S. HRG. 110–1120

RAIL SAFETY REAUTHORIZATION

HEARING

BEFORE THE

SUBCOMMITTEE ON SURFACE TRANSPORTATION AND MERCHANT MARINE INFRASTRUCTURE, SAFETY, AND SECURITY

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION UNITED STATES SENATE

ONE HUNDRED TENTH CONGRESS

FIRST SESSION

MAY 22, 2007

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RAIL SAFETY REAUTHORIZATION

TUESDAY, MAY 22, 2007

U.S. SENATE,
SUBCOMMITTEE ON SURFACE TRANSPORTATION AND MERCHANT MARINE INFRASTRUCTURE, SAFETY, AND SECURITY,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Subcommittee met, pursuant to notice, at 10 a.m. in room SR–253, Russell Senate Office Building, Hon. Frank R. Lautenberg, Chairman of the Subcommittee, presiding.

OPENING STATEMENT OF HON. FRANK R. LAUTENBERG, U.S. SENATOR FROM NEW JERSEY

Senator LAUTENBERG. Committee will come to order. Today we're focusing on the safety of our Nation's railroads.

This Subcommittee has not held a hearing on this topic since 2002. And the Federal Rail Safety Program which is designed to keep our rails safe has not been authorized since 1994. But the safety of our railroads is critical to our national economy and the well being of cities and towns across our country.

Last year freight trains carried 100 million tons of food, 150 million tons of farm products, 170 million tons of chemicals, and carry nearly three-quarters of the coal that's carried, more than a billion tons. That provides about half of the electricity generated in our country. So, the role is a critical one.

The increase in freight rail will take more trucks off the road improving safety and decreasing congestion. The statistics for our National Passenger Rail System are no less impressive. Amtrak had record ridership in 2006 and the ridership is already up again this year by 5 percent.

Last month the bill that Senator Lott and I introduced to reauthorize Amtrak and to grow our passenger rail system passed unanimously out of the full Commerce Committee. I'd like to see us bring that bill to the Senate floor very soon.

Every passenger train gives thousands of commuters a choice other than their car. In New Jersey alone as many as a quarter million commuters take the train each weekday. With so much at stake for our national economy and for individual travelers, the Federal Government must make sure that railroads are safe.

The number of train accidents, employee deaths and highway grade crossing deaths has steadily declined over the past few decades. But there has been an uptake in recent years. We've seen major accidents in Graniteville, South Carolina; Macdona, Texas; and in Oneida, New York, which I know my two colleagues at the

witness desk are very much interested in. These accidents caused fatalities and the release of toxic chemicals. They remind us that there's much to do to improve rail safety.

Employee fatigue is a serious problem. Under the current law, train crews can work up to 400 hours in 30 days; 400 hours in 30 days and it's simply not safe. And employees are either on-duty or off-duty, there's no in-between. And yet the employers use a system they call limbo time. It's a loop hole.

And during limbo time employees are considered off-duty but they must remain at the job site. And this prevents them from getting sufficient rest. This loop hole increases the problem of employee fatigue. And it's got to be eliminated.

Fortunately, there is new technology available to help prevent some accidents caused by human factors such as fatigue. This technology can also make train operations more efficient. For example, PTC, Positive Train Control Systems have been on the National Transportation Safety Board's most wanted list for the rail industry since 1990. These systems could prevent train collisions, speeding derailments and other dangers that tragically kill or injure. Although the industry is moving toward adopting this technology, I don't believe that it's moving fast enough.

Finally, 94 percent of all railroad related deaths are related to highway grade crossings and trespassing. We've got to do more to save lives at these crossings. Grade-crossing safety is an area where the Federal Government and the railroads should be doing more to prevent accidents.

First steps involve understanding exactly where the problem locations are and that will require cooperation of the states as well. So, I am pleased to have my distinguished colleagues from the state of New York. Senator Clinton and Senator Schumer are here to share their thoughts and concerns on the areas of safety improvement in the rail industry.

I look forward to hearing from you and our other witnesses today. Your input is important as this Subcommittee develops its rail safety legislation later this year. And I would ask—Senator Smith, whether there is an urgency to his schedule and the same for Senator Klobuchar. Otherwise we'll call on our colleagues and let them make their statements.

Senator KLOBUCHAR. I'd like to hear from our colleagues, Senator. Thank you.

Senator SMITH. I would agree with that.

Senator LAUTENBERG. Alright, so, in order of seniority.

Senator SCHUMER. Senator Clinton has another appointment to go to. So I'll defer to her and go after her, if you don't mind.

Senator LAUTENBERG. Kindnesses are rare around here. Be careful or it gets to be a habit.

[Laughter.]

Senator LAUTENBERG. Senator Clinton, we're pleased to hear from you.

STATEMENT OF HON. HILLARY RODHAM CLINTON, U.S. SENATOR FROM NEW YORK

Senator CLINTON. Thank you very much, Chairman Lautenberg, Senator Smith and Senator Klobuchar. And I really commend you

for holding this hearing and conducting the oversight that is so urgently needed.

I'm pleased to be joined by my colleague, Senator Schumer. As you might assume from our both being here, we have some very important questions and concerns about the situation of our railroads in New York.

As you said, Chairman Lautenberg, railroads transport 42 percent of the Nation's freight. And the U.S. Department of Transportation estimates that between 1998 and 2020 the amount of freight transported by rail will increase by 50 percent. At the same time the Federal Railroad Administration, the Nation's chief rail safety agency is understaffed, overextended and has the capacity to inspect only 0.2 percent of the Nation's railroads.

While gains have been made in rail safety, the primary responsibility is delegated to the railroad industry. And in the absence of public scrutiny and private responsibility, rail safety is being neglected. And the consequences have been deadly. On December 10, 2006, a 64-car CSX freight train derailed in Cheektowaga, New York. On December 14, 2006, a CSX carman with 30 years of experience was struck and killed at a CSX yard in Syracuse, New York. On December 19, 2006, a CSX carman with 15 years of experience was struck and killed by a train in Selkirk, New York. On January 16, 2007, a 13-car CSX freight train traveling 62 miles per hour derailed near East Rochester, New York.

Most recently a CSX train derailed near Oneida, New York on March 12, 2007. The train was carrying liquefied petroleum gas and the accident resulted in a massive fire. Fortunately there were no injuries, but authorities were forced to enact a mile wide evacuation of the surrounding area. If this train had been carrying chlorine or any other extremely dangerous material, the result could have been catastrophic. Derailments on CSX properties in recent months have occurred in Kentucky, Maryland and Ohio.

On March 27, the FRA released the results of a focused inspection on CSX properties in each of the 23 states where the railroad operates. It found 3,518 defects and 199 potential violations. In New York alone, 60 inspections revealed 376 defects including 13 violations. It's my understanding the violations cited in the inspection are still being reviewed by the FRA.

I have met with and called on the Administrator of the FRA, Joe Boardman to expand his investigation to other railroads besides CSX. I don't think that we want to sit idly by waiting for the next derailment to occur. And I commend the response of Administrator Boardman and the FRA in light of these troubling accidents and derailments in New York. The FRA is doomed to fail however without the resources, authority and support to properly ensure the safety of our Nation's railroads.

And that's why it's so important what your doing, Mr. Chairman. This Congress needs to fill the leadership vacuum left by previous Congresses and the current Administration and implement meaningful rail safety reform. The FRA needs more inspectors, more frequent systemwide safety inspections of major railroads and routine use of new technologies. The number of inspectors has remained flat in recent years.

As of July 2006, FRA had 657 full-time and part-time safety staff, including 400 inspectors in the field. In contrast the railroad industry has about 235,000 employees, 219,000 miles of track in operation, 158,000 signals and switches and more than 1.6 million locomotives. It's plain and simple. In order for the FRA to ensure rail safety it needs the inspectors and the inspection technology to do its job.

We should also do more to protect railroad workers. For too long fatigue related errors in the rail industry have contributed to rail work injuries and deaths. I think we should look at legislation to create safe working conditions for workers and in turn safe conditions for our railroads.

The FRA needs a data driven evaluation system to measure the effectiveness of its enforcement program, instead of relying on the railroads for compliance. It's hard to correct problems when the FRA does not have the facts about what is being fixed and what isn't.

The FRA must have stronger regulations and better enforcement to hold railroad companies accountable. Its entered into only 13 compliance agreements and one compliance order over the past decade. And I urge the Committee to look into how these methods can be used more effectively.

Finally, this Committee and Congress should explore risk management. The systematic process for assessing risk and managing risk helps us protect commuter railroads and pipelines in our country as well as Canadian railroads. Why not our freight lines as well?

So, Chairman Lautenberg and to the other members of the Committee, I appreciate the opportunity to come and share some of our concerns from New York. And I look forward to working with you on legislation that will provide the FRA with the tools necessary to ensure the safety of our railroads. I look forward to your leadership on this important issue.

[The prepared statement of Senator Clinton follows:]

PREPARED STATEMENT OF HON. HILLARY RODHAM CLINTON,
U.S. SENATOR FROM NEW YORK

Chairman Lautenberg, Ranking Member Smith, and Members of the Subcommittee, thank you for the opportunity to testify before this Committee. Chairman Lautenberg, thank you for your work and your commitment to our Nation's transportation systems and infrastructure. I am pleased to be joined by my colleague, Senator Schumer.

Railroads today transport about 42 percent of the Nation's freight. The U.S. Department of Transportation estimates that between 1998 and 2020 the amount of freight transported by rail will increase by 50 percent.

At the same time, the Federal Railroad Administration (FRA)—the Nation's chief rail safety agency—is understaffed, overextended, and has the capacity to inspect only 0.2 percent of the Nation's railroads. While gains have been made in rail safety, the primary responsibility is delegated to the railroad industry. In the absence of public scrutiny and private responsibility, rail safety is being neglected—and the consequences have been deadly.

- On December 10, 2006, a 64-car CSX freight train derailed in Cheektowaga, New York.
- On December 14, 2006, a CSX carman with 30 years of experience was struck and killed at a CSX yard in Syracuse, New York.
- On December 19, 2006, a CSX carman with 15 years of experience was struck and killed by a train in Selkirk, New York.

- On January 16, 2007, a 13-car CSX freight train traveling at 62 mph derailed near East Rochester, New York.
- Most recently, a CSX train derailed near Oneida, New York on March 12, 2007. The train was carrying liquefied petroleum gas and the accident resulted in a massive fire. Fortunately, there were no injuries—but authorities were forced to enact a mile-wide evacuation of the surrounding area. If this train was carrying chlorine gas or any other extremely dangerous material, the result would have been catastrophic.

Derailments on CSX properties in recent months have occurred in Kentucky, Maryland, and Ohio as well.

On March 27, the FRA released the results of a focused inspection on CSX properties in each of the 23 states where the railroad operates. The FRA found 3,518 defects and 199 potential violations. In New York alone, 60 inspections revealed 376 defects, including 13 violations. It is my understanding that the violations cited in the inspection are still being reviewed by FRA.

I have called on the Administrator of the FRA, Joe Boardman, to expand his investigation to other railroads besides CSX. We cannot sit idly by waiting for the next derailment to occur.

I commend the response of Administrator Boardman and the FRA in light of these troubling accidents and derailments in New York.

The FRA is doomed to fail, however, without the resources, authority, and the support to properly ensure the safety of our Nation's railroads. It's time for this new Congress to fill the leadership vacuum left by the previous Congress and the current Administration and implement meaningful rail safety reform.

The FRA needs more inspectors, more frequent system-wide safety inspections of major railroads, and routine use of new technologies. The number of FRA inspectors has remained flat in recent years. As of July 2006, FRA has 657 full time and part-time safety staff, including 400 inspectors in the field. In contrast, the railroad industry has about 235,000 employees, 219,000 miles of track in operation, 158,000 signals and switches, and more than 1.6 million locomotives. It's plain and simple, in order for the FRA to ensure rail safety; it needs the inspectors and the inspection technology to do the job.

We also should do more to protect railroad workers. For too long, fatigue-related errors in the rail industry has contributed to rail work injuries and deaths. We must look at legislation that creates safe conditions for workers—and in turn safe conditions for our railroads.

FRA needs a data-driven evaluation system to measure the effectiveness of its enforcement program—instead of relying on the railroads for compliance. It's hard to correct problems when the FRA does not have the facts about what is being fixed and what isn't.

The FRA must have stronger regulations and better enforcement to hold railroad companies accountable. The FRA has entered into only 13 compliance agreements and one compliance order over the past decade. These methods should be explored and I encourage the Committee to look into how these methods can be used more frequently.

Finally, this committee and Congress should also explore risk management. The systematic process for assessing risk and managing risk helps us protect commuter railroads and pipelines in our country as well as Canadian railroads—why not for our freight lines as well?

Chairman Lautenberg, and the rest of the Committee, I look forward to working with you on legislation that will provide the FRA with the tools to ensure the safety of our Nation's railroads—before the next catastrophe occurs. Our railroads, railroad employees, our economy, and the safety of our communities depend on it.

Thank you.

Senator LAUTENBERG. Thank you very much, Senator Clinton. Senator Schumer?

STATEMENT OF HON. CHARLES E. SCHUMER, U.S. SENATOR FROM NEW YORK

Senator SCHUMER. Thank you, Mr. Chairman. And I too add my thanks to you and the Committee for holding—Subcommittee for holding this very important hearing. I want to thank my colleague from New York, Senator Clinton for, as usual, her prescient and right on the money remarks and analysis.

Let me just say that as you point out, Mr. Chairman, the country's rail system is a vital lifeline for many of America's towns and cities. However, I believe that in New York and across the country we're on the brink of a disaster. We can no longer afford to have our tracks and trains be in such a dismal state of disrepair.

We must make sure as it—it is as safe as possible; that rail companies who refuse to make even the most basic repairs are held accountable for their actions. Millions of Americans who live in communities and neighborhoods that lie near freight rail tracks, live life in the crosshairs fearing that the next derailment or accident could be a terrible disaster.

Now, thankfully, many of these accidents are minor. But each one should be a wake up call to overhaul our system in order to prevent the next serious crash. Unfortunately the industry has continued to hit the snooze button. It's now up to Congress and this Subcommittee to wake the industry up. And that is what this hearing and the legislation I've introduced will hopefully do.

I have said it before and I'll say it again. The railroad industry has turned a blind eye to safety and allowed our Nation's rails to degrade year after year. In 2004, the railroad industry made over $42 billion in revenues by shipping goods 1.66 trillion miles over America's rail system. However, despite record business and profits the industry—the industry safety record has grown deplorably worse. The record must improve immediately.

The number of derailments that have occurred in the first quarter of this year is 8 percent higher than for the same period 10 years ago, jumping from 280 to over 300. And what happens is when maintenance isn't maintained at a top level, you don't see much change. And then all of a sudden you go off the cliff. And my worry, Mr. Chairman, is we're getting close to that point where we might go off the cliff.

In our own state of New York, the—we have seen the effects more than in many other states. For two centuries now New York has relied on rail lines to transport its goods within the state and all over the country. We have 3,500 miles of track, crisscrossing New York from Buffalo to Albany—from Buffalo to Albany, from Plattsburg to New York City; 36 railroads operate in our state. And in 2000 to 2006, Mr. Chairman, there were 572 rail accidents causing $34 million in damage. Each year 2.95 million tons of hazardous material travel through our state by rail.

This year has seen a rash of dangerous derailments across the state that could have been worse. And Senator Clinton has outlined those. But I would mention this. On the Oneida accident where the people had to be evacuated, there was a huge fireball. And praise God no one was injured.

The reason for the derailment was a crack in the track on a heavily traveled line that should have been discovered long in advance of the derailment. It's another sad chapter in the long story of railroad negligence when it comes to safety. Your FRA report of the Oneida derailment faulted CSX with 79 different problems within the tracks across New York. So it could have happened just about anywhere.

On January 16, as Senator Clinton mentioned, the CSX train left the tracks in the Village of East Rochester. It landed just a few feet

from the homes. The week before 20,000 gallons of methanol caught fire in the Selkirk rail yard and so we've had serious problems, serious problems. And it's because of the situations like this that I reintroduced the Rail Crossing and Hazardous Materials Transport Act, which I hope the Committee will look at as it prepares its legislation.

Congress cannot allow rail companies like CSX to continue to sit idly by and let their tracks fall apart while they collect checks. We must hold their feet to the fire; send them a clear message that we mean business and won't allow this behavior to continue. My bill would dramatically increase the fines for violating the FRA rules. They're too often right now a slap on the wrist. It will also update FRA standards regarding hazardous materials and increase the fines there making sure that we, the Federal Government, are doing our part.

The FRA, in part by design, in part because it doesn't have the necessary tools has become too much of an old and tired watch dog. But we can't be the only ones stepping up to the plate. Rail companies must have—do their share of the burden in insuring that our rail system is as safe as possible for the physical safety of our passengers, motorists, rail workers, pedestrians and for our own safety.

Congress, the Department of Transportation, state and local agencies and the rail companies must all work together to minimize dangerous spills like what happened in Oneida. Of course train derailments are not a phenomenon limited to my state. We should not wait until fatalities to act. We have to act now. We must crack down on sleeping companies while at the same time help them improve the rail infrastructure of our Nation.

That's what my legislation is intended to do. It attacks this problem of rail safety head on and holds violators accountable for their action and lack thereof. It would also help state and local governments who are trying to improve rail structure by providing $50 million in grants. Additionally, the bill would provide financial assistance to such areas as Long Island and Westchester to close the very dangerous platform gaps that exist. We can't wait any longer.

So, I look forward to working with this Committee. And I hope that as the Committee moves forward with its Rail Safety bill it will consider some of the provisions in my legislation as well.

Again I want to thank you, Mr. Chairman, for holding this hearing. I'll be submitting a more extensive written statement which I would ask permission to put in the record.

Senator LAUTENBERG. To be included.

Senator SCHUMER. And again, rail companies must be held accountable for dropping the ball when it comes to rail safety. Thank you very much.

[The prepared statement of Senator Schumer follows:]

PREPARED STATEMENT OF HON. CHARLES E. SCHUMER,
U.S. SENATOR FROM NEW YORK

Thank you, Mr. Chairman. First, I'd like to thank the Committee for holding this hearing on an issue that affects the entire Nation. This country's rail system is a vital lifeline for many of America's towns and cities. However, I believe that in New York and across the country, we are on the brink of disaster. We can no longer afford to have our tracks and trains be in such a dismal state of disrepair. We must

make sure it is as safe as possible and that rail companies who refuse to make even the most basic repairs are held accountable for their actions.

Millions of Americans who live in communities and neighborhood that lie near freight rail tracks live life in the crosshairs, fearing that the next derailment or accident could be a terrible disaster.

Thankfully, many of these accidents are minor, but each one should have been a wake up call to overhaul our system in order to prevent the next serious crash. Unfortunately, the industry has continued to hit the snooze button. It is now up to Congress to wake the industry up and that is what this hearing and my legislation will hopefully do.

I have said it before and I will say it again. The railroad industry has turned a blind eye to safety and allowed our Nation's rails to degrade year after year. In 2004, the railroad industry made over $42 billion in revenues by shipping goods 1.66 trillion miles over America's rail system. However, despite record business and profits, the industry's safety record has grown deplorably worse. This record must improve immediately. The number of derailments that have occurred in the first quarter of this year is 8 percent higher than for the same period 10 years ago, jumping from 280 derailments to over 300.

The current crisis lies in the decrepit state of our Nation's rail lines. No state has seen the effects of this more than my home state of New York. For two centuries now, New York has relied on rail lines to transport its goods within the state and all over the country. More than 3,500 miles of track crisscross New York, from Buffalo to Albany, Plattsburgh to New York City, with 36 railroads operating in the state. In the period between 2000–2006, there were 572 rail accidents in New York, causing $34 million in damages. Every year, 2.95 million tons of hazardous materials travel through my state by rail. This year has seen a rash of dangerous derailments across the state that could have caused serious harm.

In March, a CSX freight train hauling liquid propane derailed in Oneida, NY. Several of the cars were carrying dangerous chemicals, and they ignited, sending a fireball into the sky seen from miles away. Thousands were evacuated, and the FRA was sent in to investigate the crash. Of course, the reason for the derailment was a crack in the rail. This is just another chapter in the long story of railroad negligence when it comes to safety.

The FRA report of the Oneida derailment faulted CSX with 79 different problems with their tracks across New York. And it is not just the Oneida crash that has shaken the residents of New York. There are many other examples of rail companies asleep at the switch in my state. On January 16, thirteen cars on a CSX train left the tracks in the Village of East Rochester, landing within a few feet of nearby homes. No one was injured, but at least two motorists were nearly hit by falling trailers that were dislodged from their train cars. The week before, 20,000 gallons of methanol caught fire at the CSX Selkirk rail yard, the same destination as the train that derailed on Monday. On December 10, a CSX train carrying canned goods derailed on an overpass in Cheektowaga, leaving one boxcar teetering on the edge of a railroad bridge and sending a second onto Union Road.

It is because of situations like this that I've reintroduced the Rail Crossing and Hazardous Materials Transport Act. Congress cannot allow rail companies like CSX to continue to sit idly by and let their tracks fail apart while they collect checks. We must hold their feet to the fire, and send them a clear message that we mean business and won't allow this behavior to continue.

My bill would dramatically increase the fines for violating the FRA rules, and it will also update FRA standards regarding hazardous materials and increase fines, making sure that we—the Federal Government—are doing our part. But we can't be the only ones stepping up to the plate. Rail companies must haul their share of the burden in ensuring that our rail system is as safe as possible, for the physical safety of our passengers, motorists, rail workers, and pedestrians, and for our own economic security.

Congress, the Department of Transportation, state and local agencies, and the rail companies must all work together to minimize dangerous spills like what happened in Oneida. Of course, train derailments are not a phenomenon limited to my state. We should not wait until a fatality to act. We must act now. We must crack down on sleeping companies, while at the same time help improve the rail infrastructure of our Nation.

