move a lot of products. In fact, we

heavily depend on our railroads for our ag industry. Agriculture is our number one industry in Montana; it's a \$5 billion a year industry. For example, 80 percent of our wheat crop is exported overseas. And so, it's our connection from the rails to the ports that allows us to grow our businesses back home.

We've had a lot of success and growth certainly in the energy industry as well. Certainly, we see a lot of coal trains going by, we see the growth now with the Bakken. It's not just a North Dakota experience, the Bakken spills into Montana as well.

In fact, today I met with the Montana grain growers. I literally just came from meeting with them to this hearing. They ship over 130 million bushels of wheat to the Pacific Northwest Terminals each year. And we've had some constraints and been working with our rail carriers, but it should be known to you.

And today, we're going to be having the Keystone Pipeline, some more amendment votes and hopefully get this Keystone Pipeline passed in the Senate. Just some quick math, the Keystone Pipeline, there will be oil coming into an onramp in Baker, Montana. What that means overall for the supply chain is the equivalent of 4,000 rail cars a month. And that's just the Montana/North Dakota oil that would come into the Keystone Pipeline to be one more avenue in the overall complex supply chain to allow us to maybe reduced some of the constraints that we see right now in rail.

So it's yet another argument for the need for the Keystone to allow us to more efficiently transport our goods to market.

Mr. Lonegro, I really see you do not have operations in Montana but I was a supply chain guy back in my days at Procter & Gamble and the complicated nature of logistics in forecasting and so forth. We've had some capacity constraints in Montana. It's a byproduct of economic growth, which better to have constraints probably than excess capacity but known the less constraints.

How have you addressed rail capacity issues in other regions of the country when you look at solving some of these challenges?

Mr. LONEGRO. Thank you, Senator.

And you're right, we don't serve Montana but we certainly take interchange from many railroads which do serve Montana.

You know, again, 2014 was a situation where winter hit us first and for essentially the first 3 months of last year we were a bit under siege because of the weather, yet the volumes that we experienced in the first quarter really didn't drop off which told us there was a lot of demand there. In the second quarter, literally the first day the sun came out and the snow stopped falling we began to get significant growth. And, you know, when we plan for, say, three percent growth and we get six or eight or 10 percent growth, that's a significant uptick for our business.

The other thing we experienced last year was bit of a geographic shift in our business. We saw a lot more traffic that went between, say, Chicago and St. Louis into the mid-Atlantic and into the Northeast. So you know, not only did we have abnormally and unforecasted growth, we also had it twice that much on that Northern part of our railroad. So what are we doing about it?

When we got to the point in the second quarter of last year where we believed that this growth was going to be sustained rather than simply penned up demand from the harsh winter, we began

to pull a lot of levers. The first of those levers was to hire more people. You know, our train crews take between six and nine months to go from somebody that you hire off the street to get qualified to actually run a train and operating service. And so, that length of time, that lead time on that particular resource, was pretty significant.

We hired about 2,000 people last year and we still have about half of them. A little less than half of them are still on the pipeline which will come out of our training and on-the-job training qualification in the first four months of this year. So train crews are really an important thing.

The locomotives are also an extremely important part of the equation. We brought 400 more locomotives into our fleet last year; a combination of leases plus what we had in storage. Again, as the seasons ebb and flow, you have locomotives that might be in service or storage. So we took all of those out of storage. And then, we issued a purchase order for 300 new locomotives at, you know, in the high two point something million per copy. And so, we pulled that—

Senator DAINES. What's the lead time on a locomotive?

Mr. LONEGRO. Upwards of a year.

Right, so we're just beginning. We've got the first two locomotives that came out of that purchase order literally today. And so, we'll see the first 75 of those ratably throughout the first five or six months of this year. The rest or the remaining 125 we'll get in the second half of the year. A hundred next year and then we also have a rebuild program which is pretty significant; 100 more units out of that. And, 150 units out of what we call "the heavy repair program." So we literally will have another three or 400 locomotives in service this year on top of the incremental 400 locomotives that we put into service last year.

Senator DAINES. What metrics do you use to measure customer service?

Mr. LONEGRO. Well, J.D. Power is certainly a measure that we look at both internally as well as allowing the customers to have verbatim comments. So J.D. Power, being an independent agency, helps us understand both quantitatively as well as in narrative form what are customers are saying. And, you know, candidly our local service, so that First Mile/Last Mile that Mr. Brown talked about in his opening statement, was one of the highest scores that we saw. Certainly the network, because of all the factors that we've already mentioned, we saw some degradation in the—

Senator DAINES. I imagine you have some internal metrics so too you're using there?

Mr. LONEGRO. Absolutely.

Senator DAINES. Yes.

Mr. LONEGRO. Absolutely.

Senator DAINES. Yes.

Mr. LONEGRO. So things like what we call "CTA," Committed Time of Arrival, on-time arrivals, on-time departures, line of road velocity, you know, the number of cars on line, we have a measure called "LSM," local switching—

Senator DAINES. What has been the biggest challenge in the last, say, 12 to 24 of achieving your customer service goals?

Mr. LONEGRO. It has truly been resources.

Again, if the growth hadn't been as great as it was and we're all very thankful that the economy is growing, at the same time when we poll our customers and we do this all the time, we poll our customers: What do you guys see? And how much—

Senator MORAN [presiding]. The gentleman's time has expired.

Senator DAINES. OK.

Senator MORAN. Thank you.

Senator from Massachusetts, Senator Markey.

**STATEMENT OF HON. EDWARD MARKEY,
U.S. SENATOR FROM MASSACHUSETTS**

Senator MARKEY. Thank you, Mr. Chairman, very much.

In Massachusetts there is nearly 1,000 miles of freight track which supports millions of dollars of goods that move in and out the commonwealth each year, and we need to clearly continue to invest in our aging infrastructure and modernize our systems for the twenty-first century.

Safety in our rails is also paramount. Passenger trains often also share the same tracks as freight trains. Certain trains carry hazardous materials through our communities and pass our backyards. Rail lines and roads cross off in creating dangerous intersections. For all these reasons, safety is most sacrosanct. And, I look forward to working with the members of the Committee on the important safety issues that are under the jurisdiction of the Commerce Committee.

Unfortunately, the increase in oil shipments by rail has come with an increase in horrible accidents; 2014 was a record year for spilling oil on railways with 141 reported unintentional releases. These accidents resulted in explosions, polluted groundwater, destroyed property and city-wide evacuations. In 2013, a train derailed and exploded in a small Canadian town just miles from the Maine and New Hampshire borders killing 47 people, destroying much of the town. And we need to make sure that we do everything to avoid another catastrophe like this.

So I am very concerned about the Department of Transportation's failure to adopt new rules that address the retiring of old DOT-111 tank cars that clearly pose a danger to our citizens and our communities. Secretary Foxx announced a rulemaking for the safe transport of crude oil in July 2014. We're still waiting for those final rules, but the longer we delay, the more that lives are actually in danger. And those standards call for tank cars both for retrofitting old cars and building new ones for tank car thickness, the length of time, how long the shippers have to refurbish or build new cars, and the speed and the routes which these trains take. All of this is in this rulemaking. I think it's critical for us to get some servitude in terms of what the new rules are going to be.

So Mr. Brown and Mr. Lonegro, just a question to the two of you. About a year ago, Genesee & Wyoming train carrying 2.7 million gallons of crude oil derailed in Alabama igniting and spilling oil all over the surrounding wetlands. I'm going to ask you two to tell us what your company is now doing to make sure that that does not happen again.

And Mr. Lonegro, last year a CSX train derailed in Virginia and spilled 30,000 gallons of crude oil into the James River. What is your company doing to make sure that the safety of oil-carrying rail cars has been made more safe and we can give assurance to those neighborhoods?

Mr. Brown.

Mr. BROWN. Yes, sir.

So as I mentioned earlier we have established some safety precautions and protocols that we've applied across, not just where we handle crude-by-rail, but all hazardous materials on our various railroads. So those protocols include things like enhanced infrastructure testing, rail flaw detection testing. It includes track geometry testing, that has been enhanced. We've increased the number of inspections we do. We've changed the visual inspection protocols so we're actually inspecting our infrastructure more frequently. We have—and often we do that just in advance of a crude oil train if that particular commodity is being handled on one of our railroads where we have several that do that.

So with a whole slate of initiatives, precautions and protocols, we believe we've far enhanced the safety of the operation and therefore our focus on prevention of future incidents of that type.

Senator MARKEY. Thank you.

Mr. Lonegro.

Mr. LONEGRO. Mr. Senator, understanding the volatility, the product clearly is part of this equation. We look forward to continuing to work with the regulators in order to reach a balance in the tank car standards. We do worry about the tank car builders and the freight car builder's capability to build those and the impact that that will have on the building of other cars which are currently in their portfolio that would have impact on other commodities.