My legislation would do just that. It attacks this problem of rail safety head-on and holds violators accountable for their actions—or lack thereof. It also would help state and local governments who are trying to improve rail infrastructure by providing $50 million in grants. Additionally, my bill will provide financial assistance to areas such as Long Island and Westchester to close very dangerous platform gaps that exist. We cannot wait any longer.

I look forward to working with this Committee and hope that as the Committee moves forward with a rail safety bill, it will consider my legislation, and the positive effect it could have on our Nation's rail network. I thank the Committee for holding this hearing, and will be submitting a more extensive written statement for the record. Rail companies must be held accountable for dropping the ball when it comes to rail safety, but we must do out best to compensate for their shortcomings. Thank you.

Senator LAUTENBERG. Thank you both very much. It's obvious that the things that you talk about have to be up in the forefront of our minds because of the pitifully small number of safety inspectors out there. Some 400 when you consider there are 700 railroads employing over 230,000 people with millions of miles of track. And railroads are adding an enormous amount of efficiency to the way our country functions.

As a matter of fact after coal the next largest items that railroads carry are truck containers filled and are carried cross country or to their destination with the least amount of congestion. And so we thank you, as our neighbors in New York, I am pleased at the prospect of additional rail service being available. For example, coming into Penn Station from Long Island and another available service tunnel in the Hudson River.

So we thank each of you and I'll assume no questions from my colleagues and we'll excuse you to go on with your other important work. Thank you.

And with that I would ask my colleagues for their brief statements. First, starting with our Ranking Member, Senator Smith. If you could contain comments to 5 minutes, it would be appreciated. We have several panels.

STATEMENT OF HON. GORDON H. SMITH, U.S. SENATOR FROM OREGON

Senator SMITH. It won't take me that long, Mr. Chairman.

Senator LAUTENBERG. Thank you.

Senator SMITH. As we listen to our colleagues it's easy to think and conclude that the glass is half empty. But there's another view that the glass is half full. And that is in no way meant to excuse any accident. And certainly the role of this Committee and the legislation we're considering is to take the number of accidents and drive them down further still.

But it is interesting to note that since 1980, when the rails were deregulated overall train accidents have fallen 70 percent from 1980 to 2006; 2006 was the safest year on record. And I think it's important to note that, so it's not all bad. But certainly we can't be satisfied with any accident and that each one is a call to do more.

As I look at what is being done regulatorily and to private industry initiatives, I'm encouraged. I look forward to hearing our witnesses on issues such as limbo time and to address rail worker concerns and private industry initiatives such as the positive train control to improve safety. We're at the ten-year mark since the last reauthorization of the Federal Rail Administration. And so I look forward to working with you, Mr. Chairman, and my other colleagues to go from where we are to even better. Thank you.

Senator LAUTENBERG. Thanks very much, Senator Smith. Senator Klobuchar?

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

Senator KLOBUCHAR. Thank you, Mr. Chairman. Thank you for the work you're doing on this issue both of you.

Railroads are important to my state, the state of Minnesota. I remember growing up and my only vacations until I was about eight were on The Milwaukee Road to The Milwaukee to see my grandma. And I would record every stop we took on the train. And lately as we expand our ethanol and other products out of our rural area we're relying more and more on rail.

The good news, as Senator Smith was saying is that we're seeing more use of our rail. But the bad news is we recently have seen some increased accidents and facility traffic. And we've seen some fatalities as well. In my state there were nine reported fatalities and 65 total collisions in 2005 alone. We've had a number of trains derail near populated areas. And so there's growing concern about what's happening.

So I'd like to commend the Chairman for his work in this area. And look forward to hearing from our witnesses. Thank you.

Senator LAUTENBERG. Thank you, Senator Klobuchar. We now want to call our panel to the table. That's Ms. Jo Strang, the Associate Administrator for Safety at the FRA. And Ms. Strang, please give our best to Administrator Joe Boardman and his family. We're pleased to see you, but we understand that he couldn't be here today due to an emergency. And we look forward to your testimony.

Mr. Sumwalt, Vice Chairman of the National Transportation Safety Board. We welcome you. And Mr. Kurt Hyde, Assistant Inspector General for Surface and Maritime Programs at the United States Department of Transportation. And Katherine Siggerud, who is Director of Physical Infrastructure Issues at Government Accountability Office.

Thank you all for joining us and I would ask you to limit your testimony, if you can please, to not more than 5 minutes. I would ask if you can summarize your statements. Welcome.

STATEMENT OF JO STRANG, ASSOCIATE ADMINISTRATOR FOR SAFETY, FEDERAL RAILROAD ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION

Ms. STRANG. Chairman Lautenberg, members of the Subcommittee, I am honored to appear before you today representing Secretary of Transportation Mary Peters and Federal Railroad Administrator Joe Boardman to discuss railroad safety and the need to reauthorize the Federal Rail Safety Program. In February the Administration presented its rail safety reauthorization bill, the Federal Railroad Safety Accountability and Improvement Act. We are very grateful, Chairman Lautenberg that in March you introduced the bill by request for yourself and Senator Smith as S. 918.

Mr. Boardman is home in New York dealing with family medical concerns. He particularly regrets not being here today as enacting a meaningful rail safety reauthorization is his highest priority. He has asked me to make several points to the Committee being sure to emphasize that the future of safety is about managing risk. And that FRA needs Congress to provide us the authority to regulate

hours-of-service which relates directly to the most significant risk facing the rail industry.

In making these points I wish to offer a little context. In 2006, the railroad industry had the lowest rate of employee casualties in its history. What was once one of the most dangerous industries from its employee's perspective is now one of the safest. This accomplishment is all the more notable when it is viewed in the context of an industry that is moving record levels of traffic over systems substantially smaller than existed 30 years ago and then the hiring of new employees at a record pace to address a major wave of retirement.

Further improvements will require an—approaches however. While safety has improved substantially over the last three decades the rate of improvement has slowed and significant challenges must be addressed. FRA's accident statistics indicate that human factors and track-caused accidents are the two leading causes of accidents by a large margin over other causes indicating the need to rethink our role in supporting key elements at the railroads, the employees and the infrastructure.

We are doing research to determine those areas where stress on the system, be it human stress or mechanical stress, increase risk. We are also developing technologies that can monitor stress; and can focus the attention of the railroads and FRA safety inspectors on those areas where the risk is the greatest.

Through the knowledge we gain here we can help focus the efforts of the railroads and the efforts of FRA in regulation and enforcement of those areas that represent the greatest risk. And thus present the greatest opportunities for safety improvement.

One out of four of the most serious human factor accidents appear to include fatigue among the causal elements. We passed the one hundredth anniversary of the Hours of Service Act on March 4. And that substance has not been amended for over 37 years. For the past 25 years the National Transportation Safety Board has been calling attention to the apparent role of fatigue in major train accidents.

Last November, FRA released a study that reported the largest body of fatigue related data from the railroad industry ever made public. The study documented the successful validation and calibration of the fatigue model that can be used to evaluate the scheduling of railroad operating personnel. We propose to sunset the Hours of Service Act but retain its protections as interim regulations. We would then convene a Railroad Safety Advisory Committee to develop new science based requirements that can help us reduce human factor accidents and casualties.

We will need revised benchmark limits on work hours and requirement progress periods to provide simple guidance for thick schedules where it will suffice. With the tools now available we will also be able to recognize fatigue management approaches to include careful evaluation of a variety of more flexible work schedules using validated techniques. I would expect that regulations resulting from the Department's bill would significantly reduce the allowable hours-of-service. This is necessary to improve safety but it does not mean that employees will necessarily work fewer hours in a year.

We need to schedule smarter. Set reasonable limits on maximum hours worked in a given day and make sure off-duty time is proportional to total time in service including time spent awaiting transportation and time in transportation. We need to avoid schedules that promote cumulative sleep deficits and limit rest interruptions.

Track-caused accidents are the second largest category of train accidents comprising 33 percent of all train accidents. Some of the leading causes of track-caused accidents are difficult to detect during normal wear and operations. We have taken many steps to improve track safety that are detailed in my written statement.

However, we've introduced new technology with a high-speed, high-resolution camera to detect cracks in joint bars which has proven to be successful. We are currently modifying the software so that the crack identification will become automatic. We have implemented the requirement and safety rule and have issued new regulations for continuous welded rail.

That concludes my statement. I'll be happy to take any questions. Thank you.

[The prepared statement of Ms. Strang follows:]

PREPARED STATEMENT OF JO STRANG, ASSOCIATE ADMINISTRATOR FOR SAFETY, FEDERAL RAILROAD ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION

Chairman Lautenberg, Ranking Member Smith, and other members of the Subcommittee, I am very pleased to be here today, on behalf of the Secretary of Transportation and Administrator Boardman, to discuss the reauthorization of the Federal Railroad Administration's (FRA) rail safety program.

In February, the Administration presented its rail safety reauthorization bill, the Federal Railroad Safety Accountability and Improvement Act. In March, Chairman Oberstar of the House Committee on Transportation and Infrastructure introduced the Administration bill, by request, for himself and Ranking Member Mica and the leaders of the Subcommittee on Railroads, Pipelines, and Hazardous Materials. We are very grateful, Chairman Lautenberg, that in the same month you also introduced the Administration bill, by request, for yourself and Senator Smith. The Administration bill has been designated as H.R. 1516 and S. 918, respectively.

In addition to proposing to reauthorize FRA's vital safety mission, this bill calls for important—and in some cases historic—substantive changes in the rail safety laws that we expect will materially improve safety. I look forward to working with you to help secure their enactment.

Before I discuss the major provisions of the bill, my testimony will begin with an overview of how FRA is working daily to reduce both the frequency and the severity of railroad accidents. My testimony will then highlight the real and substantial progress FRA has made in implementing our National Rail Safety Action Plan, and I will touch on our passenger safety rulemakings and other key safety initiatives.

I. FRA's Railroad Safety Program

FRA is the agency of the U.S. Department of Transportation (DOT) charged with carrying out the Federal railroad safety laws. These laws provide FRA, as the Secretary's delegate, with very broad authority over every area of railroad safety. In exercising that authority, the agency has issued and enforces a wide range of safety regulations covering a railroad network that employs more than 232,000 workers, moves more than 42 percent of all intercity freight, and provides passenger rail service to more than 500 million persons each year.

FRA's regulations address such topics as track, passenger equipment, locomotives, freight cars, power brakes, locomotive event recorders, signal and train control systems, maintenance of active warning devices at highway-rail grade crossings, accident reporting, alcohol and drug testing, protection of roadway workers, operating rules and practices, locomotive engineer certification, positive train control, the use of locomotive horns at grade crossings, and many other subject areas. FRA currently has active rulemaking projects on a number of important safety topics, many of which will be described later in this testimony. FRA also enforces the Hazardous Materials Regulations, promulgated by DOT's Pipeline and Hazardous Materials Safety Administration (PHMSA), as they pertain to rail transportation.

FRA has an authorized inspection staff of about 400 persons nationwide, distributed across its eight regions. In addition, about 160 inspectors employed by the approximately 30 states that participate in FRA's State participation program also perform inspections for compliance with the Federal rail safety laws. Each inspector is an expert in one of five safety disciplines: Track; Signal and Train Control; Motive Power and Equipment; Operating Practices; or Hazardous Materials. FRA also has 18 full-time highway-rail grade crossing safety and trespass prevention specialist positions in the field. Every year FRA's inspectors conduct tens of thousands of inspections, investigate more than 100 railroad accidents, investigate thousands of complaints of specific alleged violations, develop recommendations for thousands of enforcement actions, and engage in a range of educational outreach activities on railroad safety issues, including educating the public about highway-rail grade crossing safety and the dangers of trespassing on railroad property.

FRA closely monitors the railroad industry's safety performance, and the agency uses the extensive data gathered to guide its accident prevention efforts. FRA strives to continually make better use of the wealth of available data to achieve the agency's strategic goals. FRA also sponsors collaborative research with the railroad industry to introduce innovative technologies to improve railroad safety. Finally, under the leadership of the U.S. Department of Homeland Security (DHS), FRA actively plays a supportive role in Federal efforts to secure the Nation's railroad transportation system.

II. The National Rail Safety Action Plan (Action Plan)

A. Genesis and Overview of the Action Plan

As detailed in *Appendix A* to my testimony, the railroad industry's overall safety record has improved dramatically over the past few decades, and most safety trends are moving in the right direction. However, serious train accidents still occur, and the train accident rate has not shown substantive improvement in recent years. Moreover, several major freight and passenger train accidents in 2004 and 2005 (such as those at Macdona, Texas; Graniteville, South Carolina; and Glendale, California) raised specific concerns about railroad safety issues deserving government and industry attention.

As a result of these concerns, in May 2005, the U.S. Department of Transportation (DOT) and FRA initiated the National Rail Safety Action Plan (Action Plan), a comprehensive and methodical approach to address critical safety issues facing the railroad industry. The Action Plan's goals broadly stated are:

- Target the most frequent, highest-risk causes of train accidents;
- Focus FRA's oversight and inspection resources on areas of greatest concern; and
- Accelerate research efforts that have the potential to mitigate the largest risks.

The causes of train accidents are generally grouped into five categories: human factors; track and structures; equipment; signal and train control; and miscellaneous. From 2002 through 2006, the vast majority of train accidents resulted from human factor causes or track causes. Accordingly, human factors and track have been our primary focus to bring about further improvements in the train accident rate.

Overall, the Action Plan includes initiatives intended to:

- Reduce train accidents caused by human factors;
- Address employee fatigue;
- Improve track safety;
- Enhance hazardous material (hazmat) safety and emergency preparedness;
- Strengthen FRA's safety compliance program; and
- Improve highway-rail grade crossing safety.

Allow me to discuss the progress that has been made in fulfilling the Action Plan's objectives and how that is advancing FRA's railroad safety mission.

B. Implementation of Action Plan Initiatives

1. Reducing Train Accidents Caused by Human Factors

Accidents caused by human factor causes constitute the largest category of train accidents, accounting for 39 percent of all train accidents in the 5 years from 2002 through 2006. Preventing such accidents is a high priority under the Action Plan.

a. Development of Rulemaking To Address Leading Causes of Human Factor Accidents

FRA has been concerned that several of the leading causes of human factor accidents are not presently covered by any specific Federal rule, and these causes can have serious consequences. As a result, in May 2005, FRA asked its Railroad Safety Advisory Committee (RSAC) to develop recommendations for a new human factors rule to address the leading causes of human factor accidents. This effort helped lead to FRA's issuance of a notice of proposed rulemaking (NPRM) in October 2006, to federalize core railroad operating rules governing the handling of track switches, leaving cars in the clear, and shoving rail cars. *See* 71 FR 60371.

The NPRM proposes to establish greater accountability on the part of railroad management for the administration of programs of operational tests and inspections, and greater accountability on the part of railroad supervisors and employees for compliance with those railroad operating rules that are responsible for approximately half of the train accidents related to human factors. FRA believes this will contribute positively to railroad safety, by emphasizing the importance of complying with fundamental railroad operating rules and providing FRA a more direct means of promoting compliance with those rules.

The final rule is expected to be issued later this year, and it is intended to supersede Emergency Order Number 24, which FRA issued in October 2005, in response to an increasing number of train accidents caused by hand-operated, main track switches in non-signaled territory being left in the wrong position and the potential for catastrophic accidents, such as the one in Graniteville, SC, in January 2005, which resulted in nine deaths. The Emergency Order requires special handling of hand-operated main track switches in non-signaled territory, as well as instruction and testing of employees in railroad operating rules pertaining to such track switches, and is expected to remain in place until the final rule addressing the major causes of human factor accidents is promulgated and becomes effective.

The final rule will complement existing FRA regulations that address other human factor causes. For example, FRA's regulations on alcohol and drug use by operating employees were the first such standards in American industry to incorporate chemical testing, and they have been very successful in reducing accidents resulting from the use of illicit substances. FRA also has regulations on locomotive engineer certification, and enforces the Federal hours-of-service restrictions, which at present are wholly governed by statute.

b. Launch of "Close Call" Pilot Research Project

"Close calls" are unsafe events that do not result in a reportable accident but could have done so. FRA is working to better understand these phenomena. In other industries, such as aviation, adoption of close-call or "near miss" reporting systems that shield the reporting employee from discipline (and the employer from punitive regulatory sanctions) has contributed to major reductions in accidents. In March 2005, FRA completed an overarching Memorandum of Understanding (MOU) with railroad labor organizations and management to develop pilot programs to document the occurrence of close calls. Pilot programs would be established at three freight railroad sites and on one passenger railroad. In August 2005, FRA and DOT's Bureau of Transportation Statistics (BTS) entered into an MOU stipulating that BTS will act as a neutral party to receive the close-call reports and maintain the confidentiality of the person making the report. By studying and closely analyzing these reports, we hope to enrich our understanding of the factors involved in such events and to discern whether there are identifiable patterns that influence safety outcomes.

Union Pacific Railroad Company (UP) signed an MOU for its North Platte Service Unit to be the first site for this project. The first report from this site was received in February 2007, and as of April 2007, BTS is receiving approximately two reports per day from this site. This rate of reporting close calls greatly exceeds expectations based on prior close call reporting systems, and indicates that the implementation was extremely successful at this site. Canadian Pacific Railway Ltd. (CP) and railroad labor representatives in Portage, WI, have recently produced a draft MOU to implement a close-call reporting system, and FRA anticipates that this CP site will become active by the end of September 2007. BNSF Railway Company (BNSF) and several labor unions have been exploring participation in the project as the third freight railroad site, but a final decision is still pending. Several passenger railroads have also been considering participation in the project. FRA anticipates that all four sites will be active by the end of FY 2008.

c. Development and Implementation of Promising Technologies To Improve Safety through Redundant Safety Systems

Technology can be a tremendous aid to safety, providing a safety net when human beings make a mistake or become incapacitated.

- *Positive Train Control (PTC) Systems.* PTC systems are capable of automatically preventing train collisions (with positive stop protection), preventing over-speed derailments, and protecting roadway workers within their authorities. Recognizing the safety benefits of PTC systems, as well as their potential to improve rail efficiency by safely increasing the capacity of high-density rail lines, FRA issued a final rule in 2005 entitled, "Performance Standards for Processor-Based Signal and Train Control Systems." *See* 49 CFR part 236. Earlier, FRA worked with Amtrak and other stakeholders to assist in the development of PTC systems in support of high-speed passenger rail. The results included the Advanced Civil Speed Enforcement System, which, combined with cab signals and automatic train control, safeguard operations up to 150 mph on the Northeast Corridor. In addition, the Incremental Train Control System was deployed on Amtrak's Michigan line and currently supports operations up to 95 mph (planned for 110 mph when validation and verification work is complete on the final system).
  - In January 2007, FRA approved operational use of the first PTC system intended for general use, BNSF's Electronic Train Management System. The rail industry is actively advancing the implementation of PTC technology as other railroads—among them, UP, Norfolk Southern Railway Company (NS), CSX Transportation, Inc. (CSX), and the Alaska Railroad—are all making significant strides to develop PTC systems. The Association of American Railroads (AAR) will play a critical role in finalizing interoperability requirements for these technologies.
- *Switch Point Monitoring System and Other Systems.* There are steps that can be taken short of PTC to reduce accident risk in non-signalized (dark) territory. In November 2005, FRA partnered with BNSF through a $1 million Switch Point Monitoring System pilot project to develop a low-cost system that electronically monitors, detects, and reports a misaligned switch on mainline track located in non-signaled territory. These mechanisms are designed to provide an additional layer of protection to avert the consequences of an improperly lined switch. The project involves the installation of wireless communication devices at 49 switches along a 174-mile section of non-signaled BNSF track between Tulsa and Avard, Oklahoma. Train dispatchers at an operations center in Fort Worth, Texas, are monitoring the devices to detect when the hand-operated switches are set in the wrong position. If a switch is misaligned, the dispatcher directs a train to slow down or stop until railroad crews in the field confirm it is safe to proceed. Thus far, no unsafe failures have been reported, and BNSF plans expansion of this and similar types of systems to other non-signaled territory. Along with the human factors rulemaking, this new switch monitoring system may prevent future train accidents such as the one at Graniteville, SC, which resulted from an improperly lined main track switch in non-signaled territory.
  - BNSF is also demonstrating rail integrity circuits, which can detect broken rails and alert the dispatcher much in the same way as the switch point monitoring technology. Both of these technologies are "forward-compatible" with PTC, meaning that they can be integrated into PTC as it is deployed on the subject territories.
- *Electronically Controlled Pneumatic (ECP) Brakes.* During the 1990s, the AAR led an industry effort to develop ECP brakes, which use an electronic train line to command brake applications and releases. ECP brakes apply uniformly and virtually instantaneously throughout the length of the train, provide health-status information on the condition of brakes on each car, respond to commands for graduated releases, and entirely avoid runaway accidents caused by depletion of train-line air pressure. ECP brakes shorten stopping distances on the order of 40 to 60 percent, depending on train length and route conditions. In turn, shortened stopping distances mean that some accidents that occur today might be avoided entirely and that the severity of those that do occur in the future might be reduced.
  - FRA commissioned a study, released last year, that identified and quantified significant business benefits that could be realized with this technology through greater operational efficiencies. The study also suggested a migration plan that would start with unit train operations, focused initially on the Pow-

der River Basin coal service. Since then, FRA has been working with the AAR, railroads, vendors, and the coal sector to generate momentum toward implementation of this cost-saving and, potentially, life-saving technology. In this regard, ECP brakes are one of the key features of FRA's Advanced Concept Train, a research-and-development prototype train specially designed and equipped with other improvements that is helping to demonstrate the potential of these new technologies across the Nation. FRA is also planning to develop a revised set of requirements for train air brakes that are more suitable for this new technology, by issuing a notice of proposed rulemaking sometime in the near future. Until a final rule is issued amending the train air brake requirements, we remain ready to review and respond to requests for relief from railroads interested in proceeding with ECP technology.

- In March FRA approved a waiver request from BNSF and NS to install ECP brake systems on trains to demonstrate the safety and efficacy of the technology. While providing that proper safeguards be in place, the waiver permits trains equipped with ECP brakes to travel up to 3,500 miles without stopping to undergo certain routine brake inspections—more than double the distance allowed by current Federal regulations. FRA will carefully monitor the railroads' compliance with the waiver, which will enable FRA to gather extensive data, including data that could be useful in developing the rulemaking.

2. Addressing Fatigue

Fatigue has long been a fact of life for many railroad operating employees, given their long and often unpredictable work hours and fluctuating schedules. Train crews may legally work an enormous number of hours in a week, month, or year. While commuter train crews often have some predictability in their work schedules, crews of freight trains rarely do. The long hours, irregular work/rest cycles, and lack of regular days off, combined, have a very deleterious effect on employee alertness. Railroads are necessarily 24-hour businesses, and the effects of "circadian rhythms" challenge the alertness of even well-rested employees, particularly in the early morning hours.

The hours-of-service laws, originally enacted in 1907 and last substantially amended in 1969, set certain maximum on-duty periods (generally 12 hours for operating employees) and minimum off-duty periods (generally 8 hours, or if the employee has worked 12 consecutive hours, a 10-hour off-duty period is required). However, FRA does not believe that the limitations in those laws are adequate to effectively control fatigue. The hours-of-service laws must be replaced with sound, scientifically-based regulations; later in my testimony I will discuss in detail the Administration proposal to bring about this long-overdue change. The proposal would allow for the use of modern learning on fatigue, including research FRA accelerated under the Action Plan.

a. Accelerate Research on Railroad Crew Work History To Validate a Fatigue Model for Possible Use To Improve Crew Scheduling

On November 29, 2006, FRA announced the release of a study which provides a strong, scientific rationale for evaluating railroad employee work schedules to address worker fatigue. The goal of the research was to determine if a fatigue model can accurately and reliably predict an increased risk of human error that could contribute to the occurrence of a train accident. The study documents, for the first time, the significant circadian influence on accidents caused by human factors (there is no circadian influence on accidents not caused by human factors). The study also documents a significant linear relationship between fatigue predicted by the model and the risk of a human factors accident. No relationship was found between fatigue and accidents not caused by human factors. FRA expects this information will aid the railroad industry in improving crew scheduling practices in order to reduce that risk. A model for detecting the point at which the risk of fatigue becomes hazardous could become an important part of a railroad's fatigue management plan. A similar approach is currently utilized by the U.S. Department of Defense.

The National Transportation Safety Board (NTSB) has emphasized the role of sleep disorders in transportation accidents, and FRA recognizes that providing fatigue management information alone may not be sufficient. In October 2004, FRA published a safety advisory in the *Federal Register,* urging railroads to address sleep disorders through progressive company policies. Last September, FRA's RSAC adopted a task to develop recommendations on medical standards for safety-critical railroad employees. Parallel with this RSAC effort, FRA has awarded a contract to UP to conduct a sleep disorder assessment project. Findings and recommendations from this project are anticipated to be completed later this year. Management of

sleep disorders is among the important elements of that effort, which is now well underway.

3. Improving Track Safety

Track-caused accidents are the second-largest category of train accidents, comprising 33 percent of all train accidents. Some of the leading causes of track-caused accidents are difficult to detect during normal railroad inspections. Broken joint bars, for example, are a leading cause, but the kinds of cracks in those bars that foreshadow a derailment-causing break are difficult to spot with the naked eye. Similarly, broken rails account for some of the most serious accidents, but the internal rail flaws that lead to many of those breaks can be detected only by specialized equipment.

a. Demonstration of New Technology To Detect Cracks in Joint Bars

FRA is developing an automated, high-resolution video inspection system for joint bars that can be deployed on a hi-rail vehicle to detect visual cracks in joint bars without having to stop the vehicle. In October 2005, a prototype system that inspects joint bars on both sides of each rail was successfully demonstrated. Testing showed that the high-resolution video system detected cracks that were missed by the traditional visual inspections. The system was then enhanced with new features to improve the reliability of joint bar detection and to add capabilities to include the Global Positioning System (GPS) coordinates for each joint to facilitate future inspection and identification. Additionally, software was developed to scan the images automatically, detect the cracked joint bar, and then send a message to the operator with an image of the broken joint bar. The new features were implemented and the system was tested and demonstrated in the summer of 2006. This year, FRA intends to make additional enhancements to increase the operating speed and implement a more rugged, simple, and robust detection system.

b. Requirements for Enhanced Capability and Procedures To Detect Track Defects

FRA is also addressing joint bar cracks on the regulatory front. As a direct result of a Congressional mandate in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA–LU) and of NTSB recommendations arising out of various accidents involving cracked joint bars, FRA published an interim final rule (IFR) in November 2005 concerning the inspection of joints in continuous welded rail (CWR) track. Subsequently, after soliciting public comment and advice from RSAC's Track Safety Standards Working Group, FRA issued a final rule in October 2006, which adopted portions of the IFR and made changes to other provisions. The final rule requires track owners to develop and implement a procedure for the detailed inspection—including on-foot inspection—of CWR rail joints, to identify joint bar cracks and joint conditions that can lead to the development of these cracks. Track owners must now also create and submit fracture reports to FRA whenever a cracked or broken joint bar is discovered in CWR track. Based on the data that FRA will collect from the fracture reports, FRA will establish a program to review the root causes of joint bar failure. In addition, the rule encourages railroads to develop and adopt automated methods to improve the inspection of rail joints in CWR track.

c. Deployment of Two Additional Automated Track Inspection Vehicles

Subtle track geometry defects, such as rails being uneven or too far apart, are difficult to identify during a typical walking or hi-rail inspection. That is why FRA has developed automated track inspection vehicles to enhance its capability to identify problems, and ensure that they are addressed, before a train accident occurs. In April, FRA began operating its two newest vehicles: the T19 (which is self-propelled), and the T20 (which is locomotive-towed). These new vehicles use a variety of technology to measure track geometry flaws. The measurements are recorded in real-time and at operating speed. Problem areas are identified by the GPS location and shared immediately with the railroad so appropriate corrective actions can be taken in a timely manner.

Along with the T16, T17 and T18, FRA now has five automated track inspection vehicles that will allow the agency to inspect nearly 100,000 track-miles each year, tripling the present capacity. In particular, FRA will be better able to focus its automated track inspection activities on high-volume rail lines that carry hazardous materials and passenger trains as well as to improve its ability to follow up more quickly on routes where safety performance by a railroad is substandard.

4. Improving Hazmat Safety and Emergency Response Capability

The railroad industry's record on transporting hazmat is very good. The industry transports nearly two million shipments of hazmat annually, ordinarily without in-

cident. However, the Macdona, TX accident in 2004 and the Graniteville, SC accident in 2005, which together involved 12 deaths as the result of chlorine releases, demonstrate the potential for catastrophic consequences from certain train accidents. The agency is actively engaged in a variety of activities intended to reduce the likelihood that a tank car may be breached if an accident does occur, complementing our effort to reduce the likelihood of train accidents. Realizing that we cannot prevent all accidents, FRA has developed initiatives to ensure that emergency responders are fully prepared to minimize the loss of life and damage when an accident or release does occur.

It is important to emphasize that these safety initiatives are in addition to, and complement efforts by, FRA, DHS and its Transportation Security Administration (TSA), and PHMSA to provide for the security of hazmat transported by rail. A major component of this effort has been PHMSA's March 2003 regulation requiring each shipper and carrier of significant quantities (placardable amounts) of hazmat to adopt and comply with a security plan. *See* 49 CFR § 172.800 *et seq.* Last December, working closely with FRA and TSA, PHMSA published an NPRM to enhance the safety and security of certain highly hazardous materials transported by rail. *See* 71 FR 76833. Specifically, this proposal would require rail carriers of certain explosive, toxic inhalation hazard, and radioactive materials to assess the safety and security of the routes currently used for these materials and alternative routing options, and to make routing decisions based on those assessments. The comment period for the NPRM closed February 20, 2007. PHMSA and FRA have reviewed the comments, including comments presented at two public meetings, and are in the process of drafting a final rule. PHMSA and FRA are coordinating with TSA to ensure regulatory consistency between the two rules.

As Administrator Boardman testified before the Committee in January on the general topic of rail security, the safety and security of hazmat transported by rail are often intertwined. I would be glad to update the Subcommittee on the many other security-related initiatives in this area, such as the section 333 conference on ways to minimize safety and security risks from the transportation by rail of TIH materials.

a. Enhancements to Emergency Response Readiness

Emergency responders presently have access to a wide variety of information regarding hazmat transported by rail. Railroads and hazmat shippers are currently subject to the hazard-communication requirements of the Hazardous Materials Regulations. In addition, these industries work through the American Chemistry Council's TRANSCAER® (Transportation Community Awareness and Emergency Response) program to familiarize local emergency responders with railroad equipment and product characteristics. PHMSA publishes the *Emergency Response Guidebook,* with the intention that it may be found in virtually every fire and police vehicle in the United States.

In March 2005, with FRA encouragement, the AAR amended its Recommended Operating Practices for Transportation of Hazardous Materials (now Circular No. OT–55–I) to expressly state that local emergency responders, upon written request, will be provided with a list ranking the top 25 hazardous materials transported by rail through their communities. This is an important step to allow emergency responders to plan for, and better focus their training on, the type of rail-related hazmat incidents that they could potentially encounter.

In July 2005, again with FRA encouragement, CSX and CHEMTREC (the chemical industry's 24-hour resource center for emergency responders) entered into an agreement to conduct a pilot project to see if key information about hazmat transported by rail could be more quickly and accurately provided to first responders in the crucial first minutes of an accident or incident. The project is designed so that if an actual hazmat rail accident or incident occurs, CHEMTREC watchstanders, who interact with emergency response personnel, will have immediate access to CSX computer files regarding the specific train, including the type of hazmat being carried and its exact position in the train consist. CSX has advised that there has been sufficient use of the current system to begin evaluating the project. FRA is also working through the AAR to encourage the other major railroads to participate in a similar project.

Finally, another pilot project is underway to evaluate the use of Railinc Corporation's Freightscope, a program that provides equipment search capabilities for hazmat shipments. The system was installed at CHEMTREC in December 2006, and it has the potential to more rapidly provide information about hazmat shipments on shortline and regional railroads to CHEMTREC watchstanders to improve information availability and reduce delays in emergency response. The pilot project

is scheduled to last a year, and includes various tests to determine the system's effectiveness. Two tests have already been conducted with good results.

b. Improvements in Tank Car Integrity Through Research and Development and Rulemaking

Prior to the August 2005 enactment of SAFETEA–LU, FRA had initiated tank car structural integrity research stemming from the circumstances of the 2002 derailment in Minot, ND, which involved the release of anhydrous ammonia from tank cars punctured during the derailment. Current research being conducted for FRA by the Volpe National Transportation Systems Center (Volpe Center), part of DOT's Research and Innovative Technology Administration (RITA), involves a three-step process to assess the effects of various types of train accidents (*e.g.,* a derailment or collision) on a tank car. The first phase is the development of a physics-based model to analyze the kinematics of rail cars in a derailment. The second phase is the development of a valid dynamic structural analysis model; and the third phase is an assessment of the damage created by a puncture and entails the application of fracture mechanics testing and analysis methods. This research is also studying the relative strength of various types of steel used to construct tank cars.

In addition to research on strengthening the structural integrity of the tank car to reduce the potential that a collision will result in release of a hazardous commodity, the research is also evaluating the compatibility of new designs with the existing fleet to assure that new hazards are not unintentionally introduced. Several accident scenarios have been defined which will help focus research into improving the performance of secondary tank-to-tank impacts after an event has occurred. Specifically, work is concentrated on increasing the energy required to puncture a tank car for impacts to the side shell or head of the tank car. For impacts in yards, the research is evaluating technology such as pushback couplers, energy absorbers, and anti-climbing devices, designed to prevent the train from derailing.

With the assistance of this ongoing research, FRA, in conjunction with PHMSA, is working to develop new hazardous material tank car safety standards in accordance with Section 9005 of SAFETEA–LU. We are currently consulting with railroads, shippers, and car manufacturers and have concluded three public meetings to gather information and views.

To further these efforts, FRA signed a Memorandum of Cooperation with Dow Chemical Company, UP, and the Union Tank Car Company to participate in their Next Generation Rail Tank Car Project. The agreement provides for extensive information-sharing and cooperation between ongoing FRA and industry research programs to improve the safety of rail shipments of hazardous commodities, including toxic inhalation hazards and high-risk gases and liquids. Full-scale destructive testing of tank cars is also underway to establish a baseline for performance of existing cars and to help validate and refine FRA's predictive model for tank car crashworthiness. Two full-scale tests have been conducted to date at the Transportation Technology Center (TTC) in Pueblo, Colorado—the first on April 11, 2007, and the second on April 26, 2007—and I would be glad to provide the Committee with additional information about this significant research.

5. Strengthening FRA's Safety Compliance Program

a. Implementation of National Inspection Plan

FRA continually seeks ways to direct its inspection and enforcement efforts toward the issues and locations most in need of attention. To this end, FRA instituted the National Inspection Plan (NIP), an inspection and allocation program that uses predictive indicators to assist FRA in allocating inspection and enforcement activities within a given region by railroad and by state. The NIP was fully implemented across all of FRA's safety disciplines in March 2006. A reduction in both the number and the rate of train accidents is expected once the NIP has had time to take its full effect and FRA refines its application in response to actual experience.

b. Revisions to Schedules of Civil Penalties for Safety Violations

In December 2006, FRA published proposed statements of agency policy that would amend the 25 schedules of civil penalties issued as appendixes to FRA's safety regulations. The proposed revisions are intended to reflect more accurately the safety risks associated with violations of the rail safety laws and regulations, as well as to make sure that the civil penalty amounts are consistent across all safety regulations.

Although the schedules are statements of agency policy, and FRA has authority to issue the revisions without having to follow the notice and comment procedures of the Administrative Procedure Act, FRA has provided members and representatives of the general public an opportunity to comment on the proposed revisions be-

fore amending them. FRA has received mixed comments on the proposals, and is currently evaluating all of the comments received in preparing final statements of agency policy.

6. Fostering Further Improvements in Highway-Rail Grade Crossing Safety

Deaths in highway-rail grade crossing accidents are the second-leading category of fatalities associated with railroading. (Trespasser fatalities are the leading category.) The number of grade crossing deaths has declined substantially and steadily in recent years. However, the growth in rail and motor vehicle traffic continues to present challenges.

a. Issuance of Safety Advisory 2005–03

In May 2005, FRA issued Safety Advisory 2005–03, which describes the respective roles of the Federal and State governments and of the railroads in grade crossing safety. It also specifically reminds railroads of their responsibilities to report properly to FRA any accident involving a grade crossing signal failure; to maintain records relating to credible reports of grade crossing warning system malfunctions; to preserve the data from all locomotive-mounted recording devices following grade crossing accidents; and to cooperate fully with local law enforcement authorities during their investigations of such accidents. FRA is also committed to providing technical assistance to local authorities in the investigation of crossing accidents where information or expertise within FRA control is required to complete the investigation. FRA has extensively distributed this advisory through national law enforcement organizations and through contacts with local agencies.

b. Development of State-Specific Grade Crossing Safety Action Plans

In June 2004, DOT and FRA issued an "Action Plan for Highway-Rail Crossing Safety and Trespass Prevention" that sets forth a series of initiatives in the areas of engineering, education, and enforcement to reduce and prevent highway-rail grade crossing accidents. As one of these initiatives, FRA began working with the State of Louisiana in March 2005 to develop its own action plan for grade crossing safety, to address high numbers of grade crossing accidents and deaths at the State level. The action plan focuses on reducing collisions between trains and motor vehicles at grade crossings where multiple collisions have occurred. After a cooperative effort between the Louisiana Department of Transportation and Development, Federal Highway Administration, FRA, and other stakeholders, the state approved the Action Plan in April 2006. FRA is encouraging other states with high numbers of grade crossing accidents and deaths to do the same, and is currently working with the state of Texas to develop such a plan.

c. Focus on Pedestrian Safety

In addition, FRA will work within the grade crossing safety community to determine appropriate responses to pedestrian fatalities at grade crossings. Early in 2006, the Transportation Research Board devoted an entire session of its annual meeting to pedestrian grade crossing safety issues in order to capture information on how to improve safety in this area. Later this spring, FRA will publish a compilation of information on existing pedestrian safety devices currently being used in the Nation so that those making decisions on methods to improve pedestrian safety may have useful resource material available.

d. Inquiry on Safety of Private Grade Crossings

In June 2006, FRA initiated an inquiry into the safety of private highway-rail grade crossings. Approximately 10 percent of grade crossing collisions occur at privately-owned crossings. However, there is little governmental safety oversight of these crossings, at either the state or Federal level. As a result, in cooperation with appropriate state agencies, FRA has been soliciting oral statements at a series of public meetings throughout the Nation on issues related to the safety of private grade crossings, including current practices concerning responsibilities for safety at these crossings, the adequacy of warning devices at the crossings, and the relative merits of a more uniform approach to improving safety at private crossings. Four meetings have been held, and the final meeting will take place in Syracuse, New York, on July 26. FRA has also opened a public docket on these issues, so that interested parties may submit written comments for public review and consideration. The statements made and comments received will help inform decisions on what action needs to be taken to address the safety of private grade crossings.

C. Passenger Rail Safety Initiatives

While the National Rail Safety Action Plan focuses on improving the safety of freight railroad operations and grade crossings, FRA has also been making impor-

tant progress on the safety of railroad passengers. Let me highlight the agency's initiatives.

1. Passenger Safety Rulemakings

FRA is hard at work on several rulemakings specifically designed to improve rail passenger safety. First, as a result of consensus recommendations from RSAC, in August 2006 FRA proposed new passenger rail safety standards to improve evacuation of passengers from trains, to provide additional ways for rescuers to access the passenger car in case of an emergency, and to enhance onboard emergency communication systems. FRA is in the process of preparing the final rule, which is expected to be issued sometime in the near future. Moreover, a separate regulatory proposal is also in development within RSAC, focusing on passenger car emergency signage, low-location exit path marking, and emergency lighting. That proposal is based on American Public Transportation Association (APTA) standards for passenger safety and is intended to augment current Federal requirements.

FRA is also preparing a proposed rule to implement the RSAC's recommendations to enhance structural strength requirements for the front of cab cars and multiple-unit locomotives. These enhancements would include the addition of "energy deformation" requirements specified in revised APTA standards.

2. Gap Concerns

Recent attention has been focused on passenger safety at stations with high-level platforms where there are gaps between passenger car doorways and the platform. On August 5, 2006, a young woman fell into a gap between the platform and the Long Island Rail Road (LIRR) commuter train she was exiting from, and was ultimately struck and killed by another train. FRA staff conducted an informal survey of standards used for determining gap distance, and found a great deal of variation in standards among commuter railroads. Visits to station platforms at six selected railroads found considerable variations in gap length. Setting and maintaining an acceptable gap is a complicated process affected by passenger equipment types, track maintenance, track curvature, and platform configuration. The gap is also affected when freight trains or specialized equipment must use the same track used for passenger boarding.

FRA has made this issue a priority. FRA has established an RSAC task force on General Passenger Safety to specifically address safety concerns associated with issues such as platform gaps, safe boarding and debarking, and passenger casualties associated with the "second train." The full task force has met twice and will also address other matters directly affecting passenger safety on or around station platforms and make any necessary recommendations to FRA for regulatory action.

3. Passenger Safety Research and Development

- *Crash Energy Management (CEM) Systems.* Research has shown that passenger rail equipment crashworthiness in train-to-train collisions can be significantly increased if the equipment structure is engineered to crush in a controlled manner. For several years, FRA has been advancing this engineering approach, termed CEM, with strong support from the Volpe Center. First use of this concept on the North American continent was in design of Amtrak's Acela Express trainset. In March 2006, FRA successfully conducted a full-scale passenger train crash test at the TTC to evaluate new CEM technology that might be applied to conventional equipment. In this test, a passenger train that had been equipped with a CEM system that included sacrificial crush zones in unoccupied spaces, pushback couplers designed to retract and absorb energy, and specially designed anti-climbers to keep the train in line, better protected the spaces intended to be occupied by passengers and train crewmembers. Also tested were new passenger seats with special padding and new tables with crushable edges, to help prevent and mitigate passenger injuries. Use of this integrated CEM technology is expected to save lives by more than doubling the speed at which all passengers are typically expected to survive a train crash.
  - The Southern California Regional Rail Authority (Metrolink) is in the process of procuring a new fleet of cars utilizing CEM technology. Metrolink's procurement is being facilitated by the completed work of the CEM Working Group, specially tasked in May 2005 to develop a detailed technical specification for implementing CEM technology in passenger rail cars. The South Florida Regional Transportation Authority (SFRTA) has joined Metrolink in procuring equipment using this specification, and FRA expects other passenger railroads to include the specification in future procurements of their own.
  - In addition, FRA is working with APTA in developing industry-wide standards for applying CEM technology, such as push-back couplers and deform-

able anti-climbers, to conventional passenger cars. To help support this effort, a full-scale impact test of a multi-level passenger car into the rigid barrier at the TTC is planned for July 2007, as testing to date has involved single-level passenger cars. Data obtained from this test is expected to help specify the performance of multi-level passenger cars in conjunction with push-back couplers or deformable anti-climbers, or both.

- *Rollover Rig.* In May 2006, FRA unveiled a state-of-the-art Passenger Rail Vehicle Emergency Evacuation Simulator, also known as a "Rollover Rig." It has the unique ability to roll a full-sized, commuter rail car up to 180 degrees, effectively turning it upside down, to simulate passenger train derailment scenarios. The Rollover Rig is already enhancing the ability of researchers to test strategies for evacuating passenger rail cars and to evaluate the performance of emergency systems in the cars, such as emergency lighting, doors, and windows. In addition, first responders nationwide now have a unique training tool to practice effective passenger rail rescue techniques safely when a rail car is on its side. FRA developed the Rollover Rig at a cost of $450,000. New Jersey Transit Rail Operations donated the commuter rail car used by the Rollover Rig, and the Washington Metropolitan Area Transit Authority agreed to house, operate, and maintain the simulator at its emergency response training facility located in Landover, Maryland.