There is the homogenization between the Canadian possible rules and the U.S. possible rules in making sure that the international travel of crude-by-rail can be supported. We have a heavy increase on what we call "train securement rules." So making sure that any train that is stopped is; a, not left unattended and; b, is securely tied down to prevent accidents like you referenced in the Canadian incident a couple of years ago that was very tragic.

The routing and making sure that we have an appropriate balance of the safety and the security that PHMSA has put forward; the 27-factor test, in making sure that we are routing them through that set of standards. We have reduced the speeds on crude-by-rail voluntarily to a maximum speed of 50 miles an hour on the network and 40 miles an hour through high threat, urban areas. However, the modeling work that we've done indicates that going much below that could cause dramatic impacts on service more broadly.

Train first responders is an important thing. If an incident unfortunately does occur; making sure that everyone understands the commodities that we're dealing with as well as how to handle a freight rail situation versus, say, a house fire or something that might happen on the roadways.

To go farther on Mr. Brown's points around the track standards, the level of inspections that we have is very important and cer-

tainly the time-frame between finding something and fixing something. We have shrunk that dramatically and made sure that we immediately issue a slow order so that all trains have to slow down if they happen to go over a piece that has been detected by that inspection technology.

Thank you.

Senator MARKEY. Mr. Chairman, I appreciate your indulgence. The witnesses had important information but I did go over and I apologize.

**STATEMENT OF HON. JERRY MORAN,
U.S. SENATOR FROM KANSAS**

Senator MORAN. Thank you, Senator.

In my new-found status as Chairman Pro Tem, I was anxious to rule you out-of-order and move forward and—

[Laughter.]

Senator MORAN. But, I am anxious to do that because it is now my turn to ask questions.

[Laughter.]

Senator MORAN. Apparently, because I went to Senator Markey first, they're suggesting that I now call on Senator Manchin who was to be ahead of the gentleman from Massachusetts.

Senator Manchin.

**STATEMENT OF HON. JOE MANCHIN,
U.S. SENATOR FROM WEST VIRGINIA**

Senator MANCHIN. Thank you very much, Mr. Chairman.

And thank you all for being here today.

West Virginia, as you know, is quite a rail state and if it wouldn't for rails we might not be there; to be honest with you. But we have 2,200 miles of rails and it's some of the best-paying jobs so we appreciate the opportunities; and the ancillary jobs that come from that. Very much so. With that being said, I start looking at different things going on with debating the XL Pipeline; we've talked a good bit. Senator Markey just mentioned some things concerning that and the concerns we have; the dangers of hauling that and how to make it safer.

With the XL Pipeline, I believe and I think everyone here believes it will be built. We just don't know exactly when, but it will probably be built. With that being said, how is that effecting the railroads? Because I know you're upgrading your systems to be able to handle 800,000 barrels a day and the pipeline will take that tonnage away from you, or that revenue, and you'll be building up infrastructure for that. Is that your model or your plan? How do you all prepare for that? So if I could ask anybody to chime in here.

Start with CSX since they're one of the bigger carriers in—

Mr. LONEGRO. Thank you, Senator.

Senator MANCHIN.—West Virginia. Norfolk Southern.

Mr. LONEGRO. Yes, we're proud supporters of West Virginia, as you know.

The rail industry by and large is growing, and one of the opening remarks that the Ranking Member made at the beginning was that rail freight would grow nearly 100 percent by 2035. So there is ample growth in many different markets in order to handle the ca-

capacity that we're building. We're certainly forecasting growth in many markets not simply in the crude business. Crude represents somewhere between two and 3 percent—

Senator MANCHIN. Right.

Mr. LONEGRO.—of the rail volumes.

Senator MANCHIN. You don't see that as a threat to your model or your plan and your investments that you're making anyway?

Mr. LONEGRO. Correct.

Senator MANCHIN. Do all of you feel the same way, what you're seeing and analyzing it?

Mr. BROWN. Yes. I mean I think in the short line where, very similarly, we see some growth in some market segments. We see diminished volumes in other market segments over time and we're preparing for—

Senator MANCHIN. So we don't have the railroad pitted against the oil, the pipeline.

Mr. BROWN. No.

Senator MANCHIN. OK. You think it's basically they work together?

Mr. LONEGRO. Certainly, we would like to move most of it by rail but—

Senator MANCHIN. I understand.

Mr. LONEGRO.—there are refineries on the East Coast, which I'm sure will still need crude-by-rail and we look forward to continuing to serve them.

Senator MANCHIN. The other thing, infrastructure such as highways and waterways, projects for infrastructure, we've been able to streamline that through legislation. For some reason, we weren't able to streamline the permitting process for rails for projects. And they're still very, very costly, very time-consuming. Do you all have, I mean, a way that you can try to give us some help here that we can help you all to streamline the needs that we have for infrastructure including rails in this country?

Mr. BROWN. Well I think, and from my perspective, a critical part of doing that is the short line tax credit being extended over a period of time and just a two week extension at the end of 2014 that leaves a lot of potential investment.

Senator MANCHIN. So then, shortening the tax code gives you some insurance?

Mr. BROWN. Right.

So it leaves a potential return on investment in hanging in the balance when you know how the tax credit may apply or not apply.

Senator MANCHIN. What kind of cost are you incurring because of the permitting process; basically, the time consumption in permitting process? Is it 1 percent, five percent or more? I mean, do you have any idea that it's adding significant cost to you?

Mr. LONEGRO. It's certainly adding a lot of opportunity cost. A lot of the infrastructure that we build, we're building because customers need that infrastructure to generate additional capacity so that we can handle their additional volumes. And so, the length of time that it takes, the amount of money that we end up paying consultants and lawyers in order to help us through the process, any reduction in time and the amount of documentation and review

process that it has to go through will help us put that infrastructure in the ground more quickly.

Senator MANCHIN. PTC would be the next. The Positive Train Control, I think you've talked—I had to go to other meetings. If anyone can chime in on that. I know you're not going to make the 2015 deadline; correct?

Mr. LONEGRO. Correct.

Senator MANCHIN. And you all spent, what? Five billion so far?

Mr. LONEGRO. Correct.

Senator MANCHIN. OK.

Tell us, and if you're repeating, I'm sorry. But, any quick solution to that or resolve to that, and what time extensions do you need?

Mr. LONEGRO. There aren't any quick solutions, unfortunately. We, to your point, have invested \$5 billion so far. We'll invest another \$4 billion as an industry before we are all said and done. I was asked a question by the Chairman about how long it would take CSX in order to complete Positive Train Control and I suggested that with a large caveat; and that is that everything goes well from here on out, that our plans take us through the end of 2020. And so, we're certainly looking forward to working with this committee in introducing legislation very similar to what was introduced in the last session.

Senator MANCHIN. Thank you, Mr. Chairman.

Senator MORAN. You're welcome.

Senator Klobuchar.

**STATEMENT OF HON. AMY KLOBUCHAR,
U.S. SENATOR FROM MINNESOTA**

Senator KLOBUCHAR. Thank you very much. I appreciate it.

Thank you to all the witnesses.

Just as Senator Manchin was talking about his state, the State of West Virginia, Minnesota also has a lot of train service, a lot of freight service. In fact, we hit a record: \$6.8 billion in agricultural exports in 2012, which is actually a 13 percent increase over the previous year and it's continuing to go up. We are the fourth largest agriculture exporting state in the country. So you can imagine we care a lot about the freight rail issue. We are proud of the work that's going on next door to us in North Dakota and it has helped to bring down the cost of oil and it has helped to bring down the cost of manufacturing. So it has been good, but we also have a lot of needs for rail. And so, I think it has been a balance with all of that as well as our increasing agricultural market.

And I'm truly one to believe that the way we have gotten out of this downturn and the way we now expand our economy is by bringing more goods to market by exporting to the world. We've learned we're not—we have a steady domestic economy, but the way we truly expand is by getting these goods to other markets and making things in America again. So that's why I care so much about this.

Our farmers have traditionally held a competitive advantage over foreign producers like Brazil and Argentina due to the reliability and the cost effectiveness of our rail. And because agriculture is the largest user of freight transportation in the U.S., the rail service delays we saw last year resulted in a lot of cost in-

creases. And, obviously, you know, it's damaging. But, what I'm concerned about, it starts making us less competitive with these other food producers.

So Mr. Jahn, what do you think the impact would be on domestic agriculture from American export markets turn to producers like Brazil and Argentina?

Mr. JAHN. It would be significant. As you said, agriculture is in some ways leading the economy and we're very quickly going from a world that has 7 billion people to, in the year 2050, we're going to have 9 billion people and they're all going to want to eat. They're going to need agriculture to help provide that for them, and certainly fertilizer.

And so, we're very concerned that while the significant investments that have been talked about today, the railroads are spending billions of dollars, but we see that unfortunately, they're not adequate in many areas to meet the demand. And, whether it is grain, intermodal frac sand, and a number of different areas, we'd like to see more focus on the ag space. And that's why last year the Surface Transportation Board, as you know, required sort of a reporting—

Senator KLOBUCHAR. And has that been helpful? We worked on that too—

Mr. JAHN. Absolutely.

Senator KLOBUCHAR.—members of this committee.

Mr. JAHN. And we appreciate that. And it's interesting how effective sunshine in transparency can be in terms of motivating productivity.

And you mentioned in terms of peak capacity. One thing I'd like to note is in 2014, we're very close to peak carload volume and everybody expects growth again this year. So we're looking at a network that is strained. And, any time there's any kind of a challenge or a shock whether it be weather, record harvest, et cetera, it's very tough for that network to respond. And so, that's why we're supportive of efforts to try to address that ahead of time rather than after the fact.

Senator KLOBUCHAR. Thank you and we have seen, I will say, some of our markets, we've seen some improvement and we want to keep that up. We had got some help with some of our iron ore shipments that had to go out and some of the issues up in Northern Minnesota because as you know the lakes freeze at some point and we weren't going to be able to get the things to the shipments to the ports. And we also had some improvements with propane, which we were worried about. So I know that the rail companies are trying to improve this, but it's just been a growing problem. We want to make sure that ag people understand the importance of ag as we go forward.

Another challenge to the implementation, I know some of my colleagues asked about the PTC implementation, is that the FCC, as you all know, must approve the siding construction and replacement of the 25,000 communication towers and antenna structures. I know Senator Blunt, I wasn't here for his questions because we have a little confirmation hearing going on for the Attorney General in Judiciary, but I wanted to follow up on something he touched on with you, Mr. Lonegro.

And that is: following the FCC's announcement last year, that the Class I freight railroads could begin using previously constructed poles, something that we advocated for, do you think a batching will help streamline the approval process?

Mr. LONEGRO. I appreciate the support for the streamlining efforts and the exemption for existing towers. That was certainly very helpful and brought that number down to that 20,000 that you referenced. My sense is that the batching will help streamline the process. There is a limit to the amount of batching. For example, we can't send all 20,000 through at one time. And so it will certainly help and, at least in the pre-program comment and the post-program comment timeframes that we saw, we are seeing the approval process in essence reduce by upwards of half. So I think it has been helpful. I think it's a magnitude problem now.

Senator KLOBUCHAR. Right, very good.

My last question, just to you Mr. Johnson, coming from the port perspective. We have a little different port than your port, but up in Duluth we have a major port. And obviously part of this has been trying to, with the increase rail usage, to coordinate it in a multi-modal way with the ports. Can you talk about the importance of connecting freight rail and the ports and how do you think we better align planning from the Federal Government among the states, ports and local communities to address those choke points and what has been going on?

Mr. JOHNSON. Thank you, Senator.

My testimony really focused on the importance of connectivity. Clearly global trade is a huge part of the driver of the U.S. economy and will continue to do so, including the agriculture.

The ports, to be successful, I stated that no port today, I believe, can be successful without having rail and intermodal. And so, for us, at the end—in Miami, at the end of a long peninsula, it's very important that we have partners like CSX, FEC and Norfolk Southern because they are the ability for us to go from a million TEU containers to 4 million. We have the other infrastructure, but without the ability to move the product—you can't move it on your nation's highway system. I can't grow double, triple volume just by moving to up I-95.

So it has to get into the Heartland of America and that's where FEC connecting to CSX up in Jacksonville; Norfolk Southern, that's the vital link. The policy and, again, I think over the last few years—I will say this: I've notice more of an interest on the part of U.S. DOT and all of this, I think, focused partly on the TIGER grant. A number of ports, including mine, received TIGER funding.

Senator KLOBUCHAR. So did ours.

Mr. JOHNSON. Mine was, again, for rail intermodal. But, you know, I think you won't find at any port, large or small—the entire system of ports in the United States believes in the importance of connectivity not just within our country, but clearly the ability to connect to the globe; globally to the world.

And rail is essentially there. Not just deepwater; water is important, dredging is important, harbor maintenance is important. But oftentimes rail is the missing link. Excuse the pun there but it is, in fact, the vital piece. And as I've stated, the billions we've invested in Port of Miami would have been for not. A billion-dollar

port tunnel, 50 feet of water, make no difference whatsoever without having that rail connection.

Senator KLOBUCHAR. All right.

Mr. JOHNSON. Thank you.

Senator KLOBUCHAR. Does anyone want to add?

Thank you very much. I'm going to go back to the Judiciary hearing.

If you have any questions you want me to ask, Senator Moran, let me know?

Senator MORAN. I trust your judgment.

Senator KLOBUCHAR. OK.

Senator MORAN. Let me start with Mr. Brown.

Mr. Brown, I introduced the 45G tax credit in the year 2003 as a House member.

Mr. BROWN. Yes, sir.

Senator MORAN. I apologize for our inability to reach decisions in regard to its extension, other tax code provisions in any kind of timely fashion that would provide a level of certainty in an ability to make better decisions about investments.

This hearing and this committee is generally focused on rail transportation and the safety aspect of rail. What does 45G do that allows you and other short line railroads to be more safe in your operations? It's thought of as an infrastructure investment but I assume there are consequences, the money that you spend on infrastructure as a result of 45G, means that there is an ability to support other efforts within your company in regard to rail safety. Is that a fair assumption and would you describe that to me?

Mr. BROWN. Yes, sir.

Senator MORAN. Why does this matter?

Mr. BROWN. Thank you, Senator.

It's actually very critical. It just allows—we have a limited amount of capital that we can invest in properties. Some of the railroads are challenged because of low density. They serve important customers but often it's a very low density customer. It's often a customer in a rural area who otherwise would not have the ability to have a rail service provided to them. So it allows our capital, our limited capital dollars to be spread further. And certainly those capital dollars are invested based upon the important upgrading of infrastructure from a safety perspective.

So as we prioritize our investments each year in our infrastructure, we're certainly basing that upon improved safety through improved infrastructure integrity. Maybe it is bridge upgrades; it might be taken from 263,000 weight limits to 286,000 weight limits for cars. Things that make it more economically viable for our customers to safely and efficiently, over those short lines and often again in rural areas, over those short lines link to the Class I networks and therefore throughout the entire transportation network.

Senator MORAN. Well, what I wanted to make certain that we get on the record is that while 45G is an important tool for providing greater efficiency, it also has a significant consequence to the ability to provide safety. Is that true?

Mr. BROWN. Yes, sir.

I mean, the vast majority of what we are investing in is crossties, rail, upgraded bridges; things that improve the integrity of our infrastructure and that absolutely goes to safety first.

Senator MORAN. Well, the intention is that I think Senator Wyden, Senator Crapo and I and others, will introduce the extension of 45G here in the next few days. And I look forward to educating and encouraging our colleagues to continue to the practice of utilizing that provision of the tax code for the benefit of safety and efficiency.

Mr. BROWN. Yes, sir.

Senator MORAN. Certainly matters in places like Kansas where short line rail has become such a significant component of how we get agriculture goods and products to market.

Ms. Teel, in an effort to be—it's easier to be bipartisan here than it is to be Kansan supporting Missouri.

[Laughter.]

Senator MORAN. But I just wanted to make the offer to you and to Senator Blunt and Senator McCaskill that those trains that operate in Kansas City are also the trains that operate in Kansas. And so, if I and my staff can be of help to you and to the terminal circumstance in Kansas City, please ask us to help in ways that we can. Kansas City is a major terminal for what transportation occurs in our state. It's growing. BNSF on the Kansas side, its intermodal facility, but what happens at your terminal is critical to us and I'd be glad if you have something you want to tell me this morning that we ought to be focused on or remind me of its importance of what you do to Kansas.

Ms. TEEL. Thank you. I appreciate your support very much, Senator.

Senator MORAN. You're welcome.

Ms. TEEL. I look forward to working with you.

Senator MORAN. Great.

Let me ask some questions about circumstances that we found in Kansas. Our utility companies have expressed some concerns about access to coal. Our grain elevators have expressed, particularly a year or so ago, a concern about access to rail cars for pollen grain. And the culprit, at least in the explanations that we're often provided, is that rail cars are being used for the transportation of petroleum for oil and therefore less available for grain and coal. Is that—and I assume the suggestion is that there is more money to be made in hauling oil than there is in hauling either one of those products. I'm interested in knowing if that is an either/or situation is true.

This is probably, again, a Mr. Brown question for the kind of things that you're hauling. But is there a decision that's made based upon the most profitable return based upon the commodity being hauled? And I would guess that there's a consequence now to declining oil prices such that the circumstance that you may have been in with a shortage of rail cars is less of a problem today than it was. Maybe the benefit of Mr. Jahn's customers, fertilizer prices may be slightly lower and you will be hauling more fertilizer. But any thoughts about how the change in oil price structure effects your ability to provide services otherwise to Kansans and others and agriculture and utility states that utilize coal?