4. Collision Hazard Analysis

"Collision Hazard Analysis" is a specific type of safety review that seeks to identify collision hazards and to develop reasonable solutions to eliminate or mitigate these hazards. Collision hazards include conditions and activities that increase the risk of collisions between trains or other on-track equipment, between trains and motor vehicles/pedestrians, or between trains and fixed objects along the right of way. FRA strongly believes that the performance of a Collision Hazard Analysis will strengthen and support the passenger rail system safety process that grew out of the combined experience of the agency and the commuter railroads under Emergency Order No. 20. FRA and the Volpe Center have partnered with APTA to conduct important pilot projects regarding Collision Hazard Analysis. During the first pilot project, FRA, the Volpe Center, and APTA worked cooperatively to train and mentor a hazard analysis team at Tri-Rail, SFRTA's commuter service, which volunteered to be the first commuter railroad to conduct this analysis. The Tri-Rail project proved very successful and served as the model for a Collision Hazard Analysis pilot project on the Virginia Railway Express, completed last fall. The effort was also very successful and provided further insight into the collision hazard analysis process. Based on positive experiences on both pilot projects, FRA strongly advocates that all commuter operators undertake a Collision Hazard Analysis. The analysis is especially useful for "New Start" rail projects where design and operational decisions can be readily influenced.

III. Administration's Rail Safety Bill (H.R. 1516, S. 918)

The Administration's rail safety reauthorization bill, the Federal Railroad Safety Accountability and Improvement Act, would reauthorize appropriations for FRA to carry out its rail safety mission for 4 years. FRA has made a full copy of the proposal available on our website at *http://www.fra.dot.gov/us/content/48,* including the supporting analysis for each section. Let me take this opportunity to discuss the major provisions of the Administration bill and how they will further FRA's safety efforts.

A. Authorizes Safety Risk Reduction Program and Protects Confidentiality of Risk Analyses Produced

In order to enhance the accountability of railroads in assuming full responsibility for their own safety, the bill would authorize appropriations for the addition of a safety risk reduction program to supplement FRA's current safety activities and seeks Congressional endorsement of this pilot program. Since rail-related accidents, injuries, and deaths are already at low levels, FRA needs to augment our traditional behavior-based and design-specification-based regulations with a robust safety risk reduction program to drive down those key measures of risk at a reasonable cost and in a practical manner.

In the safety context, a risk reduction program is intended to make sure that the systems by which railroads operate and maintain their properties are adequate to meet or exceed safety objectives. FRA continues to place greater emphasis on developing models of how railroads can systematically evaluate safety risks, in order to hold them more accountable for improving the safety of their operations, including implementing plans to eliminate or reduce the chance for workers to make mistakes

that can lead to accidents or close calls. A safety risk reduction program could unify previous voluntary efforts in the human factors arena while extending similar techniques to management of risk in other arenas such as track safety.

To encourage railroads to produce thorough, as opposed to superficial, risk analyses, a companion provision in the bill would bar public disclosure by FRA of records required under the safety risk reduction program, except for Federal law enforcement purposes. Also in order to promote the preparation of serious risk analyses by railroads, the provision would forbid discovery by private litigants in civil litigation for damages of any information compiled or collected under the program, and would forbid admission into evidence of the same information in civil litigation by private parties for damages. An example would be a commuter railroad that undertakes a hazard analysis and has a crossover near a bridge abutment. It is unlikely that the railroad would be able to remove the hazard (a derailment could send the cars into the fixed structure) but it could mitigate the risk by reducing speeds and training.

FRA is mindful that any restriction of public access to information may be controversial and requires careful scrutiny. However, we are convinced that assuring confidentiality is essential to promote full disclosure by the railroads and their employees to make such programs meaningful and bring about tangible improvements in safety.

B. Grants Rulemaking Authority Over Hours-of-Service

As discussed earlier, human factors cause more than a third of all train accidents, constituting the largest category of train accident causes. Fatigue is at least a contributing factor in one of every four serious human factor train accidents. We believe that fatigued crewmembers have played an increasing role in railroad accidents over the past decade through poor judgment, miscommunication, inattentiveness, and failure to follow procedures. Our challenge is to ensure that crewmembers have adequate opportunity to rest, are free of disorders that can disrupt sleep, and are fully engaged in maintaining alertness.

However, the statutory provisions that govern the hours-of-service of railroad train crews, dispatchers, and signal maintainers are antiquated—essentially a century old—and woefully inadequate to address present realities. For example, under those laws, train crews may work 8 hours on duty and 8 hours off-duty perpetually. Engineers and conductors often work 60 to 70 hours a week, and may be called to work during the day or night, which may disrupt sleep patterns and reduce their ability to function. See Appendix B.

Moreover, those hours-of-service laws contain no substantive rulemaking authority. The lack of regulatory authority over duty hours—authority that other DOT agencies have with respect to their modes of transportation—has precluded FRA from making use of scientific learning on this issue of sleep-wake cycles and fatigue-induced performance failures. Behavioral science has progressed to the point that computer models can accurately predict the likely effect of given sleep and rest patterns on employee performance. The models provide useful guidance to aid employee scheduling, and, as I discussed earlier, FRA published a validation report of one such model in 2006. Yet, only UP is making use of a sleep model to evaluate its own crew scheduling practices. Most railroads have yet to integrate use of such models in their operations and have refrained from making public commitments to use this capability in the future. Further, over the past 15 years, the history of attempts by rail labor and management to improve fatigue management has not been marked by sustained progress.

We recognize that specific amendments to the hours-of-service laws might mitigate fatigue. Yet, we believe that sincere attempts at short-term relief can also create constraints and unintended consequences that may limit the ability to provide optimal solutions downstream. Treating limbo time as on-duty time, for instance, may force carriers to reduce the length of many assignments to avoid the possibility of "violations" under circumstances where safety could not be seriously compromised, and may increase the cost of any further reforms. Hours-of-service issues are surprisingly complex, and they need to be properly considered within the overall context of fatigue prevention and management. FRA is committed to making significant progress in this area, but we need the regulatory authority to do so.

We strongly recommend that the existing hours-of-service laws be replaced with flexible regulations based on a modern, scientific understanding of fatigue. Today, I am here asking for your support for legislation that will permit us to put into action what we have learned. The Administration bill first proposes to sunset the hours-of-service laws, but retain their protections as interim regulations embodying their substantive provisions. Next, the proposal calls for FRA, as the Secretary's delegate, to review the problem of fatigue with the assistance of the Railroad Safety

Advisory Committee, and to develop as necessary new, science-based requirements that can help us reduce human factor-caused accidents and casualties. We believe revised "benchmark" limits are needed on work hours, and requirements for rest periods, to provide simple guidance for fixed schedules, where that will suffice.

The bill would also authorize FRA to permit railroads to comply with an approved fatigue management plan as an alternative to complying with the "benchmark" limits in the regulations. With the tools now available, we will be able to recognize fatigue management approaches that include careful evaluation of a wide variety of more flexible work schedules by validated techniques. In fact, we believe most safety-critical railroad employees would be protected by performance-based fatigue management programs that will enhance safety while holding down costs.

For public and employee safety, it is time to make a long-overdue change and grant us the rulemaking authority over hours-of-service to directly address the major cause of far too many train accidents.

C. Promotes Highway-Rail Grade Crossing Safety

Accidents at highway-rail grade crossings account for more than a third of all rail-related fatalities. The bill seeks to prevent highway-rail grade crossing collisions and make crossings safer through two main provisions.

1. Requires Reports by Railroads and States to DOT on the Characteristics of Highway-Rail Grade Crossings

Currently, reporting to the DOT National Crossing Inventory is strictly voluntary. FRA is the custodian of the inventory and the quality of the data is only as good as what states and railroads have historically reported. Too much data in the inventory has been outdated. The bill would remedy this by requiring that railroads and states provide the Secretary with current information regarding the country's approximately 230,000 highway-rail grade crossings. Mandatory reporting would make this unique national database more up to date and complete, which would help (i) States better rank their crossings by risk and channel resources to the most dangerous crossings first, and (ii) DOT and transportation researchers identify the most promising ways to reduce crossing casualties. The bill would therefore require initial reports on all previously unreported crossings and periodic updates on all crossings.

2. Fosters Introduction of New Technology To Improve Safety at Public Highway-Rail Grade Crossings

Fewer than half of the 140,000 public highway-rail grade crossings have active warning devices, which are expensive to install and maintain. Perversely, improvements at one crossing are often cited in tort actions to prove the inadequacy of protections at another crossing. Under the Administration bill, if the Secretary has approved a new technology to provide advance warning to highway users at a grade crossing, the Secretary's determination preempts any state law concerning the adequacy of the technology in providing the warning. FRA believes that this proposal would help encourage the creation and deployment of new, cost-effective technology at the Nation's approximately 80,000 public grade crossings that still lack active warning devices. For instance, under an FRA waiver the Twin Cites and Western Railroad Co. and its supplier successfully demonstrated a warning system designed for lower-volume roadways and rail lines using dedicated locomotives. The system uses GPS and a data radio link between the locomotive and each crossing. This product is now being commercialized by a major signal supplier.

D. Expands FRA's Authority To Disqualify Individuals Unfit for Safety-Sensitive Service

Another provision of the bill would expand FRA's existing disqualification authority to cover individuals who are unfit for safety-sensitive service in the railroad industry because of a violation of the Hazardous Materials Regulations related to transporting hazmat by rail. Currently, FRA may disqualify an individual only for a violation of the rail safety laws or regulations, not the Hazardous Materials Regulations, even though violation of the Hazardous Materials Regulations may involve a greater potential accident risk or consequence (in the event of an accident). This proposal would logically extend our disqualification authority over railroad employees and complement current initiatives to strengthen FRA's safety compliance program.

E. Protects Rail Safety Regulations From Legal Attack on the Ground That They Affect Security and Repeals Statutory Requirement for DHS To Consult with DOT When Issuing Security Rules That Affect Rail Safety

The bill would also bar legal challenges to DOT safety regulations on the basis that they affect rail security. In many cases, rail safety and security are inter-

twined, and part of the justification for certain DOT regulations is that they enhance rail security. The bill would clarify the scope of the Secretary's safety jurisdiction and help deter or quickly rebuff any challenge that DOT has exceeded its statutory authority in issuing such regulations.

Of course, DHS would continue to exercise primary responsibility for the promulgation of rail security regulations. In this regard, the bill would repeal the statutory provision that, when issuing security rules that affect rail safety, DHS must consult with DOT. We believe the provision is unnecessary and confusing in light of other statutes, executive orders, and existing inter-Departmental cooperation under the DOT–DHS Memorandum of Understanding and its related annexes on rail security.

F. Clarifies the Secretary's Authority To Issue Temporary Waivers of Rail Safety Regulations Related to Emergencies

The bill would clarify that FRA, as the Secretary's delegate, may grant a temporary waiver without prior notice and an opportunity for public comment and hearing, if the waiver is directly related to an emergency event or needed to aid in recovery efforts and it is in the public interest and consistent with railroad safety. While FRA's normal practice is to set aside time for public comment and hearing on waiver petitions, this appreciably slows down issuance of waivers necessary for emergency response and recovery efforts. Yet granting a waiver without such procedures risks legal challenge. The provision would free FRA from this dilemma and allow the agency to support emergency response and recovery efforts by dispensing with prior notice and an opportunity for comment and hearing, and by otherwise expediting the process for granting waivers. Further, the relief granted would be temporary (a maximum of 9 months), and the normal waiver procedures would have to be followed to extend the temporary relief granted should doing so be necessary.

G. Authorizes the Monitoring of Railroad Radio Communications

Currently, FRA is permitted to monitor railroad radio communications only in the presence of an authorized sender or receiver, such as a railroad employee. Yet, when railroad employees know that FRA is present, they tend to be on their best safety behavior. Therefore, FRA cannot be sure whether the level of compliance observed is normal, and we are less able to identify what are, under ordinary circumstances, the most frequent and serious instances of noncompliance. Access to candid communications offsite would yield a truer picture of compliance levels.

The bill would address this concern by letting FRA safety inspectors monitor and record railroads' radio communications over their dedicated frequencies outside of the presence of railroad personnel for the purpose of accident prevention (including accident investigation) and, with certain exceptions, to use the information received. The exceptions would be that the information (1) may generally not be used as direct evidence in any administrative or judicial proceeding, and (2) may not be released under the Freedom of Information Act. The information may, however, be used as background material for further investigation. Nor should there be concern that the information communicated is personal information. Railroad operating rules and procedures already require that all radio communications relate to railroad operations and prohibit railroad employees from using the radio for personal use.

As FRA's objective of accident prevention is ordinarily fulfilled daily by conducting safety inspections of railroad operations and enforcing the rail safety laws, monitoring of radio communications would not only help achieve that objective, but would greatly improve the efficiency of those inspections, the accuracy of the results, and the effective deployment of FRA's limited inspection resources based on those more accurate results.

H. Clarifies and Relaxes the Existing Statutory Provision on Moving Certain Defective Equipment for Repair

Finally, I would like to mention that the bill would amend a complicated statutory provision that states the conditions for hauling a railroad car or locomotive with a safety appliance or power brake defect for repair without civil penalty liability, including the requirement that equipment be back-hauled to the nearest available repair point. Back-hauls required by statute can be both unsafe (because of the hazards related to switching a car out of one train and into another train), and inefficient (because the car is stopped from moving toward its destination and forced to go to a different place that is physically closer than the next forward point for repair). The proposal would allow the equipment to be moved to the next forward point of repair under clear regulatory safeguards for moving defective equipment that are more consistent with the movement-for-repair provisions applicable to vehicles with other types of defects, such as Freight Car Safety Standards defects.

Further, the bill would also define some key statutory terms and then provide FRA, as the Secretary's delegate, with rulemaking authority to define others. Currently, FRA may provide only guidance on the meaning of these terms, and this has contributed to an atmosphere of uncertainty about the requirements of the statute in day-to-day application. For example, FRA has received many complaints over the years that cars have been hauled past a repair point that FRA does not consider to be a repair point. This proposal would, therefore, help dispel such uncertainty and promote understanding and compliance with the provisions governing the safe movement of equipment with a safety appliance or power brake defect.

The Administration's bill does not include a provision that would revise the preemption provision at 49 U.S.C. § 20106. *While this is a very important issue, of interest to many on the Committee, I would ask that the Committee oppose the provision included as Section 3 of H.R. 1401.* This provision would overturn longstanding Supreme Court precedents, and ultimately be detrimental to railroad safety. It would eliminate national uniformity of regulation. It was clearly the intention of Congress in enacting section 20106 to establish national uniformity of regulation, which is a fundamental keystone of the railroad safety statutes. Railroads would instead be forced to attempt to comply with an endless number of ever changing and potentially conflicting state and local standards adopted by individual juries. If the Committee needs further information to address this important issue, FRA staff would be glad to provide assistance.

I would like to emphasize that, while all of the provisions I have discussed are among the major provisions of the bill, there are other significant provisions I have not mentioned today that will also enhance rail safety. These include providing FRA rail security officers with greater access to Federal, State, and local law enforcement data bases, officer-protection warning systems, and communications for the purpose of performing the Administrator's civil and administrative duties to promote safety, including security, and for other purposes authorized by law. All of these provisions are set forth in the bill the Secretary presented in February, and I would be glad to discuss each of them in detail with you.

IV. Conclusion

FRA's approach to enhancing the safety of rail transportation is multifaceted. FRA personnel strive daily to implement comprehensive initiatives for safety assurance and hazard mitigation under the National Rail Safety Action Plan to make rail operations safer for the public and the rail transportation industry. The Administration's Federal Railroad Safety Accountability and Improvement Act would enable FRA not only to continue these efforts but to enhance safety systematically in many ways. I look forward to working with the Subcommittee to bring about the enactment of the Administration's bill, and to help make our Nation's railroad system ever safer. Thank you.

APPENDIX A

THE RAILROAD INDUSTRY'S SAFETY RECORD

The railroad industry's overall safety record is very positive, and most safety trends are moving in the right direction. While not even a single death or injury is acceptable, progress is continually being made in the effort to improve railroad safety. This improvement is demonstrated by an analysis of the Federal Railroad Administration's (FRA) database of railroad reports of accidents and incidents that have occurred over the nearly three decades from 1978 through 2006. See 49 CFR part 225. (The worst year for rail safety in recent decades was 1978, and 2006 is the last complete year for which preliminary data are available.) Between 1978 and 2006, the total number of rail-related accidents and incidents has fallen from 90,653 to 12,940, an all-time low representing a decline of 86 percent. Between 1978 and 2006, total rail-related fatalities have declined from 1,646 to 913, a reduction of 44 percent. From 1978 to 2006, total employee cases (fatal and nonfatal) have dropped from 65,193 to 5,065, the record low; this represents a decline of 92 percent. In the same period, total employee deaths have fallen from 122 in 1978 to 16 in 2006, a decrease of 87 percent.

Contributing to this generally improving safety record has been a 74-percent decline in train accidents since 1978 (a total of 2,864 train accidents in 2006, compared to 10,991 in 1978), even though rail traffic has increased. (Total train-miles were up by 8.5 percent from 1978 to 2006.) In addition, the year 2006 saw only 28 train accidents out of the 2,834 reported in which a hazardous material was released, with a total of only 69 hazardous material cars releasing some amount of product, despite about 1.7 million movements of hazardous materials by rail.

In other words, over the last almost three decades, the number and rate of train accidents, total deaths arising from rail operations, employee fatalities and injuries, and hazardous materials releases all have fallen dramatically. In most categories, these improvements have been most rapid in the 1980s, and tapered off in the late 1990s. Causes of the improvements have included a much more profitable economic climate for freight railroads following deregulation in 1980 under the Staggers Act (which led to substantially greater investment in plant and equipment), enhanced safety awareness and safety program implementation on the part of railroads and their employees, and FRA's safety monitoring and standard setting (most of FRA's safety rules were issued during this period). In addition, rail remains an extremely safe mode of transportation for passengers. Since 1978, more than 11.2 billion passengers have traveled by rail, based on reports filed with FRA each month. The number of rail passengers has steadily increased over the years, and since 2000 has averaged more than 500 million per year. Although 12 passengers died in train collisions and derailments in 2005, none did in 2006. On a passenger-mile basis, with an average about 15.5 billion passenger-miles per year since the year 2000, rail travel is about as safe as scheduled airlines and intercity bus transportation and is far safer than private motor vehicle travel. Rail passenger accidents—while always to be avoided—have a very high passenger survival rate.

As indicated previously, not all of the major safety indicators are positive. Grade crossing and rail trespasser incidents continue to cause a large proportion of the deaths associated with railroading. Grade crossing and rail trespassing deaths accounted for 97 percent of the 913 total rail-related deaths in 2006. In recent years, rail trespasser deaths have replaced grade crossing fatalities as the largest category of rail-related deaths. In 2006, 525 persons died while on railroad property without authorization, and 365 persons lost their lives in grade crossing accidents. Further, significant train accidents continue to occur, and the train accident rate per million train-miles has not declined at an acceptable pace in recent years. It actually rose slightly in 2003 and 2004 (to 4.05 and 4.38, respectively) compared to that in 2002 (3.76), although it dropped in 2005 (to 4.1) and 2006 (to 3.54).

The causes of train accidents are generally grouped into five categories: human factors; track and structures; equipment; signal and train control; and miscellaneous. The great majority of train accidents are caused by human factors and track. In recent years, most of the serious events involving train collisions or derailments resulting in release of hazardous material, or harm to rail passengers, have resulted from human factor or track causes. Accordingly, the National Rail Safety Action Plan makes human factors and track the major target areas for improving the train accident rate.

APPENDIX B

SCIENTIFIC LEARNING DEMONSTRATING INADEQUACY OF HOURS OF SERVICE LAWS

The following four examples illustrate some of the ways in which the existing hours-of-service statutory regime fails to reflect the latest scholarship on the subject of fatigue.

First, current scientific information indicates that to feel well rested most people need approximately 8 hours of sleep per night. The current hours-of-service laws require a minimum off-duty period of only 10 hours if an employee in train and engine service has worked 12 consecutive hours in the previous 24-hour period. If an employee works 11 hours and 59 minutes or less, the laws require a minimum rest period of only 8 hours. Very few employees work 12 consecutive hours; therefore, most may legally be called back to duty with only 8 hours off-duty. During that off-duty time, the employee must travel to and from work and attend to personal needs such as bathing and eating. Crew-calling practices allow the employee to be called as little as 2 hours prior to the beginning of the next duty period. Given these circumstances, it is certain that the current law permits employees to work with less than 8 hours of sleep per night.

An FRA study of locomotive engineers' sleep and work patterns found that the average locomotive engineer obtained *7.13 hours* of sleep per night.[1] Another FRA study of train handling performance conducted on a highly realistic locomotive simulator by locomotive engineers working under schedules that conformed with the

[1] Pollard, J.K. 1996. Locomotive engineer's activity diary. Report Number DOT/FRA/RRP–96/02.

hours-of-service laws[2] found that engineers who worked 10 hours and had 12 hours off-duty, slept an average of *only 6.1 hours.* A similar group of engineers who also worked 10 hours, but had only 9.3 hours off-duty, slept an average of *only 4.6 hours.* Again, most people need about 8 hours of sleep per night; therefore, for most people, the amount of sleep these engineers received was insufficient even though their schedules fully conformed with the hours-of-service laws.