Mr. BROWN. Well, in terms of the various commodities that you've mentioned, often in most of the cases they're in different types of equipment. So coal is handled in coal cars and oil is handled in tank cars and agricultural commodities generally are in covered hoppers. So it's different types of equipment. We certainly endeavor to have the available supply of cars either through our Class I partners or those that we provide ourselves for our customers to be able to move the amount of commodity that they would wish to ship. And, as that grows, we try to keep pace with additional equipment throughout the various market segments.

And in terms of the oil business, you know, we know that as prices reduce the volume has lessened greatly. So in some cases we have some of those cars in a storage status. But maybe Mr. Lonegro deals with it on a much larger scale than I do.

Mr. LONEGRO. Thanks.

David is right. They all move in different pieces of equipment. And in the crude situation specifically, the grand majority of those are privately owned by the shippers not by any of the railroads. So we don't allocate those cars to any particular customer.

You know, there are different prices depending on different commodities and ultimately what the market will bear based on alternative means of transportation, risk, et cetera. You know, the service equation, there are multiple networks within the broader freight rail network. Right? So we look at the coal network and the grain network and things of that nature. But they all utilize the same crew base, the same locomotives and the same track infrastructure.

So it is very difficult if not impossible to give priority, you know, to any one particular commodity over another because, you know, if, for example, you have one commodity that wants to move at 50 or 60 miles an hour and you have another commodity that might move a little bit slower, it actually degrades your network capacity, you know, for everybody. So we try very, very hard to balance under our common carrier obligation to balance the way that we treat all of our customers and make sure that we have the equipment and the resources necessary to handle today's demand and tomorrow's demand.

Senator MORAN. Thank you very much.

Thank you, Mr. Chairman.

The CHAIRMAN [presiding]. Thank you, Senator Moran.

That era of Kansas-Missouri good feeling will end when the first basketball game comes up I'm guessing.

Senator MORAN. It doesn't exist any more.

[Laughter.]

The CHAIRMAN. Yes, right.

Senator Peters.

**STATEMENT OF HON. GARY PETERS,
U.S. SENATOR FROM MICHIGAN**

Senator PETERS. Thank you, Mr. Chairman.

And thank you, for the witnesses and your testimony today about the freight system. I appreciate it.

As a new member of the Committee, I've enjoyed learning more about this wonderful freight system that we have here in the coun-

try and ways that we can improve it. And I just have a couple of questions; one for Mr. Lonegro and Mr. Brown, related to Michigan specifically.

My understanding is Michigan presents somewhat of a challenge to the railroad industry because we are a peninsula, basically two peninsulas. So, in terms of cycle time, it's a little bit more problematic particularly in Northern Michigan.

I know, Mr. Brown, your short lines are up in the Central Michigan and Northern Michigan and servicing just a few customers, as I know is your bread and butter, as you take their products and try to get them into markets and then it has to get into the broader stream, that CSX and the other national railroads go. So if you could, both of you, maybe start with you, Mr. Brown, kind of comment on cycle time? And, I know you're the interconnectivity with CSX and other rail lines that service Michigan. Has that been a challenge? Is it something we need to be aware of and does it perhaps impact Michigan more than other states as a result of the fact that geographically we're a peninsula?

Mr. BROWN. Yes, sir. Thank you, Senator.

Certainly last winter with our Class I interchange partners, that's primarily Norfolk Southern and CSX in Michigan, we saw cycle times increased as they did over the entire national network. Our Michigan short lines are a very good example of the G&W sort of niche where we have lighter density lines that are well connected to Class I partners and they're very fluid. I mean, as we've talked throughout the testimony, there was a period of time in 2014 where fluidity was challenged and it started in the winter and it was exacerbated by additional volumes that came into the Class I networks, in particular. And certainly we shared in that growth as well.

So we've seen a marked improvement in overall velocity and fluidity over those interchanges in Michigan, to the point where we've seen additional traffic come to those railroads and we see demand increasing, because of the improved service product and overall equipment utilization through fluidity.

Mr. LONEGRO. Thank you.

Michigan has revitalized, as I know you're well aware of, and used to be the mainstay of our automotive business and obviously that has been disaggregated to other locations. You know, we waited for the economy in Michigan to come back and it's nice to see that it has. And so, we are putting investments in the Grand Rapids in Plymouth subdivisions, which we have there.

I think the overall service levels you'll see in Michigan will improve as the broader network improves; certainly the cycle times will be instrumental in that. We have I think some new business that has interchanged between some of the Canadian railroads in CSX, which will flow through the lower peninsula in Michigan. So we look forward to having our traffic run through the crew bases there and continuing to invest in both the resources as well as the infrastructure in Michigan.

Senator PETERS. Right. Well, thank you.

And Mr. Brown, one final folk question. You mentioned in your opening comments the impact of the Positive Train Control systems and the cost associated with that because of your kind of unique

customer base, very small customer base. And I know the travel I mentioned to you before the hearing, some great elevators, and they've got the—you know, you're their lifeline to get to markets but just maybe a few customers. Could you kind of flesh out and elaborate a little a bit: you talked about how the requirements really disproportionately impact your small lines and the customers that you service particularly in Northern Michigan?

Mr. BROWN. Yes, sir.

Well, most of the G&W-owned railroads do not require PTC to be installed overall. There are literally, though, hundreds of interactions with Class Is where there will be PTC installed on their lines; maybe we cross their line or it's a point where we operate across, over the Class I line for some distance. So those are the areas where there is still not much clarity on exactly what we will be required to do in terms of equipping locomotives, in terms of other infrastructure requirements that may fall to one of our short line properties; to the point that, you know, it's possible that just that capital intensive requirement on a particular short line pushes it into an economic situation that's not viable. So, I mean, it's that critical.

In terms of Michigan, it's relatively a minor issue. And again, it just centers around interactions with Class I, PTC installed routes.

Senator PETERS. OK, great.

Thank you.

Mr. BROWN. Yes.

Senator PETERS. Appreciate that.

Thank you. Yield back, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Peters.

Senator Johnson.

**STATEMENT OF HON. RON JOHNSON,
U.S. SENATOR FROM WISCONSIN**

Senator JOHNSON. Thank you, Mr. Chairman.

Certainly in the State of Wisconsin, we've experienced some of these service disruptions from a number of factors; weather, the increase in the freight required for transporting oil. The result of those service disruptions has been, in some quarters, a call for greater involvement by the Surface Transportation Board, other potential government intervention. I could just kind of like go down the panel. Personally, as somebody who, you know, utilized rail services for 31 years in my plastics company, I would have a great deal of concern for the Federal Government getting involved and starting to allocate the, you know, who should get what. But I just kind of wanted to get all of the witnesses, their opinion in terms of the pros or potentially cons of greater involvement by the Federal Government as opposed to just the private sector taking care of it.

And I'll start with you, Mr. Lonegro.

Mr. LONEGRO. The railroads produce, prior to the October temporary order that came from the STB, we produce measures through the AAR to the STB which go to the fluidity of the rail network and those are published on a weekly basis. And so you do have a good understanding already prior to the temporary order and the rulemaking about the fluidity of the rail network.

That said, most of those are going to give you a snapshot and a retrospective on how the railroads have performed. As I mentioned earlier in the hearing, we've invested literally billions of additional dollars based on where we saw service and where we saw volumes in 2014 months ahead of the temporary order. So, in terms of spurring action by the railroads, we had already taken the action; we had already recognized that we need to invest more in order to deliver service for our customers.

Senator JOHNSON. Let me quick interject.

My concern is if the Government got involved, is the incentive for investment might be reduced. Would you be concerned about that as well?

Mr. LONEGRO. I think the challenge is if the government begins to pinpoint where that investment should occur. Right? Again, as I mentioned earlier, it's a network of networks so it's very difficult to say the investment should go to a specific location or to favor a specific commodity when we're trying to serve, you know, a multitude of commodities and literally have hundreds of thousands of rail cars on the system every day.

Senator JOHNSON. It's hard enough for a business who is fully aware of the customer base to make those capital investment decisions efficiently much less a bureaucracy?

Mr. LONEGRO. Absolutely.

Senator JOHNSON. OK.

Mr. Jahn, as a customer, what are your thoughts on that?

Mr. JAHN. I'm sorry?

Senator JOHNSON. Mr. Jahn.

Mr. JOHNSON. Well, from my perspective, having been inside government for 35 years, what I've learned is at the, and being an infrastructure person, what I've seen and what I've learned is that the successes really come through our partnership at private sector. And having run a port for 8 years, which is a \$30 billion economic engine to my community, one of the things that, in order to make our port successful and to move things forward, we try to get government out of the way.

And one of the problems, whether it's at the national level up here with Washington or at the state level or local, the success comes where you're able to truly partner with your private sector partner and with all levels of government. And really to understand, what are the rules and try—one of the frustrations I find in government is that there is way too much bureaucracy and we tend to get weighed down and we lose our way. We can't find our self out of the forest for all the rules and regulations.

So I think it's a problem at all level, including within my own local government, but the State of Florida I think has taken a lot of advances over the last 4 years regardless of political affiliation; democrat or republican. One of things that Florida is focused on: How can we be more business-friendly; how do we create that environment in the state of Florida?