Second, scientific information also shows that the quantity and quality of sleep vary with the time of day. Most people sleep best at night; however, the current hours-of-service laws do not take the time of day when sleep can occur into account. Under those laws, engineers who quit work at dawn and have to sleep during the daytime, when it is harder to sleep, get the same minimum eight or 10 hours off as engineers who quit work in the evening and have the relative luxury of sleeping at night. The study by Pollard referenced earlier found that engineers, in fact, obtain the least sleep if their on-duty period ends between 5 a.m. and noon.

Third, most mammals, including human beings, have an approximately 24-hour sleep-wake cycle known as a "circadian rhythm." Rapid changes in the circadian pattern of sleep and wakefulness disrupt many physiological functions such as hormone releases, digestion, and temperature regulation. Human function can be affected, performance may be impaired, and a general feeling of debility may occur until realignment is achieved. The maximum work periods and minimum off-duty periods specified in the current hours-of-service laws force sleep-wake cycles into a less-than-24-hour pattern that is highly unnatural and very difficult to adapt to. Jet lag when flying east is the most commonly experienced syndrome similar to the experience of consistently working on a less-than-24-hour cycle.

Fourth, recent studies "suggest that sleep loss (less than 7 hours per night) may have wide-ranging effects on the cardiovascular, endocrine, immune, and nervous systems, including the following:

- Obesity in adults . . .
- Diabetes and impaired glucose tolerance
- Cardiovascular disease and hypertension
- Anxiety symptoms
- Depressed mood
- Alcohol use[.]"[3]

In other words, sleep loss, which the current hours-of-service regime permits railroad operating employees to suffer, contributes not only to the safety risk of fatigue, but also to a gamut of heath risks, including the risk of serious health problems such as diabetes, cardiovascular disease, and hypertension.

Senator LAUTENBERG. Thank you very much. Mr. Sumwalt?

STATEMENT OF HON. ROBERT L. SUMWALT, VICE CHAIRMAN, NATIONAL TRANSPORTATION SAFETY BOARD

Mr. SUMWALT. Good morning, Chairman Lautenberg, Ranking Member Smith, Members of the Subcommittee. Thank you for inviting the Safety Board to testify on rail safety issues that are being considered by Congress and for your continued interest in furthering the safety of our Nation's railways.

I'd like to begin with the long history of fatigue-caused railroad accidents and the frustration that we share with the FRA regarding its lack of legislative authority to address the root causes of fatigue. The first railroad accident attributed by the Board to fatigue was a collision between two freight trains at Wiggins, Colorado in 1984. Fatigue accidents have continued unabated such as the collision between trains at Anding, Mississippi in 2005 and Macdona, Texas in 2004.

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[2] Thomas, G.R., Raslear, T.G., and Kuehn, G.I. 1997. The effects of work schedule on train handling performance and sleep of locomotive engineers: A simulator study. Report Number DOT/FRA/ORD–97–09.

[3] Institute of Medicine of the National Academies. *Sleep Disorders and Sleep Deprivation: an Unmet Public Health Problem* (2006), p. 59.

In Anding, both crew members typically worked 6 days a week, 11 to 12 hours each day. They were working their sixth consecutive day when the accident occurred. In Macdona we found that the crew member's failure to obtain sufficient rest before reporting for duty and the railroad scheduling practices each contributed to the accidents.

Proposals being considered for legislation this year address specific elements of employee fatigue. However, we believe that a comprehensive fatigue management program is needed to consider scientifically based principles when assigning work schedules including: factors that influence acute and cumulative fatigue, the body's ability to adjust to rotating schedules and the responsibility of employees to get sufficient and timely sleep during off-duty periods. We believe the best means to achieve this result is through regulations promulgated by the FRA that can be modified as industry conditions evolve.

I'd like to talk briefly now about positive train control. Technological solutions such as PTC systems have great potential to prevent serious train accidents by providing safety redundant systems to override mistakes by human operators. As mentioned, positive train control has been on the Safety Board's most wanted list for 17 years.

In the past 10 years the Safety Board has investigated 52 rail accidents—52 rail accidents that likely would have been prevented through the implementation of positive train control systems. And although we are encouraged with the efforts of some railroads, we know that positive train control systems are needed across the entire country.

Next, are improperly positioned switches. One of the most serious train accidents occurred in dark territory in Graniteville, South Carolina in 2005. A train was diverted from the main track to an industry siding due to an improperly positioned switch where it struck a parked train.

Later that year a similar accident occurred in Shepherd, Texas, again, in dark territory. The Safety Board first addressed this issue in 1974 after an accident in Cotulla, Texas where we recommended that the FRA address safe train speeds in dark territory. That recommendation was later classified by the Safety Board as Closed Unacceptable Action.

We believe that automatically activated devices are needed to visually or electronically capture the attention of employees involved with switch operations in dark territory and to clearly convey the status of that switch. In absence of these automated systems trains should be operated at speeds that will allow them to be safely stopped in advance of misaligned switches. Additionally the most expedient and effective means to reduce public risk from highly poisonous gases in train accidents is through operational measures such as positioning the tank cars toward the rear of trains and reducing speeds through populated areas.

And finally a proposal for the Rail Passenger Disaster Family Assistance Act of 2007 which mirrors the Aviation Disaster Family Assistance Act of 1996. We believe that this legislation would be beneficial to the victims and their families following a rail disaster. However the Board has two concerns. The first is the clarification

of our responsibilities to victims in accidents where the Board is not launching an investigative team. And second, this legislation would present a significant demand on our already stretched resources.

Mr. Chairman, this completes my statement. I'll be happy to respond to questions at the appropriate time.

[The prepared statement of Mr. Sumwalt follows:]

PREPARED STATEMENT OF HON. ROBERT L. SUMWALT, VICE CHAIRMAN, NATIONAL TRANSPORTATION SAFETY BOARD

Good morning Chairman Lautenberg, Ranking Member Smith, and Members of the Subcommittee. My name is Robert Sumwalt, Vice Chairman of the National Transportation Safety Board. Chairman Lautenberg, I would like to take this opportunity to thank you, the Members of the Subcommittee, and staff for inviting the Safety Board to testify today on several rail safety issues that are being considered in proposed rail safety legislation and for your continued interest in furthering the safety of our Nation's railways.

The Safety Board is concerned about several rail safety issues that are being considered by this Subcommittee including train crew fatigue, the lack of positive train control systems to prevent train collisions, overspeed derailments, and improper switch positions in non-signaled (dark) territory.

Train Crew Fatigue

The Safety Board has investigated a decades-long history of fatigue-caused railroad accidents, and we have an equally long history of safety recommendations made to address the problem. We share the frustration with the Federal Railroad Administration (FRA) regarding its lack of legislative authority to address the root causes of fatigue through scientifically based principles of workload and fatigue management.

We have investigated more than a dozen railroad accidents in which we believe train crew fatigue played a contributing role. The earliest railroad accident investigation in which the Board attributed the probable cause to fatigue was a collision between two freight trains at Wiggins, Colorado, in 1984. About a week later, two more freight trains collided near Newcastle, Wyoming. Again, the Board found that the probable cause was the crew of the striking train falling asleep and failing to comply with restrictive signals.

Since 1984, fatigue-related train accidents have continued, such as the collisions between two freight trains at Anding, Mississippi, in 2005 and at Macdona, Texas, in 2004. In Anding, the northbound train crew failed to comply with wayside signals requiring them to stop and their train hit a southbound train head-on killing all four crewmembers. The Safety Board examined the work/rest cycles of the northbound train crews and found that both the engineer and conductor had worked about 11½ hours per night and had been sleeping about 5½ hours per night for the 3 days immediately before the accident. Both crewmembers typically worked 6 days a week, most often going on duty between 12 a.m. and 1 a.m., and were usually on duty for 11 to 12 hours. They were working their sixth consecutive day when the accident occurred in Anding. Getting a repeatedly insufficient amount of sleep on a regular basis can impair human performance and alertness, and the crewmembers' short sleep periods likely allowed them to develop a cumulative sleep loss or sleep debt.

In the Macdona accident investigation, the Safety Board found that both crewmembers did not obtain sufficient restorative rest before reporting for duty because of their ineffective use of off-duty time, and that the Union Pacific Railroad's train crew scheduling practices inverted the crewmembers' work/rest periods—both of which contributed to the accident. Work as a train crewmember entails an unpredictable job schedule that can make it difficult for employees to effectively balance their personal and work lives. We found that the unpredictability of Union Pacific train crewmembers' work schedules may have encouraged them to delay obtaining rest in the hope that they would not be called to work until later on the day of the accident.

Fatigue related accidents have occurred across all regions of the country. The Safety Board has investigated at least one fatigue-caused accident on nearly every major railroad. Moreover, no type of railroad operation is immune from the effects of fatigue. Although the majority of fatigue accidents that we have investigated involve freight operations, our investigation case files contain fatigue accidents involv-

ing long-distance passenger trains, commuter trains, light rail operations, and even subway trains.

The work schedules of rail crewmembers permit repetitive 12-hour days that lead to cumulative fatigue or sleep debt. When the workers' commute, limbo time and family/personal responsibilities are factored into their daily schedules, the conditions for exceedingly long days that lead to acute fatigue are evident. The relatively short mandatory periods of time off currently in place do not afford the opportunity for fully restorative sleep.

Just as our accident history has identified the problem of fatigue in railroad accidents, the Safety Board's recommendation history has identified actions that we think could address the problem. In the past two decades, the Safety Board has issued 34 recommendations concerning railroad employee fatigue. The FRA received 8, the others have gone to rail carriers and operating unions. The Board has recommended that the railroad companies reduce the irregularity and unpredictability of crewmember's work/rest schedules and provide education and counseling to help them avoid sleep deprivation. And, we have asked all rail carriers to develop policies that would allow an employee to report off-duty, without penalty, when they are impaired by lack of sleep.

The laws, rules, and regulations governing this aspect of transportation safety in the railroad industry fail to address the problem. The Railroad Hours of Service Act allows railroad operating employees to work 11 hours 59 minutes, and after only 8 hours off-duty return back to work. An employee who works the full 12 hours, just one more minute, would get 10 hours off-duty before being allowed to return to work. And, under the current law, these employees are permitted to repeat that arduous work-rest cycle an unlimited number of times. The Railroad Hours of Service Act does not take into account either rotating work schedules or the accumulated hours spent working in limbo time, which can be substantial—adding additional hours to the workday. The Railroad Hours of Service Act also does not take into account the significant effects of the human circadian rhythm upon a crewmember's level of alertness.

The Macdona accident again prompted the Safety Board to issue new recommendations to FRA: R–06–14 to require railroads to use scientifically based principles when assigning work schedules, and R–06–15 to establish requirements that limit train crewmembers limbo time.

FRA's October 24, 2006, response to the Board on these recent recommendations again stated that FRA lacks rulemaking authority over duty hours. This precludes the FRA from making use of almost a century of rigorous scientific research on the issue of sleep-wake cycles and fatigue-induced performance failures to try to reduce fatigue-related accidents. The FRA response letter further stated "the FRA supports efforts to address the fatigue experienced by railroad operating employees, and acknowledges that the existing hours-of-service is not designed to address the causes of fatigue." The FRA has subsequently sought legislative authority to enact hours-of-service regulations.

The Board strongly believes that the FRA needs authority to regulate crewmember work scheduling practices and work limits, and the Safety Board supports statutory change that would provide the FRA that authority.

Proposals being considered for rail safety legislation this year include elements that address certain aspects of employee fatigue: at least 10 hours of undisturbed off-duty time with no contact during the period; at least 24 consecutive hours of rest in a 7-day consecutive work period; at least 48 hours off-duty after 7 consecutive 8-hour workdays; and eliminating limbo time or requiring an additional 4 hours of undisturbed off-duty time when limbo time exceeds an hour. The Safety Board believes that a comprehensive fatigue management program is needed that considers scientifically based principles when assigning work schedules, including factors that influence acute and cumulative fatigue, the body's ability to adjust to rotating schedules, and the responsibility of employees to get sufficient and timely sleep during off-duty periods. Although some of these elements may have a positive effect on improving training crews' adequate rest, without a comprehensive program, the Safety Board does not believe that train crew fatigue will be adequately addressed. We further believe that the best means to achieve this result is through regulations promulgated by the FRA that can be modified as industry conditions evolve.

Positive Train Control

Technological solutions, such as positive train control systems, have great potential to reduce the number of serious train accidents by providing safety redundant systems to protect against human performance failures. As a consequence, positive train control has been on the Safety Board's list of Most Wanted Safety Improvements for 17 years.

In the past 10 years, the Safety Board has investigated 52 rail accidents, including 4 transit accidents, where the installation of a positive train control system would likely have prevented the accident. These include 5 accidents in 2005: Graniteville, South Carolina; Anding, Mississippi; Shepherd, Texas; Chicago, Illinois; and Texarkana, Arkansas.

The objective of positive train control is to prevent train collisions and over-speed accidents by requiring automatic control systems to override mistakes by human operators. This issue was highlighted in 2002 when a freight train and a commuter train collided head-on in Placentia, California, a high-speed corridor where commuter and intercity passenger trains operate. As a result of the Placentia accident, the Safety Board reiterated Safety Recommendation R–01–6 to the FRA to facilitate actions necessary for development and implementation of positive train control systems that include collision avoidance, and require implementation of positive train control systems on main line tracks, establishing priority requirements for high-risk corridors such as those where commuter and intercity passenger railroads operate. The FRA published a final rule in the *Federal Register* titled "Standards for Development and Use of Processor-Based Signal and Train Control Systems," which became effective on June 6, 2005. As a result of FRA's responsiveness, Safety Recommendation R–01–6 is classified "Open—Acceptable Response."

We are pleased to note that today, several railroads are moving to develop positive train control systems. For example, in January of this year, the FRA approved a BNSF Railway project for its Electronic Train Management System (ETMS), an overlay technology that augments an existing train control method. The ETMS system includes an in-cab electronic display screen that will first warn of a problem and then automatically engage the train's braking system if the locomotive engineer fails to act appropriately. The FRA action allows BNSF to implement ETMS on 35 specific freight lines in 17 states.

The Union Pacific Railroad (UP) is working on a communication-based train control system pilot project that will enforce stop signals, dark territory authority limits, and speed restrictions. Field tests are scheduled to be conducted on two test beds and will cover about 333 miles of track. UP began installing test equipment on locomotives in September 2006.

Although we are encouraged with progress underway by some railroads, we note that positive train control systems are needed on railroad systems across the entire United States. The Safety Board believes that positive train control systems should be required.

Improperly Positioned Switches

One of the most serious hazardous materials train accidents in recent years occurred in Graniteville, South Carolina, on January 6, 2005, after a Norfolk Southern Railway Company freight train, while traveling 47 mph, encountered an improperly positioned switch that diverted the train from the main line onto an industry track, where it struck an unoccupied parked train. The track through Graniteville was non-signaled (dark) territory. Nine people died as a result of chlorine gas inhalation after a tank car was punctured during the accident.

The investigation found that the improperly lined switch had most recently been used by the crew of a local train about 8 hours before the accident. The crew had lined the switch for an industry track in order to place two cars at a local plant and then park their train. No crewmember remembered relining the switch for the main line before they boarded a taxi and returned to the terminal. The Safety Board concluded that the local train crew failed to reline the main line switch for one or more of the following reasons: (1) the task of relining the switch was functionally isolated from other tasks the crew was performing, (2) the crewmembers were rushing to complete their work and secure their train before reaching their hours-of-service limits, (3) the crew had achieved their main objective of switching cars and were focused on the next task of securing their equipment and going off-duty, and (4) the switch was not visible to the crew as they worked, leaving them without a visual reminder to reline the switch.

On September 15, 2005, a UP train entered a siding in Shepherd, Texas, at approximately 37 mph and struck a parked train, killing one crewmember. There were no wayside signals to govern the train movements or protect the train from an interruption in the continuity of the track, such as an open switch. Consequently, strict compliance with the operating rules was necessary to protect one train from another. The probable cause of this accident was the failure of a previous crew to return a main track switch to the normal position after they had secured the train on the siding and departed the area.

The Safety Board was concerned as early as 1974 about the issue of train speeds in areas not under a form of centralized traffic control. As a result of its investiga-

tion of an accident in Cotulla, Texas, involving a misaligned switch in non-signaled territory, the Board recommended that the FRA determine and assess the current risks of train accidents involving misaligned switches, collisions, broken rail, and other route obstructions on main track where automatic block signal systems do not exist, and to promulgate regulations that detail the major risks and controls assumed, set guidelines for safe operations below the maximum operating speed, and assign responsibility to the carrier for safe operations. Because the FRA's actions did not satisfy the Safety Board's intent that new regulations specify circumstances that were required when trains operated below the allowable maximum speed, Safety Recommendation R–74–26 was classified "Closed—Unacceptable Action."

Measures beyond additional operating rules, forms, or penalties are needed to ensure that accidents, such as the one in Graniteville, South Carolina, do not recur. On December 12, 2005, the Safety Board issued Safety Recommendation R–05–14 to the FRA to require that, along main lines in non-signaled territory, railroads install an automatically activated device, independent of the switch banner, that will, visually or electronically, compellingly capture the attention of employees involved with switch operations and clearly convey the status of the switch both in day and in darkness. In a letter dated June 30, 2006, the FRA acknowledged that additional actions are needed to protect the safety of trains in dark territory and that over time, positive train control will serve this function. However, it noted concern that any system that requires power at the switch location will involve significant costs simply because of the number of switches involved. The letter advises that the FRA has initiated a project to evaluate a system that it believes will be able to detect and report switch point gapping for switches on main line tracks located within dark territories as an alternate action.

The Safety Board also recommended that the FRA require railroads, in non-signaled territory and in the absence of switch position indicator lights or other automated systems that provide train crews with advance notice of switch positions, to operate those trains at speeds that will allow them to be safely stopped in advance of misaligned switches (R–05–15). In its June 30, 2006, letter, the FRA states that it does not believe the recommendation is feasible for operational and economic reasons and may also increase the risk of derailments. The FRA hastened to add that there are undoubtedly certain situations where requiring trains to approach switches prepared to stop would be practical and an appropriate safety response and that railroads should consider this option as they conduct risk assessments of their hazardous materials routes. However, the FRA states that it is not aware of any means to describe how this strategy could be applied in a safe and cost-effective manner. The FRA requested that the Safety Board classify the safety recommendation as "Closed—Reconsidered."

Finally, the Safety Board believes that modeling accident forces and applying fracture toughness standards, as recommended in the Minot, North Dakota, accident report, will improve the crashworthiness of tank cars transporting hazardous materials. However, because of the time it will take to design and construct improved tank cars, the Board believes that the most expedient and effective means to reduce the public risk from the release of highly poisonous gases in train accidents is for railroads to implement operational measures that will minimize the vulnerability of tank cars transporting these products. For example, in Graniteville, the chlorine tank car that was punctured was in the ninth position of 42 freight cars in the train; the front 16 freight cars derailed. In Macdona, the punctured chlorine tank car was in the 16th position of 74 freight cars in the train; the front 19 cars in this train derailed. Following the Graniteville accident, the Board recommended that the FRA require railroads to implement operating measures, such as positioning tank cars toward the rear of trains and reducing speeds through populated areas to minimize impact forces from accidents and reduce the vulnerability of tank cars transporting chlorine, anhydrous ammonia, and other liquefied gases designated as poisonous by inhalation (R–05–16). In its response of October 24, 2006, the FRA stated that it believes that placing toxic inhalation hazard cars at the rear of a train would do little to protect them from damage and that slowing trains could have a negative impact on operations. However it would continue to examine the issue.

Other Safety Issues

The Safety Board also recognizes that proposed rail safety legislation addresses several safety provisions previously addressed in safety recommendations issued by the Board. These issues include requirements for toll-free numbers at grade crossings so that malfunctions of signals, crossing gates, or disabled vehicles can be reported; a requirement that rail, used to replace defective rail, be inspected by ultrasonic or other appropriate inspection to ensure that the replacement rail is free of internal defects; to develop and implement safety regulations for all classes of track

for concrete ties; and to provide emergency escape breathing apparatus for all crewmembers on freight trains carrying hazardous materials that would pose an inhalation hazard in the event of an unintentional release.

Rail Passenger Disaster Family Assistance

Finally, a proposal for Rail Passenger Disaster Family Assistance mirrors the Aviation Disaster Family Assistance Act of 1996, which makes the Board responsible for coordinating assistance to families after major aviation accidents. The Aviation Disaster Family Assistance Act has been tremendously successful—the "gold standard" in family assistance. This has been because of the Board's commitment to assisting victims and their family members, the significant cooperation and support of the aviation industry, and support of all of our Federal partners and the nonprofit community. We believe this proposed legislation would be beneficial to victims and their families, providing the needed coordination and support following a rail disaster.

However, the Board has two concerns regarding this proposed legislation. The first is clarification of the Board's responsibilities to victims in accidents where the Board is not launching an investigative team. If we are required to provide information about the accident investigation we have to be in a position to have timely access to that information. Second, this legislation would present a significant demand for additional resources. This would include staff to assist rail carriers in their preparedness efforts and to handle the accident launch responsibilities. Currently the Office of Transportation Disaster Assistance has a staff of four. A major aviation accident is challenging for such a small team. With the addition of rail responsibilities and the possibility of a rail accident and aviation accident occurring simultaneously, it would be necessary to have additional staff to handle all of the demands.

Mr. Chairman, that completes my statement, and I will be happy to respond to questions at the appropriate time.

Senator LAUTENBERG. Thank you very much. I just want to say to the witnesses that any—a full statement that you may have, it will be entered—accepted into the record. And so that the summary that you have been kind of rushing through is very helpful and a—but we look forward to see—reading your full testimony. Thank you.

Mr. Hyde?

STATEMENT OF KURT W. HYDE, ASSISTANT INSPECTOR GENERAL, SURFACE AND MARITIME PROGRAMS, U.S. DEPARTMENT OF TRANSPORTATION

Mr. HYDE. Chairman Lautenberg, Ranking Member Smith and Senator Klobuchar, thank you for the opportunity to testify today on the reauthorization of the Federal Railroad Safety Program.