Now mind you I'm stepping in as the top salesman for the State; my new role as the, you know, the head of the Secretary of Commerce for the State. So my job is to sell the state. But one of the things we will sell is the fact that we're a business-friendly state. So we are concerned about the environment, we're concerned with,

obviously, the importance of education, but we're also concerned making sure that we don't overregulate. And that's a big way to sell your community, sell your state.

Senator JOHNSON. OK.

Mr. Brown.

Mr. BROWN. I would just kind of echo what Mr. Lonegro said as well as say, you know—for example, Mr. Chairman's state where we started a new railroad operation called the Rapid City, Pierre and Eastern Railroad in 2014 it was a startup operation; it was formerly a Canadian Pacific operation. The STB did require that Canadian Pacific conduct regulator communications with STB about the fluidity that specifically required they say how many locomotives and how many cars are interchanged to RCP&E from CP over the new interchange. It was the point where we began operating.

We, as a part of that process, we voluntarily established an STB regular communication ourselves so that we could make sure that they understood the level of communication that was happening between the two companies. They understood the amount of cooperation that was required and was occurring in order to successfully begin that operation and that we were all talking about the same facts. So that process occurred over a period of a few months until it got to the point where there really wasn't much to talk about. So it was a 15-minute how's-it-going-this-week call and we ended that process.

So that can be helpful. I think it more informs STB so that as shippers come to them about a specific operation, whether it be congestion or whether it be a startup operation as in our case, they have the information they need to respond and helpfully we are successful in how we do that and it's a positive story. And in this case, it turned out to be extremely positive. So that's a good involvement in my opinion.

Senator JOHNSON. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Johnson.

And I would just say, too, I'd certainly agree with the Senator from Wisconsin when it comes to the Government mandating investment. I do think that what we saw last year with some of the bottlenecks is a need for greater transparency about where those were, car supply, power, those sorts of things which was very helpful because we have literally millions and millions of dollars at stake in our economy when you can't get rail transportation in a timely way.

And so, we've introduced a bill which we passed out of this—or will introduce a bill which we passed out of this committee last year that would basically focus on process reforms at the STB and allow board members to discuss pending business and address service and rate issues on the frontend rather than waiting until it becomes a crisis. So I look forward to working with our colleagues on this committee on something that makes sense.

Senator Blumenthal.

**STATEMENT OF HON. RICHARD BLUMENTHAL,
U.S. SENATOR FROM CONNECTICUT**

Senator BLUMENTHAL. Thank you, Mr. Chairman, and thank you for holding this hearing on a really critical issue that is unappreciated by a lot of the public who focus on passengers and commuters, but we know how critical freight is and how important safety and reliability of freight transportation is. And so, I want to thank all of you for being here today.

And focus, for a moment, on the safety issue as it concerns folks who work on the tracks; our workers who are out there and whose safety can be at issue and even at risk so often. Late last fall, the National Transportation Safety Board issued an in-depth report on the tragic loss of 15 workers in 2013 alone: 11 on railroads and 4 on transit systems. And the NTSB made recommendations, as you know, across the industry to the Federal Railroad Administration as well as other agencies like OSHA.

These recommendations urged the agencies and the industry to do more to protect the employees on the railroads, ensuring that they're given proper briefings and sufficient information and devices that will protect them in the course of their work. The death of Robert Luden little more than a year ago in West Haven, Connecticut. Tragic death, fully preventable, unnecessary, leaving his family and his colleagues without him, just shows how this issue can be a matter of, literally, life and death.

So I'd like to ask each of you: What can be done to make sure that regulators like the FRA, it's an agency of government, act on recommendations from the NTSB especially for workers who are often the most in danger?

And my view is that there should be consequences for the failure of the FRA to act in protecting workers. This issue is national in scope and so I'd like to ask each of you beginning with Mr. Lonegro. What can be done to compel the FRA to follow recommendations of the NTSB and other commonsense measures that should be taken?

Mr. LONEGRO. Thank you, Senator.

We opened up a dialogue with NTSB as part of the Positive Train Control mandate and have met with them several times both in terms of the departing chairperson as well as the new chairman. And as part of that, I think it has been a healthy dialogue around what training requirements are necessary to protect railroad workers both in the cab of the locomotive and on the, what we call, the wayside or trackside, and one of the four main pillars of Positive Train Control is to protect the track workers when they haven't established authority along the main line. That territory will be sacrosanct in the Positive Train Control world where that, the head worker in charge there, the foreman or the employee in charge we call them, will have the authority to allow a train to pass through or not and at what specific speed.

So I do think Positive Train Control will significantly address that, certainly on the process side, the training side, the safety briefing piece and the communication. And additional technologies like the cameras, which are both inward facing and outward facing, will help us understand the true root cause of many of these accidents.

In terms of the interworkings between the NTSB and the FRA, I have to leave that one to this committee. I will tell you that we look at the NTSB's most wanted list that they've published for a number of years and determine whether or not those make sense for us to deploy. And, this inward-facing camera, which has been apart of a number of the investigations that NTSB has put forward, makes a lot of sense to us.

Senator BLUMENTHAL. Thank you.

I've been an advocate of Positive Train Control as well as a number of the measures that you just mentioned, such as cameras, alerters and redundant signal protection. I think they're vital, but Positive Train Control certainly is critical to the safety strategy. And many of the really tragic incidences, most recently Spuyten Duyvil, could have been prevented with Positive Train Control. Wouldn't you agree?

Mr. LONEGRO. I would.

Senator BLUMENTHAL. And let me ask all the witnesses: Isn't it unfair to the railroads that have made advances and are on a path to meet the deadline to potentially postpone the Positive Train Control mandate?

Mr. LONEGRO. With all due respect, I would be very surprised if any railroad makes the 2015 deadline. You may remember that the California delegation had proposed a 2012 deadline as part of the deliberations and clearly that was a reaction to the tragic accident in Chatsworth, California. At the same time, that agency, Metrolink, had committed at that time, which was 2008, to be finished with Positive Train Control by 2012. They have just recently announced that they will only be in testing in 2016.

So we are all working as diligently as possible. And companies can show their will and their commitment by the number of dollars that they spend and the number of people that they allocate to Positive Train Control, in the thousands of people that are working on it every day at CSX and in the industry, in the billions of dollars that we're spending in order to deliver it just as quickly and safely and efficiently as possible, I think is testament to that.

Senator BLUMENTHAL. My time is expired.

I don't know whether any of the other witnesses have answers to that question but I thank you, Mr. Chairman.

The CHAIRMAN. Thank the Senator from Connecticut.

And I want to thank, again, our panelist for all your great responses today. We'll keep the record open for a couple of weeks but appreciate everybody being here today and participating in this.

And we'll inform our discussions and decisions with regard to how we deal with and manage the rail issues under this committee's jurisdiction. So thank you, again.

And with that, this hearing is adjourned.

[Whereupon, at 12:11 p.m., the hearing was adjourned.]

A P P E N D I X

NATIONAL ASSOCIATION OF RAILROAD PASSENGERS
Washington, DC, February 12, 2015

Committee on Commerce, Science, and Transportation,
Subcommittee on Surface Transportation,
Dirksen Senate Office Building,
Washington, DC.

Following upon the January 28 hearing on freight rail safety, please consider the following policy recommendations from the National Association of Railroad Passengers regarding the implementation of Positive Train Control.

Accepting that compliance with the December 31, 2015, statutory deadline is not feasible, NARP recommends that any new law which changes that deadline should:

- (1) Grant authority to the Secretary of Transportation, on an individual company basis, to give up to three, consecutive 18-month extensions, bringing the latest possible date of compliance 4-1/2 years after the current deadline, or June 30, 2020.
- (2) Change the law so that heavily traveled mainlines are not exempt because they happen to be owned by other than a Class 1;
- (3) Explicitly require the prevention of low-speed, rear-end collisions—of which there have been fatal ones within the past four years [see below]. The system as currently being installed does not know the length of trains and therefore cannot prevent low-speed, rear-end collisions.

Point #1 would be preferable to legislatively forcing the gift to the entire industry of a blanket 5-year extension. It would enable the Secretary to treat with appropriate differences railroads which have worked hard on PTC vs. those who have not.

Point #2 would protect the railroads from a tragic accident that also would be a public relations disaster for the industry—how to explain having installed PTC all across rural America but having taken advantage of a legal loophole either to avoid installation in populated areas like the cities of Kansas City and St. Louis. [Some states may come up with the money to save their passenger trains; other states already choking on the big run-up in Amtrak-related costs under Section 209 of the 2008 law may let the service die and leave PTC absent where most needed.]

Point #3 would make explicit what most people thought the law already meant—train-to-train collisions must be prevented; there is no exception for low-speed, rear-end collisions. The NTSB April 24, 2012, report on the April 17, 2011, fatal collision at Red Oak, Iowa, stated that “the PTC designs that are being deployed and the FRA’s final rule on the application of PTC are unlikely to prevent future restricted speed restricted speed rear-end collisions similar to the 58 rear-end collisions reported to the Federal Railroad Administration over the last 10 years or the collision at Red Oak because train speeds at the upper limit of restricted speed are allowed.”

FRA’s April 25, 2012, advisory in response to the NTSB’s report detailed six rear-end collisions over the past year that caused four employee fatalities (the other two were at Mineral Springs, NC, on CSX on May 24, 2011, and DeWitt, NY, on CSX on July 6, 2011), six employee injuries and property damage exceeding \$6 million. Thankfully, no passenger trains were involved.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN THUNE TO
FRANK LONEGRO

Question 1. Flammable liquids proposed rule. You described your experience with the implementation challenges of positive train control (PTC)—including issues with component supply, employee training, and interoperability—and the significant operational complexities.

a. Given your experience and expertise, could you provide insights into the potentially similar implementation challenges with another safety proposal: the requirement for electronically-controlled pneumatic (ECP) brakes under the flammable liquids unit train proposed rule (also known as the crude-by-rail rule)?

Answer. A mandate for ECP brakes cannot be justified. ECP brakes do not provide a significant safety benefit, are very costly, and such a mandate could severely disrupt railroad service.

The ECP brake proposal could substantially impair network fluidity. AAR understands that a stringent speed limit is being contemplated by DOT for unit trains of flammable liquids where ECP brakes are not utilized. Railroad service for freight and passenger traffic would be significantly impaired, as all trains behind a slow moving train containing flammable liquids would also be forced to reduce speeds—both freight and passenger trains. Furthermore, there would be delays attributable to immature ECP brake technology. For example, delays with the few ECP trains currently in service are experiencing operational problems much more frequently than with trains operating with traditional air brakes, and these delays are lasting much longer. Examples of the problems that occur are poor cable connections and depleted batteries. Note also that when locomotives and rail cars are used only sporadically in ECP service, the functioning of the ECP equipment becomes problematic, with the problems only evident when the equipment is put back in ECP service.

Finally, it would cost industry billions to install ECP brakes. Yet, the safety benefit would be insignificant. DOT is claiming that ECP brakes would mitigate the effects of an accident, but DOT is not claiming that ECP brakes would actually reduce the number of accidents. A study by the Technology Transportation Center, Inc., shows that ECP brakes would, at most, result in reducing the number of cars being derailed by an average of 1.6 cars—that is the number of cars being derailed, not the number of cars releasing product.

b. To what extent would the flammable liquids unit train proposed rule create additional operational complexities within the rail system, including through increasing congestion (through a speed limit), decreasing the interchangeability of rail cars (through the ECP brake requirement), or creating a tank car shortage (through an accelerated deadline)?

Answer. A drastic speed limit, such as 30 mph, on unit trains that are not utilizing ECP brakes, would have a dramatic effect on railroad capacity, adversely affecting the railroads' ability to provide efficient railroad service. Think of a vehicle traveling 30 mph on a highway with only one lane in the direction of travel, where the speed limit is much higher. The slow-moving vehicle affects all of the traffic behind it.

AAR understands that to avoid a stringent speed limit, ECP brakes would have to be utilized on unit trains with flammable liquids, *i.e.*, trains with 70 or more cars of flammable liquids. If a railroad were tendered tank cars without ECP brakes, the carrier might need to take those cars out of trains to avoid the speed limit, requiring increased handling of the cars and delays in getting the cars to destination.

To ensure that locomotives with ECP brakes were available, railroads would have to equip most of their locomotives with ECP brakes—at a cost of almost \$90,000 per locomotive, that is a \$1.7 billion price tag for approximately 20,000 locomotives. Equipping just a small number of locomotives with ECP brakes would not work because locomotives travel widely on the railroad network (locomotives are even interchanged between railroads) and since locomotives do break down, replacement locomotives would have to have ECP capability.

As noted in the response to the first question, the lack of reliability with ECP equipment would present operational problems. Network fluidity would be adversely affected, resulting in less satisfactory service for railroad customers.

AAR has called for legacy tank cars to be retrofitted or replaced on an aggressive schedule. Of course, the timeline for retrofits should not be so stringent that shippers will be unable to secure an adequate supply of tank cars.

c. To what extent would ECP brakes generate business benefits, such as fuel savings, wheel defect reductions, and brake inspection savings? What has the railroad industry learned from trial runs of ECP brakes?

Answer. In 2006, FRA commissioned a study by Booz Allen Hamilton that postulated enormous business benefits from ECP brakes. Of course, if there were such business benefits to be realized, the industry would long ago have transitioned to ECP brakes.

The Booz Allen study is predicated on the heavy use of air brakes as a benchmark. However, railroads today primarily use dynamic brakes (akin to downshifting in a car), using air brakes (or ECP brakes in the few trains that are equipped with ECP capability) only when necessary. Dynamic braking lowers fuel consumption and reduces wear on wheels and brake shoes.

That is not to say dynamic brakes are the only way of achieving these business benefits. For example, since the Booz Allen report was published, the railroads have done much to reduce fuel consumption, using, for example, idling reduction technologies to a greater extent and onboard energy management software that provides the engineer with information to optimize operation of a train from a fuel consumption perspective.

Regarding brake inspection savings, FRA regulations already provide railroads with the opportunity to increase the distance between brake inspections through the use of ECP brakes. This has been utilized to a very limited extent. The regulation allows for fewer planned maintenance events, but because ECP brakes have significantly more unplanned failures, the proposed safety benefits are moot.

Question 2. Positive train control. You discussed the possibility of system failure with PTC and emphasized the difficulty of inventing a technology as you are implementing it.

a. To what extent does the current statutory and regulatory framework adequately address PTC failures, and what, if any, policies could ensure rail network fluidity, while protecting public safety, during such possible failures?

Answer. The regulations restrict the speed at which trains can operate in the event of a PTC failure, which would adversely affect network fluidity. Having said that, the initial proposed PTC regulations would have imposed operating restrictions which had the potential to slow railroad operations down to a crawl. FRA, to its credit, revised the regulations so that while reduced speeds are required where there are PTC failures, the effect will not be as drastic as would have been the case under the original regulations.

It should be emphasized that PTC is designed to be an overlay system. PTC “failures” do not mean accidents will occur.

Finally, regarding the safety of railroad operations where PTC “fails,” the railroads operate very safely today. The last three decades have shown continuous improvement in the safety of railroad operations, with railroads today operating at record safety levels. Where PTC does fail, the railroads will still operate at very safe levels.

b. Understanding recent progress at the Federal Communications Commission (FCC), do you expect any additional bureaucratic hurdles moving forward, and aside from funding, how could the Federal government better assist railroads with administrative burdens in implementing PTC?

Answer. There remain numerous administrative steps that must be completed. At the FCC, certain technical waivers related to spectrum need to be finalized, in addition to the railroads completing the historic preservation, Tribal, and environmental review for the antenna poles needed for PTC.

Under its regulations, FRA must still approve all railroad PTC safety plans. AAR is concerned about the ability of FRA to complete these approvals with its current staffing levels. Attached for your reference is a copy of a January 27, 2015 letter from FRA to the rail industry regarding the FRA’s procedure for certifying PTC safety plans, which may add additional uncertainty to the certification process. [See letter below.]

Most importantly, the Congress should set a realistic and responsible deadline for PTC implementation, beyond December 2015.

U.S. DEPARTMENT OF TRANSPORTATION
 FEDERAL RAILROAD ADMINISTRATION
 Washington, DC, January 27, 2015

Mr. EDWARD R. HAMBERGER,
 President and CEO,
 Association of American Railroads,
 Washington, DC.

Mr. MICHAEL MELANIPHY,
 President and CEO,
 American Public Transportation Association,
 Washington, DC.

Ms. LINDA BAUER DARR,
 President and Treasurer,
 American Short Line and Regional Railroad Association,
 Washington, DC.

RE: POSITIVE TRAIN CONTROL CERTIFICATION

Dear Mr. Hamberger, Mr. Melaniphy, and Ms. Darr:

The Rail Safety Improvement Act of 2008 requires Federal Railroad Administration (FRA) approval and certification of Positive Train Control (PTC) systems¹ for compliance with the approval process of Title 49 Code of Federal Regulations (CFR) Part 236, Subpart I, Positive Train Control Systems. PTC System Certification requires submitting an acceptable PTC Safety Plan (PTCSP) to FRA.² The PTCSP presents the safety case appropriate to a specific railroad and the type of PTC system³ that reliably and safely provides the required PTC functions.⁴

Given the number of PTCSPs, their size, and the need to facilitate timely certification to support the deadline for PTC installation, FRA will only audit critical elements of a railroad's PTCSP submission. FRA's expectation is that the railroads will exercise complete responsibility for ensuring that the PTCSP and all associated documentation is complete consistent, current, and accurate. FRA will not provide quality control of a PTCSP, nor will it make a determination of the legal and factual sufficiency of the PTCSP safety case in the event of civil or criminal litigation.