This month we issued our fourth report on grade crossing safety. We found that FRA can do more to improve grade crossing safety by ensuring compliance with its mandatory reporting requirement for crossing collisions. Additional effort is also needed to address sight obstructions that block the driver's view of railroad tracks and approaching trains.

My testimony today is based on our body of work on grade crossing safety. We have identified five actions that railroads and FRA can take to reduce grade crossing collisions and fatalities. These are areas that you may wish to consider in your reauthorization of this safety program.

First, compliance with reporting requirements. Railroads are charged with two distinct reporting requirements when a grade crossing collision occurs: first, an immediate call—within 2 hours—to the National Response Center for all serious collisions to determine whether a Federal investigation at the accident scene is needed. Second, within 30 days of the end of the month in which the

collision occurred, the railroad must report every grade crossing collision to FRA. Timely and accurate reporting of collisions is essential to identifying dangerous crossings and emerging accident trends. More can be done to ensure compliance with both of these reporting requirements.

In November 2005, we reported that railroads had failed to notify NRC immediately in 21 percent of serious collisions; most of these involved fatalities or multiple injuries. The report we just issued also cited concerns with another requirement, noting that railroads failed to report 139 collisions timely, with some the sum being nearly 3 years late. Because FRA did not routinely review collision records maintained by the railroads it does not know whether some 15,000 collisions reported by the railroads between 2001 and 2005 include all collisions that occurred.

FRA has begun reviewing collision records maintained by the railroads. These reviews are intended to determine whether grade crossing collisions are being properly reported. The Subcommittee may wish to require that FRA periodically report the results of these reviews.

Two, increasing FRA involvement in collision investigations. FRA's 385 inspectors cannot physically examine every grade crossing collision; instead, the agency relies on railroad self reporting. To better evaluate the causes of collisions and railroad compliance with safety regulations, we recommended that FRA broaden its review of railroad reported information. FRA has just completed a one-year pilot program to collect and analyze independent information. FRA should report the results of the study as soon as possible.

Three, addressing sight obstructions. It's hard to steer clear of a train you can't see, especially at the 76,000 public crossings that do not have automatic warning lights or gates. Obstructions such as overgrown vegetation, as illustrated in my written statement, can significantly reduce visibility. For example, between 2001 and 2005, obstructions were present in 689 collisions in which a total of 87 people died and 242 were injured.

As of this past March, only 13 states had laws regulating all types of sight obstructions, and these vary widely. FRA should work with the Federal Highway Administration to develop model legislation for states in this area.

Four, establishing inventory reporting requirements. FRA's National Grade Crossing Inventory System contains data on crossings and the types of warning devices installed. The accuracy and completeness of this inventory are essential because states rely on it to prioritize safety improvements.

Voluntary reporting by railroads and states has not been successful: we found that 36 percent of public crossing records have not been updated since 2000. We believe that mandatory reporting should be required of railroads and states.

And my final point is requiring action plans for the most dangerous crossings. We have recommended that FRA identify states having the most dangerous crossings—those with the most accidents year after year—and develop with those states, action plans identifying specific solutions for improvement.

In March 2006, FRA completed its first such action plan with Louisiana. Officials acted to improve safety at 73 percent of the

crossings with more than one collision. FRA is now working with Texas in a similar effort. And the Subcommittee may wish to require action in other states with high numbers of grade crossing collisions.

Mr. Chairman, we will work with the FRA as it focuses on these areas to make railroad crossings even safer. This completes my prepared statement and I would be happy to respond to any questions from you or other members of the Subcommittee.

[The prepared statement of Mr. Hyde follows:]

PREPARED STATEMENT OF KURT W. HYDE, ASSISTANT INSPECTOR GENERAL, SURFACE AND MARITIME PROGRAMS, U.S. DEPARTMENT OF TRANSPORTATION

Chairman Lautenberg, Ranking Member Smith, and members of the Subcommittee:

We appreciate the opportunity to testify today on the reauthorization of the Federal Railroad Safety Program. We commend this Subcommittee for its work as you consider legislation to further improve railroad safety. Improvements in safety are important because railroads transport people and freight over 790 million train miles annually—by way of 173,000 miles of track—and affect the lives of millions of Americans. Railroads employ about 232,000 workers and transport about 42 percent of the Nation's freight. This industry will grow substantially in the future. The Department estimates that, between 1998 and 2020, the amount of freight transported by rail will increase by about 50 percent.

As we reported in our Fiscal Year 2007 Top Management Challenges issued to the Department, the Federal Railroad Administration (FRA) must continue implementing its safety initiatives since train accidents are on the rise overall. As the FRA Administrator noted in a Congressional hearing on May 8 of this year, the rail industry's safety record has improved, but a significant number of train accidents continue to occur and the train accident rate has not shown substantive improvement in recent years.

Chairman Lautenberg, our testimony today will draw from the body of work we conducted over the last several years on grade crossing safety. At the request of Senator Daniel K. Inouye, Representative James L. Oberstar, and Representative Corrine Brown, we conducted our most recent audit in response to Congressional concerns about safety on the Nation's nearly 240,000 grade crossings. On May 3, 2007, we issued an audit report that recommends steps FRA can take to better ensure compliance with mandatory reporting requirements and to address sight obstructions at grade crossings.[1] Our work on grade crossing safety also includes audit reports in 2005, 2004, and 1999 and testimony at several Congressional hearings. Taken together, our reports and testimonies represent a comprehensive assessment of grade crossing safety issues and resulted in recommendations for further enhancements to rail safety. FRA has responded positively to the recommendations in our reports on grade crossing safety. See Attachment 1 for a list of our grade crossing safety reports and testimonies.

FRA has also taken several actions to improve rail safety overall. For example, in February 2005, we recommended that FRA submit to the Secretary a comprehensive plan for implementing a fully functioning program that makes meaningful use of analysis of available safety, inspection, and enforcement data.[2] To this end, FRA instituted the National Inspection Plan, an inspection and allocation program that uses predictive indicators to assist FRA in allocating inspection and enforcement activities within a given region by railroad and by state. This is a step in the right direction, but since the plan was implemented only in March 2006, it is too soon to tell exactly how effective these measures will be in the long term.

In May 2005, then Secretary Norman Mineta announced the National Rail Safety Action Plan. This plan outlined FRA's strategy for focusing oversight and inspection resources on areas of greatest concern, targeting the most frequent and highest risk causes of train accidents, and accelerating research with the best potential to miti-

[1] OIG Report No. MH–2007–044, "The Federal Railroad Administration Can Improve Highway-Rail Grade Crossing Safety By Ensuring Compliance With Accident Reporting Requirements and Addressing Sight Obstructions," May 3, 2007. OIG reports can be accessed on our website at *www.oig.dot.gov*.

[2] Memorandum to the Acting Federal Railroad Administrator, "Safety-Related Findings and Recommendations," February 16, 2005.

gate such risks. In addition to the actions in the plan, FRA reports that its inspectors conduct thousands of inspections each year and engage in a range of educational outreach activities on railroad safety issues.

Despite FRA's efforts and recent improvements in the safety record of the rail industry, serious train accidents continue to occur. The collision rate in recent years has not slowed markedly. Train accidents increased by 31 percent overall between 1995 and 2005. Further, while the industry's record for transporting hazardous materials has been good, nearly 1.7 million carloads of hazardous materials[3] are transported by rail in the United States each year. The catastrophic consequences that can arise due to the release of hazardous materials from rail cars are a significant threat to safety. From 2003 through 2006, the railroads reported 145 rail incidents that involved hazardous materials, resulting in 19 fatalities and 423 injuries. These incidents resulted in the evacuation of 17,384 people from their homes and businesses, caused at least $17 million in track damages, and resulted in about $71 million in equipment damages.

Grade crossing safety is central to rail safety; that is, enhancements to this one vulnerable area can have a tremendous, positive impact on overall rail safety. The second highest percentage of rail-related *fatalities*—42 percent from 1995 through 2005—is due to collisions at grade crossings.[4] During this 10-year period, collisions and fatalities at grade crossings were significantly reduced, by 34 percent and 38 percent, respectively. Most recently, however, these numbers have increased. From 2003 to 2005, collisions rose by 2 percent and the number of fatalities jumped by 7 percent.

Today, I would like to discuss five actions that railroads and FRA can take to reduce grade crossing collisions and fatalities. These are areas on which you may wish to focus as you evaluate current legislative proposals.

1. Ensuring Compliance With Mandatory Reporting Requirements

Railroads are charged with two distinct reporting requirements when a grade crossing collision occurs. First, an immediate call to the National Response Center (NRC)[5] is required for all serious[6] grade crossing collisions. (The National Transportation Safety Board defines "immediate" as within 2 hours.) This call helps FRA determine whether a Federal investigation is needed at the accident scene. Second, within 30 days of the end of the month in which collisions occurred, the railroad is required to report *every* grade crossing collision to FRA—not just the collisions that are deemed "serious." More can be done to ensure compliance with both of these reporting requirements.

Between May 1, 2003 and December 31, 2004, railroads failed to notify NRC immediately in 115 of 543 reportable grade crossing collisions (21 percent) as required; most of these involved fatalities or multiple injuries. Although these unreported crossing collisions, which resulted in a total of 116 deaths, were reported to FRA within 30 to 60 days after the collisions, that was too late to allow Federal authorities to promptly decide whether or not to conduct an investigation. In March 2005, FRA officials began issuing violations to railroads that failed to follow FRA's criteria for reporting grade crossing collisions to NRC. This enforcement effort needs to be sustained to ensure that railroads properly report all grade crossing collisions involving a fatality, serious injury, or substantial property damage.

As stated in the report we issued on May 3, 2007, 12 railroads failed to report 139 collisions to FRA as required within 30 days after the end of the month in which the collision occurred—with some being reported nearly 3 years late. These collisions, which occurred between 1999 and 2004, resulted in 2 fatalities and 20 injuries, as ultimately reported by the railroads. While these numbers may not seem large, it is unknown how many additional unreported collisions exist. Because FRA did not routinely review grade crossing collision records maintained by the railroads to ensure compliance with these requirements, it does not know whether the 15,416 grade crossing collisions reported by railroads between 2001 and 2005 included all collisions that occurred during those years.

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[3] The Department of Transportation has classified about 3,500 materials as hazardous, ranging from mild irritants to those that are poisonous and radioactive.

[4] Trespassing fatalities was the leading category of rail-related fatalities for that period and accounted for 52 percent. Our 1999 report discusses the challenge of reducing trespassing fatalities.

[5] Part of the Department of Homeland Security, NRC is the Federal Government's 24-hour point of contact for environmental discharges. In addition, through agreements, NRC notifies FRA and other Federal agencies of train accidents and grade crossing collisions.

[6] FRA's criteria for immediately reporting grade crossing collisions to NRC—"serious" collisions—include those with one fatality or five injuries, as well as other criteria.

Accurate, timely, and complete reporting of grade crossing collisions serves the important purpose of identifying safety problems so appropriate corrective actions can be taken. Further, by ensuring that every grade crossing collision is reported on time, FRA and states will have access to critical data for identifying dangerous grade crossings and emerging accident trends. Complete information on grade crossing collisions is also essential for state transportation officials who must decide where to spend Federal funds set aside annually for crossing safety improvements. Under the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA–LU) for Fiscal Years 2005 through 2009, states can spend $220 million each year for grade crossing safety improvements, such as automatic gates, flashing lights, and hazard elimination projects.[7]

When previously unreported grade crossing collisions are reported to FRA, states have better information to use in making decisions. For example, after written reports for five unreported grade crossing collisions in Iowa were submitted to FRA, the Iowa Department of Transportation used the information provided by the railroads as the basis for allocating funds for safety improvements at two grade crossings. If those unreported collisions had not been identified, it is likely that safety improvements would not have been made to these two dangerous crossings.

In our recent report, we recommended that FRA strengthen safety oversight by ensuring that the railroads comply with mandatory requirements to report each grade crossing collision to FRA's accident reporting system by:

a. Developing and implementing an action plan for conducting periodic reviews of the grade crossing collision records maintained by each railroad, including promptly notifying the responsible railroads when unreported collisions are identified.

b. Testing random samples of the railroads' grade crossing collision reports to determine whether the information is accurate, timely, and complete, including comparing such reports to those generated by local law enforcement agencies.

c. Issuing a violation and assessing a civil penalty *each* time a railroad fails to submit a grade crossing collision report in accordance with Federal requirements, on a consistent basis. Moreover, FRA should assess higher civil penalties against each railroad that repeatedly fails to report crossing collisions.

In response to our report, FRA stated that it had begun to implement an action plan for conducting cyclical reviews of highway-rail grade crossing accident reporting by the major railroads. These reviews are intended to determine whether grade crossing collisions are being properly reported. FRA also agreed to make obligatory the submission of violation reports for each detected violation that is a clear-cut failure to report.[8] It will be important for FRA to follow through on its commitments, as planned. You may want to consider directing FRA to report annually on its cyclical reviews, including the number of reviews planned, the number completed, and the overall results of the reviews.

2. Increasing FRA's Involvement in Grade Crossing Collision Investigations

With a current inspector workforce of 385, FRA has limited capability to investigate approximately 3,000 grade crossing collisions that occur each year. Instead, it places heavy reliance on railroad self-reporting. As we recommended in our November 2005 audit report, FRA needs to broaden its review of such reports with independent information. FRA uses accident reports received from the railroads to evaluate the circumstances, probable causes, and responsible parties for most grade crossing collisions. A variety of sources, such as police reports, event recorder data, and eyewitness accounts, could be used to provide additional insight. This should help boost public confidence in that accident data are being obtained from sources other than just the railroad(s) involved.

FRA increased the number of grade crossing collision investigations during the last 2 years. However, FRA still investigates less than 1 percent of all grade crossing collisions, a fact that highlights the need for independent verification of railroad-supplied information. The need for this increased involvement is shown by the fact that, on average, one person dies and three people are injured in the United States every day in grade crossing collisions.

To better evaluate the causes of collisions and railroads' compliance with Federal safety regulations, we recommended that FRA use a pilot program to collect and

[7] Hazard elimination projects include crossing closures and grade separations (separating railroad tracks from roadways).

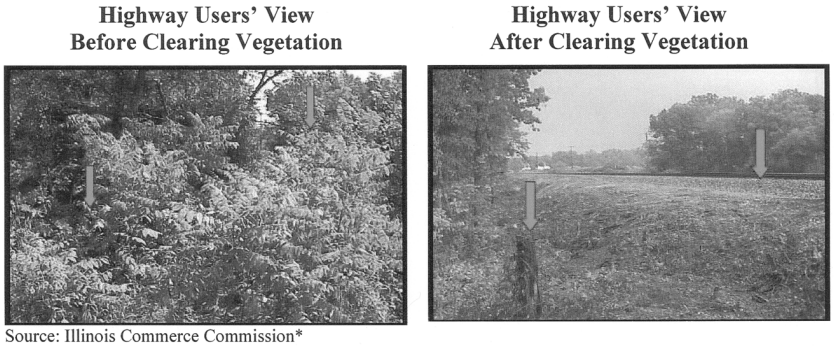
[8] A clear-cut failure to report is defined by FRA as one that does not involve any question with regard to interpretation of the regulation or sufficiency of the facts constituting the alleged failure.

analyze independent information on crossing collisions from railroads and local or state law enforcement agencies. FRA concurred with our 2005 recommendation and implemented a 1-year pilot study comprising one state from each of its eight regions. The objective of this study was to assess the benefits and costs of analyzing information from independent sources on crossing collisions, such as police reports and locomotive event recorder data, to resolve conflicts. While the pilot study was scheduled for completion last month, FRA has yet to issue the results. FRA should report the results of the study as soon as possible and provide a copy of its report to this Subcommittee.

3. Addressing Sight Obstructions at Grade Crossings Without Automated Warning Devices

Active warning devices—such as automatic gates and flashing lights—call attention to approaching trains at some grade crossings. However, 76,000 public grade crossings are equipped only with passive warnings, such as crossbucks, stop signs, and pavement markings that advise motorists of the presence of the crossing, but don't warn them when a train is approaching. For these passive grade crossings, greater attention is needed to ensure that motorists have a full view of approaching trains so that they can determine when it is safe to cross. Sight obstructions such as overgrown vegetation contribute to grade crossing collisions. As illustrated in Figure 1, vegetation growth at grade crossings can significantly reduce a motorist's ability to see the track and approaching trains. From 2001 through 2005, railroads submitted 689 collision reports to FRA that documented such obstructions—242 people were injured in these collisions and 87 died.

Figure 1. Photographs of Highway Users' Line of Sight at a Grade Crossing Before and After Vegetation Was Cleared



Source: Illinois Commerce Commission*

*The State of Illinois requires every rail carrier to remove all brush, shrubbery, and trees from its right-of-way for a distance of at least 500 feet in either direction of a grade crossing.

Currently, FRA regulations only require the railroads to address vegetation growth at public crossings and only to the extent that the vegetation reduces the visibility of road signs and signals. FRA regulations do not address other types of sight obstructions, such as permanent structures, standing railroad equipment, and topography. As of March of this year, only 13 states had laws or regulations addressing all types of sight obstructions. These laws vary widely, with mandated sight distances ranging from 40 feet along the railroad property line to as much as 1,500 feet in both directions along the railroad right-of-way.

For the 37 states that lack laws or regulations for addressing sight obstructions at grade crossings that are not protected with automated warning devices, more needs to be done. Immediate safety benefits could be achieved if laws were established to address all types of sight obstructions, such as structures that block highway users' views of approaching trains and overgrown vegetation.

FRA agreed to play a constructive role as part of the larger intermodal and intergovernmental grade crossing team in response to our recommendation to develop model legislation. Such legislation is needed for states to improve safety by addressing sight obstructions at grade crossings that are equipped solely with signs, pavement markings, and other passive warnings. However, in responding to our recommendation, FRA also stated that it ". . . does not have general authority or responsibility for grade crossing safety." The Subcommittee should consider whether it wishes to strengthen FRA's role with respect to grade crossing safety.

4. Establishing Reporting Requirements for FRA's National Grade Crossing Inventory System

The accuracy and completeness of FRA's national grade crossing inventory data, particularly the identification of all public grade crossings and the types of warning devices in place, can be improved through the establishment of mandatory reporting requirements for railroads and states. This action is needed to better monitor and improve high-risk crossings. In our June 2004 report on the Highway-Rail Grade Crossing Safety Program, we recommended that FRA establish mandatory reporting requirements through rulemaking or legislation to improve the accuracy and completeness of its national grade crossing inventory data. These data are used by state officials to develop priority lists of public crossings that need safety improvements because they have a high probability of collisions. However, mandatory reporting requirements have not been established. Our analysis of FRA's national grade crossing inventory system found that 36 percent of public grade crossing records have not been updated since 2000.

Mandatory reporting is even more important under SAFETEA–LU, which changed the apportionment procedures. SAFETEA–LU requires that 50 percent of the $220 million authorized be apportioned to the states for grade crossing safety improvements based on a ratio of the number of public grade crossings in a state to the number of public crossings nationwide. Our 2004 audit report stated that targeting safety strategies on state and public grade crossings that continue to have the most collisions is key to further reducing collisions and fatalities.

Voluntary reporting of grade crossing inventory information has not been successful. To ensure that accurate and complete inventory data are available for use in making decisions about grade crossing safety improvements, the Subcommittee may wish to consider directing FRA and the Federal Highway Administration to establish and enforce mandatory reporting requirements for railroads and states.

5. Requiring States With the Most Dangerous Grade Crossings To Develop Action Plans

In our June 2004 report, we recommended that FRA identify states having the most grade crossing accidents year after year—particularly at crossings that have experienced multiple accidents—and develop, with these states, an action plan identifying specific solutions for improvement. Attachment 2 to our testimony today is a map of the United States showing the number of collisions and fatalities at grade crossings, by state, in 2005.

In March 2006, FRA completed the first plan to improve dangerous grade crossings in Louisiana. The railroads operate in 57 of Louisiana's 64 parishes on 3,000 rail miles and motorists drive over more than 6,000 public and private crossings. As part of Louisiana's action plan, FRA's grade crossing data were analyzed to identify public crossings with multiple collisions from 1999 through 2004. The resulting action plan focused chiefly on crossings located near the intersection of two roadways. This focus was supported by data showing that 97 percent of the collisions at multi-collision crossings occurred near highway intersections. For 130 of the 177 crossings with multiple collisions, Louisiana transportation officials took actions to ensure that flashing lights, gates, or crossing closures were installed.

FRA's efforts in Louisiana and its similar ongoing work with Texas are steps in the right direction. Continued action is warranted to identify and address the most dangerous grade crossings in the states with the most grade crossing collisions. Congress may want to consider requiring FRA to increase this level of effort by conducting similar projects in other states with high numbers of grade crossing collisions.

Chairman Lautenberg, this concludes my statement. I would be pleased to respond to any questions that you or other members of the Subcommittee may have at this time.

Attachment 1. Office of Inspector General Grade Crossing Safety Work Products

1. OIG Testimony, CC–2007–052, "Opportunities to Further Improve Railroad Safety," May 8, 2007.

2. OIG Report No. MH–2007–044, "The Federal Railroad Administration Can Improve Highway-Rail Grade Crossing Safety By Ensuring Compliance With Accident Reporting Requirements and Addressing Sight Obstructions," May 3, 2007.

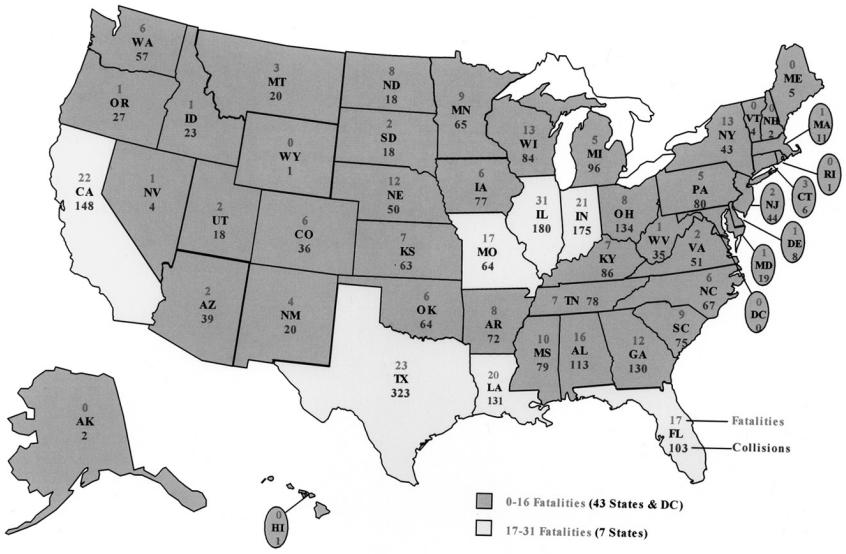
3. OIG Testimony, CC–2007–018, "Reauthorization of the Federal Railroad Safety Program," January 30, 2007.

4. OIG Report No. MH–2006–016, "Audit of Oversight of Highway-Rail Grade Crossing Accident Reporting, Investigations, and Safety Regulations," November 28, 2005.

5. OIG Testimony, CC–2005–060, "Highway-Railroad Grade Crossing Safety Issues," July 21, 2005.
6. OIG Memorandum "Safety-Related Findings and Recommendations," February 16, 2005.
7. OIG Report No. MH–2004–065, "Highway-Rail Grade Crossing Safety Program," June 16, 2004.
8. OIG Report No. RT–1999–140, "Rail-Highway Grade Crossing Safety," September 30, 1999.

OIG reports and testimony statements can be accessed on the OIG website at *www.oig.dot.gov*.

Attachment 2. U.S. Map of the Number of Reported Collisions and Fatalities at Grade Crossings, by State, in 2005



Source: OIG analysis of FRA data

Senator LAUTENBERG. Thank you very much. Ms. Siggerud, we welcome you.

STATEMENT OF KATHERINE SIGGERUD, DIRECTOR, PHYSICAL INFRASTRUCTURE ISSUES, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Ms. SIGGERUD. Chairman Lautenberg, Ranking Member Smith and Senator Klobuchar, thank you for inviting GAO to participate in this hearing today on rail safety reauthorization.

In recent years a number of serious accidents raised concern about the levels of safety in the railroad industry. In contrast to previous decades, during the past 10 years we have not seen sustained progress on the rate of train accidents. While we found that FRA has recently undertaken or planned several actions that look promising I would emphasize that it continues to be important to make progress on railroad safety trends.

My statement today is based on a report we issued in January that provides an overview of FRA safety programs. Our report covered three topics. First, how FRA focuses its efforts on the highest

priority risks in planning its safety oversight. Second, how FRA identifies safety problems on railroad systems when carrying out oversight. And finally, how the FRA assesses the impact of its oversight efforts on safety.

With regard to focusing in on the highest priority risks, FRA has undertaken or planned initiatives that are aimed at addressing the main causes of accidents. The agency's overall strategy for targeting its oversight is the National Oversight Action Plan which FRA issued in 2005. In our review this plan includes elements of a reasonable framework for guiding the agency's efforts.

In 2006, 71 percent of all train accidents were attributable to either human factors or track defects and FRA has initiatives to address both of these causes. These include new regulations on human factor errors, such as improperly positioned switches and new fatigue models which can be used on railroads. But FRA cannot regulate hours-of-service and it must rely on voluntary actions by railroads to address fatigue. For track, FRA acquired two additional track inspection vehicles that can precisely measure track and also develop new regulations.

However most of these initiatives have not yet been fully implemented. And their impact on safety will not be apparent for a number of years. Furthermore several of these efforts depend on voluntary actions by railroads.

In addition FRA has also initiated a new approach for planning inspections that uses trend analyses of accidents, inspection and other data in order to focus inspectors' efforts on locations that are likely to have safety problems. This approach allows FRA to better target the greatest safety risks, and make more effective use of its inspectors. However, it is not yet clear whether the new approach will lead to prioritization of inspections across the Nation or ultimately to improve safety.

Turning now to safety oversight, FRA identifies safety problems on railroads systems mainly through routine inspections that determine whether operating practices, track and equipment meet minimum safety standards. Because FRA is a small agency in relation to the railroad industry, FRA's inspections can cover only about 0.2 percent of railroads' operations in a year. These inspections do identify violations and result in railroads paying fines and taking corrective actions.

However the inspections are not designed to determine how well railroads are managing the types of safety risks throughout their systems that could lead to accidents. Other organizations such as the American Public Transportation Association, PHMSA within DOT and Transport Canada have implemented approaches to oversee the management of safety risks by U.S. commuter railroads, U.S. pipelines and Canadian railroads, respectively. Such risk management programs require the industry to improve safety—systemwide safety—by identifying and assessing safety risks and prioritizing them so that their resources may be allocated to address the highest risks first. These oversight approaches complement rather than replace traditional compliance inspections and therefore provide additional assurance of safety.

With regard to how FRA assesses the impact of its oversight efforts on safety, the agency uses a range of goals and measures. For

example, it has developed goals to: (1) target its enforcement efforts at reducing various type of railroad accidents, and (2) measures to track its progress. However, FRA lacks measures of the direct results of its inspection and enforcement programs, such as the extent to which they have resulted in the correction of safety problems.

Under FRA's current focused enforcement policy, developed in the mid-1990s, inspectors cite a small percentage of identified defects, about 3 percent in 2005, as violations that they recommend for enforcement action, generally through civil penalties. This policy relies on cooperation with railroads to achieve compliance. It is intended to focus FRA's efforts on those instances of noncompliance that pose the greatest hazard.

However, it is not clear whether the number of civil penalties issued or their amounts are having the desired effect on improving compliance. Because it has not evaluated its enforcement program efforts, FRA is missing an important opportunity to obtain valuable information about its performance and on any need to adjust this policy.

In the report we issued in January, we recommended that FRA first develop and implement measures of the direct result of its inspection and enforcement programs; and, second, evaluate its enforcement program. In response, DOT agreed with the first recommendation and noted that FRA would need to develop appropriate data and therefore would implement the new measures no earlier than the end of 2008. DOT stated that it does not have the resources to conduct the evaluation we recommended and said it would consider requesting resources for Fiscal Year 2009 for that purpose.

Mr. Chairman, this completes my statement. I'm happy to answer any questions.

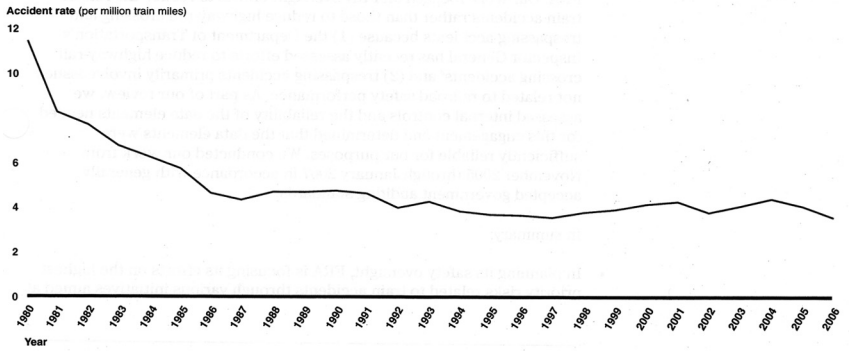
[The prepared statement of Ms. Siggerud follows:]

PREPARED STATEMENT OF KATHERINE SIGGERUD, DIRECTOR, PHYSICAL INFRASTRUCTURE ISSUES, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to participate in this hearing today to discuss the Federal Railroad Administration's (FRA's) rail safety oversight activities. Although the overall safety record in the railroad industry, as measured by the number of train accidents per million miles traveled, has improved markedly since 1980, there has been little sustained improvement over the past decade. (See fig. 1.) Serious accidents resulting in injuries, deaths, and property damage continue to occur.

Figure 1: Train Accident Rates, 1980 through 2006



Source: FRA.

Note: The rate for 2006 is preliminary.

My remarks center on work we have recently completed on FRA's overall safety oversight strategy. Specifically, we examined how FRA (1) focuses its efforts on the highest priority risks related to train accidents in planning its safety oversight, (2) identifies safety problems on railroad systems in carrying out its oversight, and (3) assesses the impact of its oversight efforts on safety. Our findings are discussed in more detail in our report, which was released in January.[1]

Our work was based on a review of laws, regulations, and FRA plans and guidance as well as discussions with FRA officials and with a range of external stakeholders, including railroads, unions, and state railroad safety organizations. We reviewed FRA inspection and enforcement data for 1996 through 2005, the latest year for which complete data were available at the time of our review.[2] In addition, we examined risk management principles and safety oversight approaches used by other modal administrations within the Department of Transportation and other organizations that have similar safety missions in order to determine their possible application to FRA. Our work focused on FRA oversight efforts to reduce the rate of train accidents rather than those to reduce highway-rail crossing and trespassing accidents because (1) the Department of Transportation's Inspector General has recently assessed efforts to reduce highway-rail crossing accidents[3] and (2) trespassing accidents primarily involve issues not related to railroad safety performance. As part of our review, we assessed internal controls and the reliability of the data elements needed for this engagement and determined that the data elements were sufficiently reliable for our purposes. We conducted our work from November 2005 through January 2007 in accordance with generally accepted government auditing standards.

In summary:

- In planning its safety oversight, FRA is focusing its efforts on the highest priority risks related to train accidents through various initiatives aimed at addressing the main causes of these accidents as well as through improvements in its inspection planning approach. The agency's overall strategy for targeting its oversight at the greatest risks is the National Rail Safety Action Plan, which FRA issued in May 2005. This plan provides a reasonable framework for guiding the agency's efforts to improve its oversight. It includes initiatives to address the two main causes of train accidents—human factors and defective track—and FRA has pursued some additional initiatives to address these causes since issuing the plan.[4] These initiatives—which include new regulations, research on new technologies and approaches for improving safety, and new vehicles for inspecting track—are promising. However, most of them have not yet been fully implemented, and their overall impact on safety will probably not be apparent for a number of years. Furthermore, the ability of many of these efforts to improve safety will depend on voluntary actions by railroads. In addition, the Action Plan announced a new approach for planning inspections that uses data-driven models to focus inspectors' efforts on locations that are likely to have safety problems.
- In carrying out its safety oversight, FRA identifies safety problems on railroad systems mainly through routine inspections that determine whether operating practices, track, and equipment, such as signals and locomotives, are in compli-

ance with minimum safety standards. However, FRA inspections cover only about 0.2 percent of railroads' operations each year. Also, these inspections are not designed to determine how well railroads are managing safety risks throughout their systems that could lead to accidents. The American Public Transportation Association (APTA), the Pipeline and Hazardous Materials Safety Administration (PHMSA), and Transport Canada have implemented approaches to oversee the management of safety risks by U.S. commuter railroads, U.S. pipelines, and Canadian railroads, respectively.[5] These oversight approaches complement, rather than replace, traditional compliance inspections and, therefore, provide additional assurance of safety.

- FRA uses a broad range of goals and measures to assess the impact of its oversight efforts on safety. For example, it has developed new goals to target its inspection and enforcement efforts at reducing various types of railroad accidents and related measures to track its progress. However, FRA lacks measures of the direct results of its inspection and enforcement programs, such as measures of the extent to which these programs have resulted in the correction of identified safety problems. Furthermore, FRA has not evaluated the effectiveness of its enforcement program in achieving desired results. Both performance measures and evaluations can provide valuable information on program results that helps hold agencies accountable for the performance of their programs. In our recent report, we recommended that FRA develop and implement measures of the direct results of its inspection and enforcement programs and evaluate its enforcement program. FRA agreed to develop such measures and will consider requesting the additional resources necessary to evaluate its enforcement program.

Background

On average, 437 people have been injured and 12 people have been killed in train accidents each year over the past decade, from 1997 through 2006, exclusive of highway-railroad grade crossing and trespassing accidents. In recent years, a number of serious accidents raised concerns about the level of safety in the railroad industry. For example, as you are aware, in 2005, a train collision in Graniteville, South Carolina, resulted in the evacuation of 5,400 people, 292 injuries, and 9 deaths.

FRA develops and enforces regulations for the railroad industry that include numerous requirements related to safety, including requirements governing track, signal and train control systems, grade crossing warning device systems, mechanical equipment—such as locomotives and tank cars—and railroad operating practices. FRA also enforces hazardous materials regulations issued by PHMSA as they relate to the safe transportation of such materials by rail. FRA's inspectors generally specialize in one of five areas, called inspection disciplines: (1) operating practices, (2) track, (3) hazardous materials, (4) signal and train control, and (5) motive power and equipment. FRA's policy is for inspectors to encourage railroads to comply voluntarily. When railroads do not comply voluntarily or identified problems are serious, FRA may cite violations and take enforcement actions, most frequently civil penalties, to promote compliance with its regulations. FRA is authorized to negotiate civil penalties with railroads and exercises this authority. FRA conducts additional oversight of Class I railroads through the Railroad System Oversight program.[6] Under this program, the agency assigns an FRA manager for each Class I railroad to cooperate with it on identifying and resolving safety issues.

FRA is a small agency, especially in relation to the industry it regulates. As of July 2006, FRA had about 660 safety staff, including about 400 inspectors in the field (in its regional, district, and local offices). In addition, 30 state oversight agencies, with about 160 inspectors, participate in a partnership program with FRA to conduct safety oversight activities at railroads' operating sites. In contrast, the railroad industry consists of about 700 railroads with about 235,000 employees,[7] 219,000 miles of track in operation, 158,000 signals and switches, and over 1.6 million locomotives and cars.

FRA Has Made Progress in Targeting Its Oversight Efforts on the Basis of Risk

In planning its safety oversight, FRA focuses its efforts on the highest priority risks related to train accidents through a number of initiatives. FRA's May 2005 National Rail Safety Action Plan provides a reasonable framework for the agency's efforts to target its oversight at the highest priority risks. The plan outlines initiatives aimed at reducing the main types of train accidents, those caused by human factors and track defects. Since issuing the plan, the agency has pursued additional initiatives to target risks posed by these causes. However, these efforts are in varying stages of development or implementation and, while some individual initiatives may start showing results in the next year or two, their overall impact on safety

will probably not be apparent for a number of years. FRA has also developed a new approach for planning its inspections, based on greater use of its accident and inspection data. While these initiatives are promising, it is too early to assess their impact.

FRA Is Making a Number of Efforts To Reduce Accidents Caused by Human Factors and Track Defects, but Results Are Not Yet Clear

In 2006, 71 percent of all train accidents in the United States were attributable to either human factors or track defects. Human factor accidents result from unsafe acts of individuals, such as employee errors, and can occur for a number of reasons, such as employee fatigue or inadequate supervision or training. Recent FRA initiatives to reduce accidents caused by human factors include:

- proposed regulations aimed at reducing the most common causes of these accidents, such as improper positioning of track switches; [8]
- a 5-year pilot project to establish a confidential voluntary system for reporting and learning from close call incidents; [9]
- a study to develop a fatigue model that could be used by railroads to improve train crew scheduling practices and prevent worker fatigue; [10] and;
- a proposed pilot project to establish voluntary risk reduction programs at participating railroad worksites to help reduce human factor accidents, as well as other types of accidents.[11]

Track defects, which can cause derailments, include rails that are uneven or too wide apart or rails or joint bars that are cracked or broken. Key recent FRA initiatives to reduce accidents caused by track defects include:

- two additional track inspection vehicles that can precisely measure track during inspections [12] and;
- new regulations on inspections of rail joints in continuous welded rail track.[13]

These initiatives are in varying stages of development or implementation and use a variety of approaches, some quite innovative, for addressing the causes of human factor and track accidents. While they have the potential to eventually reduce these types of accidents, it is too early to predict their outcomes. The human factor initiatives, except for the proposed regulations, depend on voluntary actions by railroads, and, in some cases, labor as well, for their success.

FRA Has Made Progress in Targeting Its Inspections on the Basis of Risk

FRA has developed a new approach—the National Inspection Plan—for using available data to target its inspections at the greatest safety risks. The plan provides guidance to each regional office on how its inspectors within each of the five inspection disciplines should divide up their work by railroad and state. It is based on trend analyses of accident, inspection, and other data that predict locations where train accidents and incidents are likely to occur within each region and provide the optimal allocation of inspection resources to prevent accidents.

Previously, FRA had a less structured, less consistent, and less data-driven approach for planning inspections. According to agency officials, each region prepared its own inspection plan, based on judgments about appropriate priorities and analysis of available data. However, the use of data was not consistent from region to region. Inspectors had greater discretion about where to inspect and based decisions about priorities on their knowledge of their inspection territories.

FRA's new approach for planning its inspection activity allows it to better target the greatest safety risks and make more effective use of its inspectors. However, it is not yet clear whether the new approach will lead to a prioritization of inspection levels across regions and inspection disciplines or improved safety.

FRA Relies Primarily on Direct Inspections To Identify Safety Problems and Does Not Oversee Railroads' Management of Safety Risks

In carrying out its safety oversight, FRA identifies a range of safety problems on railroad systems mainly through routine inspections to determine whether operations, track, and equipment are in compliance with safety standards. FRA's inspections do not attempt to determine how well railroads are managing safety risks throughout their systems. APTA, PHMSA, and Transport Canada have implemented approaches to oversee the management of safety risks by U.S. commuter railroads, U.S. pipelines, and Canadian railroads, respectively. These oversight approaches complement, rather than replace, traditional compliance inspections and therefore provide additional assurance of safety.

FRA's Oversight Identifies a Range of Problems on Railroad Systems

FRA primarily monitors railroads' compliance through routine inspections by individual inspectors at specific sites on railroads' systems. Inspectors typically cover a range of standards within their discipline during these inspections. This inspection approach focuses on direct observations of specific components of the train, related equipment, and railroad property—including the track and signal systems—as well as operating practices to determine whether they meet FRA's standards. (See fig. 2.) Inspectors also examine railroads' inspection and maintenance records. The railroads have their own inspectors who are responsible for ensuring that railroad equipment, track, and operations meet Federal rail safety standards.

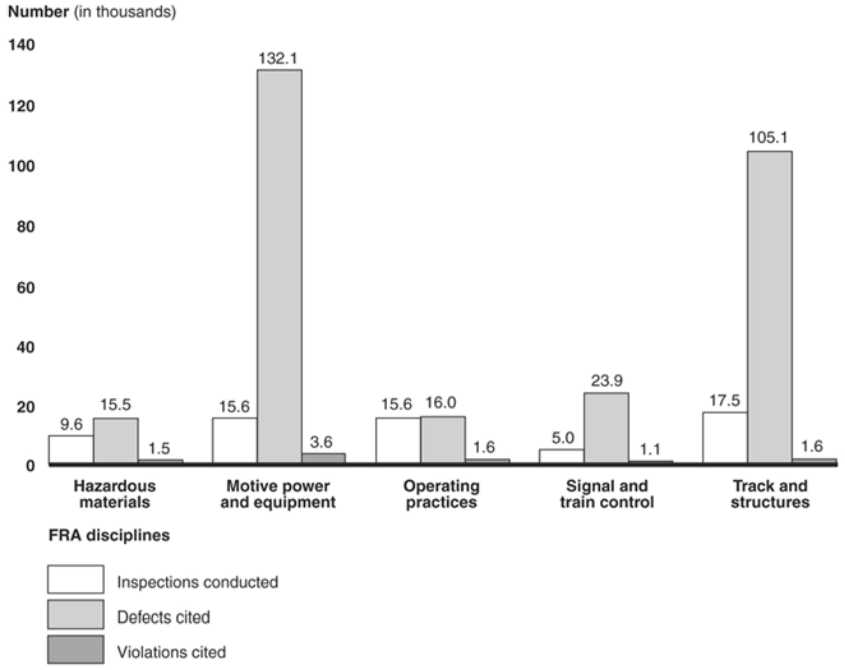
Figure 2: FRA Inspector Inspecting Train Cars

Source: FRA.

FRA also conducts more in-depth inspection efforts that generally focus on railroads' compliance in a particular area, such as their inspections of employees' adherence to operating rules. These efforts often involve a team conducting separate inspections at multiple sites, generally within one of FRA's eight regions. FRA also periodically conducts in-depth inspections of some systemwide programs that railroads are required to implement, such as employee drug and alcohol testing programs.

In 2005, Federal and state inspectors conducted about 63,000 inspections. According to FRA, routine inspections constituted about 75 percent of the inspections of railroads, and in-depth inspections accounted for about 11 percent. The remainder of these inspections (14 percent) consisted of other types of activities, such as investigations of accidents and complaints. This approach to oversight enables FRA inspectors and managers to identify a wide range of safety problems. Inspectors identify specific compliance problems—conditions that do not meet FRA's standards—at sites they visit, by citing defects. Inspectors cite violations of safety standards for those defects that they believe warrant enforcement action. They consider a number of factors in making this decision, including the railroad's history of compliance at that location and the seriousness of the noncompliance (such as whether it is likely to cause accidents, injuries, or releases of hazardous materials). Inspectors in some disciplines cite more defects and violations than others. (See fig. 3.)

Figure 3: Inspections Conducted and Defects and Violations Cited, by Inspection Discipline, in 2005



Source: GAO analysis of FRA data.

Note: These figures include inspections carried out by both federal and state inspectors. Inspectors are instructed to cite defects for most instances of noncompliance found, but have discretion in determining which instances to cite as violations warranting enforcement action.

The motive power and equipment discipline cites almost half of all defects and over a third of all violations. FRA officials told us that the standards in this inspection discipline are the most prescriptive, making defects and violations easier to find. However, these types of defects cause a much smaller proportion of accidents than human factors and track defects.[14] The most frequently cited violations include those for noncompliance with standards for locomotives and freight cars, track conditions, recordkeeping on the inspection and repair of equipment and track, and the condition of hazardous materials tank cars.