FRA will continue preliminary PTCSP reviews to help ensure appropriate regulatory information is included in PTCSP submissions and to gain an understanding of the railroad's intended meaning of the document text. Ultimate responsibility for presenting a complete, consistent, current, and accurate safety case lies with the system developer and the host railroad. Consequently, if FRA discovers a significant issue during a review of a PTCSP after formal submission for approval, FRA will immediately stop its review and return without any further review the PTCSP to the submitting railroad for correction and resubmission. To assist FRA in determining the readiness of a PTCSP for review, we have enclosed a list of issues that would initiate a return and require resubmittal. The enclosed list is not exhaustive; rather, it provides examples of typical errors in completeness, consistency, and accuracy. Although FRA expects that there will be significant similarities between different PTCSPs submitted by the railroads, the uniqueness of each railroad's operations will necessitate differences in the focus of the reviews and audit conducted.

In lieu of FRA conducting a full audit, FRA will accept an independent third-party reviewer⁵ finding that an integrated PTC system and all of its subsystems, as well as the development and test processes and associated documentation: (1) has no or minimal critical issues (2) supports the level of certification requested by the railroad; and (3) is complete, consistent, current, and accurate. This review must be consistent with the requirements of 49 CFR 236, Appendix D, Independent Review of Verification and Validation, and Appendix F, Minimum Requirements of FRA Directed Independent Third-Party Assessment of PTC System Safety Verification and Validation, with a final report addressing each element of 49 CFR 236, Appendix D and Appendix F. Upon receipt of the independent assessor's findings and, assuming there are no unresolved negative findings, FRA will precertify the PTC system with operational restrictions if required to ensure safe system operations pending FRA review and acceptance of the third-party reviewer report. If a railroad elects this option, FRA will hold the independent reviewer equally responsible with the

¹ See 49 USC § 20157(h).

² See 49 CFR § 236.1009(d)(1).

³ See 49 CFR § 236.1015(e).

⁴ See 49 CFR § 236.1005(a).

⁵ Third-party reviewer is as defined in 49 CFR § 236.1017.

railroad in the event of discovery of misrepresentations and liable for civil or criminal sanctions as appropriate.

If FRA, or the independent assessor, determines that the safety case provided in a PTCSF does not support certification of the system at the originally requested level of functionality, but does support certification at a lower level of functionality, FRA will deny the request for the certification at the submitted level of functionality without prejudice, and may issue a certification at a lower level of functionality.⁶ For systems certified at a lower level of functionality, FRA will consider new requests for certification at the higher level of functionality upon presentation of new safety evidence.

I would appreciate it if you would share this information with your member railroads that are installing PTC systems.

If you have any questions regarding certification, please feel free to contact Mr. David Blackmore, Railroad Safety Program Manager for Applied Technology, at *David.Blackmore@dot.gov*.

Sincerely,

ROBERT C. LAUBY,
*Associate Administrator for Railroad Safety,
Chief Safety Officer.*

Enclosure

ENCLOSURE

Examples of Basis for Immediate Return of Submitted Positive Train Control Safety Plan (PTCSF) Formally Received by the Federal Railroad Administration

1. Document or portions of the document are marked "Draft."
2. Analysis does not explicitly cover all four subsystems (Office, Onboard, Wayside, Communications) with supporting evidence that shows the vitality of each subsystem and its role in and how it supports overall claimed system vitality.
3. Any part of a PTCSF has negative findings, but no corrective action taken, or full justification as to why an action is not been taken and its impact on the level of system vitality.
4. Indications of incomplete tests or tests in progress.
5. Claims of interoperability without supporting test records that show cross system interoperability has occurred.
6. Existence of a single point failure.
7. Incomplete list of mal-actors/system safety.
8. Incomplete or missing reliability analysis.
9. Human factors analysis/mitigation missing for each component.
10. Inconsistent hazard rates between multiple locations in the document and appendices.
11. Operating rules do not include PTC specific requirements.
12. Inadequate forward plan for replacing marginally acceptable short-term functional behaviors with long-term functions.
13. Incomplete emergency and planned rerouting management plan that does not address all subsystems.
14. Incomplete process or procedure for data recovery of missing data.
15. Mismatch between software versions tested.
16. Missing licensing information.
17. Functions not used by the railroad are listed in railroad-specific documents.
18. Configurable items not assigned railroad-specific values.
19. Mismatch between as found functionality and PTCSF functionality.

⁶A certification request for approval of a PTC system as a standalone system would automatically be considered for certification as a mixed, vital overlay or non-vital overlay system; a certification request for approval of a PTC system as a mixed system would be automatically be considered as a vital overlay or non vital overlay; and a certification request for approval of a PTC system a vital overlay would be considered as a non-vital overlay. FRA will grant certification of the PTC system at the highest level consistent with FRA's evaluation of the safety case provided in the PTCSF submitted for approval.

20. Unsupported or not fully justified assertions.
21. Satisfaction of subsystem assumption about required behaviors not positively identified as having been satisfied.
22. Lack of uniformity of safety assurance concepts between different vendors' equipment.
23. Verification and validation activities reported as not being complete.
24. Different versions of what should be the same version are used.
25. Failure rates and reliability do not support assertion of reliable system type.
26. Incomplete PTC product vendor list or PTC vendor list missing suppliers.
27. Warning labels not provided for all subsystems.
28. Only abbreviated explanation in hazard log of what were the specific actions that were taken to closeout a hazard.
29. Certification request made before all elements of subsystems available to justify vital certification.

Question 3. Other technologies. Highly precise track measurement, laser-based clearance scanning, and track database collection and management systems have been critical to reducing cost and improving the safety of track expansion, maintenance, and operations.

a. What other advanced technologies contribute to optimizing railway safety and availability?

Answer.

- *Wayside detectors* identify defects on passing rail cars, including overheated bearings and damaged wheels, dragging hoses, deteriorating bearings, cracked wheels, and imbalanced loads. The number and types of detectors with Internet data access capability has grown rapidly in North America as new technologies come on line. At the latest count, the North American railroads have 136 wheel impact load detectors (WILD), 25 truck performance detectors (TPD), 7 wheel profile measurement (WPMD) systems, and 13 acoustic bearing detector systems (ABD). These detectors installed on the trackside on each railroad send actionable information regarding the health of equipment owned by the railroads and private car owners over the Internet. The following provides a list of wayside detector systems used by the North American railroads:
 - *WILD measures vertical impact wheel loads* as the car passes across the site. Their primary function is to measure vertical impact loads to identify wheels with slid flats and shells, as well as out-of-round wheels for removal. Many have subsequently been adapted to function as *overload and imbalanced load detectors*.
 - Because a relatively small percentage of freight cars cause a higher percentage of track damage and may have a higher than usual propensity to derail, the railroad industry is using *truck performance detectors* and *hunting detectors* to identify poorly performing freight cars.
 - *Wheel profile detectors* use lasers and high speed video cameras to determine if wheel tread or flanges are worn and, consequently, when the wheels need to be removed from service.
 - *Wheel temperature measuring devices* are used to detect when brakes are not applying when they should be braking (the temperature of the wheels would be colder than they should be in such an event) and brakes that are applied when they should not be (the wheels would be hotter than they should be in such an event).
 - *Trackside acoustic detector systems* use "acoustic signatures" to evaluate the sound of internal bearings to provide advance warning for those nearing failure. These systems supplement or replace systems that *measure the overheated bearings*.
 - Internal defects that are not visually detectable are one of the major causes of wheel-related derailments. *Cracked wheel detectors* provide early detection and removal of cracked wheels. These detection systems can inspect wheels without removing them from service and prevent impending derailments due to internal wheel defects.
 - *Machine vision* and other available or emerging technologies are being actively developed by the Transportation Technology Center, Inc. (TTCI), in partnership with suppliers worldwide. These are laser and high speed video inspection systems to 1) assess the condition of a railcar's safety appliances (ladders, hand holds, sill steps, etc.); 2) evaluate the condition of the railcar's

underframe and related structural members; and, 3) and scan the top, sides, and undercarriage of every car at speeds up to 40 mph.

- *Onboard track inspection systems* measure track geometry and monitor rail integrity, including track surface, track gage and alignment defects, marginal track support conditions, and rail internal defects which occur due to fatigue.
 - *Defect detector cars* detect internal flaws in rails using advanced ultrasonic or electro-magnetic sensors. A prototype of the world's first phased-array ultrasonic *system*, which uses hundreds of sensors, is being developed and tested at TTCI.
 - *Advanced track geometry cars* use sophisticated electronic and optical instruments to inspect track alignment, gauge, curvature, and other track conditions. This information helps railroads determine when track needs maintenance.
 - *Structural health monitoring systems* and diagnostic measurements are used on bridges.
 - *Vehicle Track Interaction measurement systems* applied to locomotives—give real time performance measurements that allow rapid repair of track defects.
 - *Ground-penetrating radar* is being used to help identify problems below the ground (such as excessive water penetration and deteriorated ballast) that may hinder track stability.
- New systems—including remote monitoring capabilities—are being developed and tested to ascertain the *structural health of bridges*. Slide sensors and flood sensors are used to monitor track integrity and improve safety.
- *Improved track components* such as fatigue and wear resistant rail steels
- *Improved car components* such as advanced wheel steels, roller bearings, and car joining systems provide longer component lives and fewer failures in revenue service
- *Improved car suspension systems* used on many higher capacity freight cars have helped reduce the dynamic loads generated in curves and tangent tracks due to track geometry variations. Currently, TTCI is working with suppliers worldwide to develop, test, and evaluate the next generation suspension systems, which will be available soon.

b. Have you found that advanced software-enabled services—such as engineering maintenance management, real-time remote diagnostic monitoring, in-service performance planning, and component condition monitoring—help improve freight rail reliability and availability?

Answer. Yes, these technologies can help improve freight rail reliability and availability. Some industry initiatives along these lines include:

- Storing wayside detector data in a database, developed by TTCI and referred to as *InteRRIS™*. TTCI's *Integrated Railway Remote Information Service*. This tool set provides users with the capability to make predictive, condition-based maintenance decisions rather than having to rely solely on visual inspection. It also makes data available to a wider range of stakeholders than possible before.
- Currently, *InteRRIS®* collects data from wheel impact load detector systems (which identify wheel defects by measuring the force generated by wheels on tracks) and detectors that monitor the undercarriage of rail cars (which identify suspension systems that are not performing properly on curves).
- *InteRRIS®* gathers detector data over the Internet and feeds actionable readings to Railinc's *Equipment Health Management System (EHMS)* for dissemination to railroads and other car owners. The EHMS uses the Automatic Equipment Identification (AEI) data acquired from detector sites to determine vehicle location, direction of operation, and load condition. This information can be utilized to determine optimal maintenance locations. A Car Repair Billing database currently reports repairs made on off-line cars operating in interchange.
- *Advanced Technology Safety Initiative (ATSI)*, a predictive and proactive maintenance system designed to detect and report potential safety problems and poorly performing equipment before they result in accidents or damage. In addition to reliably detecting cars that exhibit high levels of stress and reduce derailments, one of the purposes of ATSI is to work with freight car owners to develop efficient methods to proactively maintain the freight car fleet and keep out-of-service time to a minimum.
- Rail industry safety is also enhanced by the *Asset Health Strategic Initiative (AHSI)*, a multi-year rail industry program initiated by the AAR in December

2011 that applies information technology solutions and processes to improve the safety and performance of freight cars and locomotives across North America. AHSI aims to improve safety and reduce costs across the rail industry by addressing mechanical service interruptions, inspection quality, and yard and shop efficiency at a network level. It is based on the recognition that improving asset health means more than just focusing on railcar and locomotive repair. Rather, it encompasses the entire rolling stock health cycle, incorporating prevention, detection, planning, movement, and repair.

- AHSI aims to improve safety and reduce costs across the rail industry by addressing mechanical service interruptions, inspection quality, and yard and shop efficiency. It encompasses the entire rolling stock health cycle, incorporating prevention, detection, planning, movement, and repair.
- *The Comprehensive Equipment Performance Monitoring (CEPM) program*, which is just one part of the AHSI initiative, is a web-based application that captures data for railcar equipment components, including repair histories, the mileage the freight cars incorporating the components have traveled, and the current and past health status of the equipment. CEPM will make it much easier to track the health of individual railcar components and will provide crucial information on the health of entire classes of components, making early identification of potential safety problems much more likely.
- U.S. railroads use a variety of *track infrastructure maintenance and renewal information management systems*. These systems are used to store management information regarding surfacing, undercutting, track geometry and rail inspection, tie and rail renewal operations, as well as track component inventory, to improve track condition and improve safety.
- *Bridge management systems* are used for tracking inspections, bridge capacity ratings, and prioritizing bridge capital and maintenance spending.

c. Could U.S. passenger rail also benefit from the expanded use of such innovative solutions?

Answer. Yes, they already are. All railway operations will benefit to varying degrees. These technological innovations generally are available to freight and passenger railroads alike. Railroad research conducted at the Transportation Technology Center, Inc. helped develop and test many of these technologies.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN THUNE TO
CHRIS JAHN

Question. Flammable liquids proposed rule. In discussing the potential effects of the flammable liquid unit train proposed rule (also known as the crude-by-rail rule), you stated that rail car maintenance facilities would be inundated by crude oil and ethanol tank retrofit orders required within an unreasonably short span of time, and that would crowd out facility capacity for other tank cars.

a. Could you provide more detail on the proposed rule's crowding-out effect for tank cars carrying other commodities, including the scale and costs of increased out-of-service time and the broader effects on the economy?

Answer. The Fertilizer Institute (TFI) and its members have concerns with the shop capacity necessary to service rail cars carrying non-flammable materials at the same time shops will be dealing with the requirements for flammable liquids under the proposed requirements when final. The Pipeline and Hazardous Material Safety Administration (PHMSA) has proposed a very aggressive transition period that will tax rail car construction and retrofit capacity. It is already a difficult task for shippers to keep their rail cars repaired, maintained, and in compliance because of existing backlogs at shops. This transition period will make it even more difficult for shippers of non-“High-Hazard Flammable Train” commodities to inspect and repair their rail cars.

According to a study prepared by The Brattle Group for the Railway Supply Institute's Committee on Tank Cars (RSI-CTC),¹ even if one were to assume that these modifications began on January 1, 2015 (an assumption that RSI-CTC members did not believe was realistic, given the ramp up period that would be required to order parts and components and hire and train the necessary workforce), it would not be feasible to achieve PHMSA's timeline because doing so requires that the modifica-

¹Neels, Kevin, and Mark Berkman. *A Review of the Pipeline and Hazardous Materials Safety Administration's Draft Regulatory Impact Analysis Docket No. PHMSA-2012-0082 (HM-251)*. Rep. N.p.: Brattle Group, 2014. Print.

tions be carried out at a rate of over 1,400 tank cars per month. Further, during the initial years of the program when the most complex modifications are being carried out on the nonjacketed legacy DOT-111 tank cars, the RSI-CTC does not believe that it will be possible to process more than 550 cars per month. While it may be reasonable to assume some increase in throughput rates as shops become more familiar with the process, the RSI-CTC does not believe that under any realistic scenario it will be possible to approach anything close to the rates assumed in PHMSA's analysis and instead would take years beyond what PHMSA anticipates.

To avoid crowding out shop capacity and potential losses due to out-of-service time, TFI would recommend that PHMSA extend the period for compliance with the new tank standards to help mitigate this concern.

b. To what extent is the proposed rule scoped appropriately? To what extent could the high hazard flammable train definition be improved to better capture or target the risk posed by hazardous materials rail transportation?

Answer. The Fertilizer Institute (TFI) members are very concerned that the proposed definition of a "High-Hazard Flammable Train" (HHFT), and the proposed restrictions upon such trains, will have severe negative consequences for all other traffic that depends upon a fluid national rail network. Accordingly, we have an interest in this rulemaking due to its general impact on rail operations and possible future impact on non-HHFT DOT-111 tank cars.

The safety concerns that are driving the need for enhanced safety standards for flammable liquids have arisen in the context of unit trains of crude oil or ethanol, which typically consist of 50 or more tank cars usually tendered by a single customer for transportation to a single final destination. But the Pipeline and Hazardous Material Safety Administration (PHMSA) has proposed to classify as an HHFT any train with as few as 20 tank cars of flammable liquids. Consequently, far more trains will be designated HHFTs than are warranted by the risks that these rules are designed to address. We have encouraged PHMSA to fully consider the impact and unintended consequences of such a broad HHFT definition which will impact the entire rail network.

For example, speed restrictions for HHFTs are a concern because they will have impacts on the rail network far beyond any single HHFT by slowing down and congesting the larger network. The more trains that fall within the definition of an HHFT, the greater the potential impact. With the severe service issues experienced by fertilizer shippers, and shippers overall last winter, PHMSA's proposal will affect all commodities with longer transit times and increased congestion. Speed restrictions and overall operational restrictions will compound the service issues all railroads and shippers have experienced. Fertilizer shippers depend on efficient rail service in order to deliver essential crop nutrients in a timely manner to American farmers and service issues are a top priority for our members.

It is also important to note that shippers have no control over how train consists are made up after they release the cars to the railroad. What may seem like a compliant shipment may ultimately turn out to be part of an HHFT due to the railroad's handling of that shipment. The HHFT definition may also lead to railroads making a decision between expedient handling of railcars when determining the makeup of trains, which could lead to an HHFT, and sitting on loaded cars to avoid creating an HHFT train, both of which can be a detriment to overall rail service.

TFI suggests that PHMSA modify the definition of an HHFT to better target the risks associated with movement of crude and ethanol by only including unit trains, which typically consist of 50 or more tank cars, of either product.