Several Other Organizations Have Implemented Comprehensive Approaches for Overseeing the Management of Safety Risks in Transportation Industries

FRA officials have noted that their approach of directly inspecting safety conditions and targeting locations that are most likely to have compliance problems provides a safety net and holds railroad management accountable. However, because the number of FRA and state inspectors is small relative to the size of railroad operations, FRA inspections can cover only a very small proportion of railroad operations (0.2 percent). Also, FRA targets inspections at locations on railroads' systems where accidents have occurred, among other factors, rather than overseeing whether railroads systematically identify and address safety risks that could lead to accidents.

Risk management can help to improve systemwide safety by systematically identifying and assessing risks associated with various safety hazards and prioritizing them so that resources may be allocated to address the highest risks first. It also can help in ensuring that the most appropriate alternatives to prevent or mitigate the effects of hazards are designed and implemented. A framework for risk management based on industry best practices and other criteria that we have developed di-

vides risk management into five major phases: (1) setting strategic goals and objectives, and determining constraints; (2) assessing risks; (3) evaluating alternatives for addressing these risks; (4) selecting the appropriate alternatives; and (5) implementing the alternatives and monitoring the progress made and results achieved.

Other transportation oversight organizations have developed and implemented approaches for overseeing industries' overall management of safety risks. In particular, during the last 10 years, APTA, PHMSA, and Transport Canada have developed and implemented such oversight approaches for U.S. commuter railroads, U.S. pipelines, and Canadian railroads, respectively. These approaches complement, rather than replace, traditional compliance inspections. APTA provides guidelines to commuter railroads on managing the safety of their systems—including safety risks—and audits their plans for and implementation of this management approach.[15] PHMSA requires that pipeline operators develop "integrity management" programs to manage risk in areas—such as those that are densely populated—where leaks or ruptures could have the greatest impact on public safety and inspects operators' compliance with these requirements.[16] In Canada, the department responsible for overseeing railroad safety, Transport Canada, requires that railroads establish safety management systems that include risk management and assesses these systems.[17] APTA, PHMSA, and Transport Canada have emphasized that risk management provides a higher standard of performance than traditional safety regulation based on compliance alone.

We have reviewed PHMSA's gas transmission pipeline integrity management oversight approach and have recently concluded that it enhances public safety.[18] Operators told us that the primary benefit of the program is the comprehensive knowledge they acquire about the condition of their pipelines. APTA and Transport Canada officials have told us that their oversight approaches have not been formally evaluated to determine their effectiveness.

FRA has taken some steps in a limited number of areas to oversee and encourage risk management in the railroad industry. For example, the agency has several regulations in place that require railroads to use a risk-based approach for managing safety in some specific areas, such as the operation of high-speed passenger trains. In addition, as noted earlier, FRA has proposed establishing pilot risk reduction programs at participating worksites. Agency officials have told us that this pilot effort will allow the agency to examine how a risk management approach could be used voluntarily in the railroad industry to reduce human factor and other types of accidents.

Oversight of railroads' overall approach for managing safety risks on their systems, in addition to FRA's existing discipline-specific, compliance-based oversight, has the potential to provide additional assurance of safety. However, developing and implementing such a new oversight approach would be a major undertaking for the agency, and FRA's current initiatives to reduce train accidents need time to mature to demonstrate their effects. As a result, we did not recommend in our recent report that FRA adopt an approach for overseeing railroads' management of safety risks.

FRA Measures Its Progress in Achieving a Variety of Safety Goals, but Has Limited Information on the Direct Results of Its Oversight

FRA has a broad range of goals and measures that it uses to provide direction to and track the performance of its safety oversight activities. However, its ability to make informed decisions about its inspection and enforcement programs is limited because it lacks measures of the intermediate outcomes, or direct results, of these programs that would show how they are contributing toward the end outcomes, or ultimate safety improvements, that the agency seeks to achieve. Furthermore, FRA has not evaluated the effectiveness of its enforcement approach. Both performance measures and evaluations can provide valuable information on program results that helps hold agencies accountable for their programs' performance.

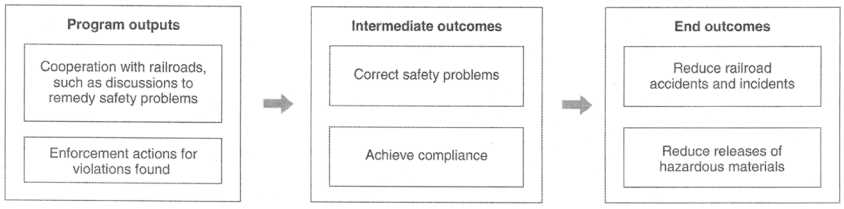
FRA Has Established a Range of Safety Goals and Measures, But Information on Direct Results Is Limited

To its credit, FRA has adopted a range of useful safety performance goals and related measures. These goals help the agency target its oversight efforts to achieve the department's goals of reducing (1) the rate of rail-related accidents and incidents and (2) the number of serious hazardous materials releases. For example, FRA has recently established new agencywide safety goals that are aligned with its five inspection disciplines and its grade-crossing efforts. These include goals to reduce the rates of various types of train accidents—including those caused by human factors, track defects, and equipment failure—as well as hazardous materials releases and grade-crossing incidents. These departmental and agency goals represent the key end outcomes, or ultimate results, FRA seeks to achieve through its oversight ef-

forts. FRA has also established related measures that help the agency determine and demonstrate its progress in meeting the desired goals. In addition, it has established similar goals and measures for each of its eight regional offices. FRA also uses various other measures to manage its oversight efforts, such as numbers of inspections performed and enforcement actions taken.

While FRA has developed a range of goals and measures related to its oversight of railroad safety, it lacks measures of the desired intermediate outcomes, or direct results, of its inspection and enforcement efforts—the correction of identified safety problems and improvements in compliance. (See fig. 4.) According to FRA officials, inspectors review reports on corrective actions provided by railroads and always follow up on serious identified problems to ensure that they are corrected. However, the agency does not measure the extent to which the identified safety problems have been corrected. FRA also lacks overall measures of railroads' compliance. Officials have emphasized that the agency relies on inspectors' day-to-day oversight of and interaction with railroads to track compliance.[19]

Figure 4: How FRA's Inspection and Enforcement Programs Contribute to Rail Safety



Source: GAO analysis of FRA information.

Note: The program outputs and intermediate outcomes included in this figure are examples of the outputs and intended direct results of FRA's inspection and enforcement programs. We identified these as outputs and intermediate outcomes based on discussions with FRA officials; FRA itself has not identified them as such.

Without measures of intermediate outcomes, the extent to which FRA's inspection and enforcement programs are achieving direct results and contributing to desired end outcomes is not clear. We recognize that developing such measures would be difficult and that it is challenging for regulatory agencies to develop such measures. Nevertheless, some other regulatory agencies in the Department of Transportation have done so. For example, the Federal Motor Carrier Safety Administration measures the percentage of truck companies that improve their performance in a follow-up inspection.

FRA Has Made Changes in Response to Evaluations but Has Not Evaluated Its Enforcement Approach

By examining a broader range of information than is feasible to monitor on an ongoing basis through performance measures, evaluation studies can explore the benefits of a program as well as ways to improve program performance. They can also be used to develop or improve agencies' measures of program performance and help ensure agencies' accountability for program results. Although FRA has modified several aspects of its safety oversight in response to external and internal evaluations, it has not evaluated the extent to which its enforcement is achieving desired results.

Under FRA's current "focused enforcement" policy, developed in the mid-1990s, inspectors cite a small percentage of identified defects (about 3 percent in 2005) as violations that they recommend for enforcement action, generally civil penalties. While this policy relies to a great extent on cooperation with railroads to achieve compliance and is intended to focus FRA's enforcement efforts on those instances of noncompliance that pose the greatest safety hazards, it is not clear whether the number of civil penalties issued, or their amounts, are having the desired effect of improving compliance. Without an evaluation of its enforcement program, FRA is missing an opportunity to obtain valuable information on the performance of this program and on any need for adjustments to improve this performance.

In the report we issued in January, we recommended that FRA (1) develop and implement measures of the direct results of its inspection and enforcement programs and (2) evaluate the agency's enforcement program to provide further information on its results, the need for additional data to measure and assess these results, and the need for any changes in this program to improve performance. In its response, the department concurred with the first recommendation but said that, because FRA needs to develop appropriate data, the agency would not be able to implement new measures before the end of 2008. The department stated that FRA

lacks the resources to carry out our second recommendation but will consider requesting such resources for Fiscal Year 2009. As part of our normal recommendation follow-up activity, we will work toward FRA's adoption of our recommendations.

Mr. Chairman, this concludes my prepared statement. I would be pleased to respond to any questions that you or other Members of the Subcommittee might have.

Endnotes

[1] See GAO, *The Federal Railroad Administration Is Taking Steps to Better Target Its Oversight, but Assessment of Results Is Needed to Determine Impact,* GAO–07–149 (Washington, D.C.: Jan. 26, 2007).

[2] In preparing for this hearing, we did not attempt to obtain 2006 inspection and enforcement data because we lacked the time to determine the reliability of and analyze these data.

[3] See U.S. Department of Transportation, Office of the Inspector General, *The Federal Railroad Administration Can Improve Highway-Rail Grade Crossing Safety by Ensuring Compliance with Accident Reporting Requirements and Addressing Sight Obstructions,* MH–2007–044 (Washington, D.C.: May 3, 2007); *Audit of Oversight of Highway-Rail Grade Crossing Accident Reporting, Investigations and Safety Regulations,* MH–2006–016 (Washington, D.C.: Nov. 28, 2005); and *Report on the Audit of the Highway-Rail Grade Crossing Safety Program,* MH–2004–065 (Washington, D.C.: June 16, 2004).

[4] Generally, human factors are behaviors that affect job performance, such as incorrectly setting switches.

[5] Risk management can be described as a systematic approach for identifying, analyzing, and controlling risks.

[6] For 2006, the Surface Transportation Board defined Class I railroads as railroads earning adjusted annual operating revenues of $319.3 million or more.

[7] This number does not include contractor employees hired by the railroads.

[8] FRA issued this proposed regulation in October 2006 and plans to issue a final regulation by the end of 2007.

[9] According to FRA, a close call represents a situation in which an ongoing sequence of events was stopped from developing further, preventing the occurrence of potentially serious safety-related consequences.

[10] Railroad employees often work long hours and have unpredictable and fluctuating work schedules. FRA and the National Transportation Safety Board have identified employee fatigue as a significant factor in many train accidents. FRA does not have the authority to regulate railroad worker duty hours. However, the department recently proposed legislation to Congress to reauthorize FRA (S. 918 and H.R. 1516) that would give the agency authority to do so.

[11] These programs will include efforts by railroads to prevent accidents through collecting and analyzing data on accident precursors—such as close call incidents, employee errors, or organizational characteristics—to better identify and correct individual and organizational characteristics that contribute to accidents. FRA plans to initiate this pilot project in Fiscal Year 2008, contingent upon funding. The department's proposed legislation refers to this initiative as the Safety Risk Reduction Program.

[12] According to FRA, these additional vehicles allow the agency to triple the miles of track that it is able to inspect per year, to nearly 100,000 miles. FRA also inspects track conditions through manual inspections conducted on foot or in on-track equipment.

[13] In continuous welded rail track, rails are welded together to form one continuous rail that may be several miles long. There may be joints in this rail for several reasons, including the need to replace a section of defective rail.

[14] FRA officials have explained that operating practices inspectors have had a limited ability to cite defects and violations because of the way regulations in this area are written. For example, as noted previously, the regulations contain general requirements about railroads' programs for inspecting employees' adherence to operating rules and do not specifically require that employees follow these rules. The agency expects that its proposed regulations on operating rules will improve its ability to enforce in this area, because the requirements will be more stringent than existing regulations.

[15] APTA is a nonprofit organization representing the transit industry, including U.S. commuter rail systems.

[16] PHMSA administers the national regulatory program to ensure the safe transportation of hazardous liquids and natural gas by pipeline.

[17] Transport Canada oversees the safety and security of Canada's rail, marine, highway, and aviation operations.

[18] GAO, *Natural Gas Pipeline Safety: Integrity Management Benefits Public Safety, but Consistency of Performance Measures Should Be Improved,* GAO–06–946 (Washington, D.C.: Sept. 8, 2006).
[19] FRA headquarters and regional officials also analyze defect data in each inspection discipline to identify emerging issues and plan inspection activity.

Senator LAUTENBERG. Thank you, Ms. Siggerud. The one thing that threads through the statements is certainly the focus on the lack of appropriate response to incidents or accidents of note. And that a quicker response to these things would be of great value in helping solve the problems.

Ms. Strang, the labor organizations and the railroads have worked for years to find ways to address employee fatigue. The elimination of limbo time, undisturbed rest, and have not yet reached any agreement. But the Administration wants us to give it the authority to set hours-of-service rules. Now, by giving the experience that we've seen in the trucking industry on hours-of-service, the courts struck down the Administration's standards. Why should we turn this responsibility back to them as is suggested by the Administration?

Ms. STRANG. Thank you. We believe that by taking the provisions into the Rail Safety Advisory Committee that we will avoid some of the problems that were encountered by FMCSA. This Committee is a group made up of both railroad management and labor that, through consensus, tries to develop regulations. If within a reasonable period of time the regulations could not be derived through a consensus process, FRA would revert to its normal, traditional rulemaking authority and try to issue regulations.

Senator LAUTENBERG. Has there not been enough time for the FRA to request the enlargement of the inspector force, other resources that are needed? It's pitifully small, as I said before, compared to the growth of the railroad industry. We're pleased to see the success of the industry, but that should not permit the railroad industry to go ahead and ignore what are some very obvious safety changes that must be made.

Mr. Sumwalt, given the trucking hours-of-service experience, shouldn't there be some limitations on the authority given to the Administration to prevent them from weakening the hours-of-service rules?

Mr. SUMWALT. Well, we, at the Safety Board, do believe that the FRA should be given the regulatory authority to enact hours-of-service rules. And we feel that the research has been done. It's about ready to go to rulemaking. And as Administrator Strang pointed out; there could be a shock absorber in there that if this process goes on too long, then the FRA could come in and impose the regulations.

Senator LAUTENBERG. The railroads received an estimated six and a half billion dollars last year, net profit, indicating a pretty healthy industry. If not financial constraints, what's stopping the railroads from implementing PTC systems nationwide? Anybody want to respond to that?

Ms. STRANG. I don't mind.

Senator LAUTENBERG. Please.

Ms. STRANG. I think that's a good question. And it has taken a lot longer than anybody anticipated. However we're on the verge of

making progress, or at least that is what we feel. Because we issued the revisions to Part 236 of Part H that permits different types of train control systems such as the communications-based train control systems.

We just recently approved the very first project safety plan for the BNSF in January 2007. We know that Union Pacific, Norfolk Southern and CSX are working toward it. Is it slow? Yes. But are we making progress? We think so.

Senator LAUTENBERG. If progress is needed then I don't take a lot of comfort, honestly, out of saying that things are being done when it's obvious that more needs to be done. And we have the technology to do it. We have the workforce ready to do it. We ought to be making those changes that make the system safer, especially when you look at the growth in the transport of hazardous materials. We have things to worry about.

We just heard from Senator Clinton. I think she listed five accidents in the State of New York alone. And we all see it happening. So I would urge an acceleration of the pace.

The NTSB has said that the Home Valley, Washington accident was caused by the failure of the railroad to respond to reports of rough rides which is a sign of defective track conditions. Are the railroads allowing their own track inspectors enough time to perform inspection duties? Is this a problem in the Northeast Corridor, which I use and get some bumpy rides on? The fact is that if we have to sacrifice safety that no matter what advances we make in the pace and the ease of the carriage, it doesn't matter. So what is the problem? Do we know in the Northeast Corridor?

Ms. STRANG. I'm sorry. I didn't realize that you were addressing me.

Senator LAUTENBERG. Well, it's addressing to the panel. Whomever feels that they have enough knowledge to respond to that. Mr. Sumwalt, do you?

Mr. SUMWALT. Well, Mr. Chairman, as you indicated you're exactly right. In the Home Valley, Washington accident we did note that the railroad did not have sufficient time to conduct those inspections. And these inspections are vital to ensuring the safety of our nation's railways.

So, we do need to ensure that the inspectors do have the adequate time to do their jobs. We have issued a recommendation to that particular railroad concerning the need for additional time to make sure their inspectors have adequate time. And we will continue to look at that issue as it relates to the railroad system across the country.

Senator LAUTENBERG. How about in the Northeast Corridor? Are we aware of the fact that there are track difficulties, track concerns with the volume of travel that takes place for well—not travel, cargo, passenger, et cetera?

Ms. STRANG. You're right. It's a growing problem where with an increase just in the amount of trains you find reduced time, for instance, for inspections. In the Northeast Corridor, Amtrak inspects at night when they have fewer trains.

And they've been using—they've been trying to get higher technology equipment available to help them in their inspections. So,

we're fairly confident. They have a very good track record in the Northeast Corridor for track related problems.

Senator LAUTENBERG. Thank you very much. Senator Smith?

Senator SMITH. Thank you, Mr. Chairman. Ms. Strang, the GAO says that the FRA is inspecting .2 percent of the trackage. Is that an adequate rate of inspection? And if not, do you have a target?

Ms. STRANG. We try to target our inspections where they will have the most meaning. So we look at the relative risk of where we have problems. What the past records have been and then allocate our inspection forces in that manner.

Senator SMITH. So, you don't necessarily have a target as to a percentage of tracks?

Ms. STRANG. We have—our targets are based on reductions of derailments. So our—if you look at what our GPRA goals are, they're all based towards reducing the number of derailments. And that is how we target our efforts.

Senator SMITH. Mr. Sumwalt, you state that the Safety Board has issued 34 recommendations regarding railroad employee fatigue. Eight of those 34 went to the Federal Railroad Administration. The remaining recommendations went to rail carriers and operating unions. Are they doing anything with those? Are unions and carriers doing anything with those recommendations?

Mr. SUMWALT. Senator, I can give you a break down of that for the record. I was mainly focusing on the FRA and their response which is, they're exactly right. They don't have the authority to amend the Federal Hours of Service Act. So, that's where most of my focus has been on trying to——

Senator SMITH. I'd like to see those because, you know, I think it takes both the operators and the unions to work together to the same end as well.

I have a question to the whole panel. How much of an impact do you anticipate that technology will have on improving rail safety? It seems to me there are some initiatives out there that have some real promise.

Ms. STRANG. I think that the potential for technology improvement is huge. Some things that we have ongoing are new inspection techniques for internal rail defects which current technology allows you to only look at a portion of the rail. Within the next three to 5 years we'll have a phaser ray technology that will allow inspection for internal rail defects of the head, the base and the web of the rail.

This is very important because broken rails are commonly caused by internal rail defects that subsequently grow because of the heavy axle loads. So if we can find all the defects and learn more about how defects grow, we'll be able to greatly improve track safety. As far as switch positions go, we have partnered with Burlington Northern Santa Fe on a low cost switch position indicating system which they installed in 49 switches between Tulsa, Oklahoma and Avard, Oklahoma.

So those types of technologies, we believe have a lot of promise. There's also promise in the fact that as PTC gets rolled out the cost should come down. And that will make it more affordable and then more deployable.

Senator SMITH. Mr. Sumwalt, can you compare for me other modes of transportation regulated by Federal Government in terms of hours-of-service laws? How do they compare? How do trucks compare to rail?

Mr. SUMWALT. OK. Thank you. Yes, sir. As stated earlier the rail industry—the employers—the train crew members are legally able to go up to a maximum of 432 hours per month. We compare that to the aviation business for the FAR Part 121 carriers, the scheduled air carriers where the pilots can operate 100 hours a month maximum.

For the Part 135, which would predominately be the charter operators they can operate 120 hours per month. Highway FMCSA requires that truck drivers limit their duty time to 350 hours per month, marine, ocean going, 360 hours per month. So I think that these figures indicate that the rail industry is far greater in their allowance for their crew members to operate.

Senator SMITH. And are there far greater numbers of accidents as you try to compare the tonnage of stuff moved or do you have any data like that?

Mr. SUMWALT. I don't have that data with me, Senator. But we can get that. We'd be glad to supply that for the record.

Senator SMITH. OK, thank you.

Senator LAUTENBERG. Senator Klobuchar?

Senator KLOBUCHAR. Thank you, Mr. Chairman. Mr. Hyde, you talked about action plans for tough intersections.

Mr. HYDE. Right.

Senator KLOBUCHAR. That was interesting to me because I think we've had some issues with that. Are there any studies that have been done where action plans you mentioned state where they've been put in place where you could show there's been some results from that?

Mr. HYDE. Yes, thank you. FRA worked with the State of Louisiana to put together a state-specific action plan starting in 2005. Louisiana completed the plan after conducting quite a bit of analysis on their more problematic grade crossings—those with multiple collisions.

The data hasn't come in yet as to whether the plan has significantly helped, but certainly by closing some of the more troublesome grade crossings, which they've done, will help. They're looking at closing a few more. Those are good steps. They also improved several crossings with passive warning devices by installing active warning devices.

Now FRA is working with Texas to put together a similar action plan. And we do think that other states that, particularly that have a high number of grade crossing collisions and fatalities should certainly be putting together state-specific action plans.

Senator KLOBUCHAR. Thank you. Mr. Sumwalt, you talked about the idea of comprehensive regulations for sleep accidents and fatigue accidents compared to what's in the bill or in the law currently. Could you give me more information about what you meant by that?

Mr. SUMWALT. Yes, ma'am. There's a lot more to fatigue than just looking at the human body and how much sleep you get. These crew members are operating on a rotating schedule—sometimes

they operate during the day, sometimes they operate during the night, and early morning hours. And we feel that the program that is enacted should appreciate the effect of the circadian rhythm on fatigue.

Normally when the Safety Board looks at accidents involving fatigue, we look at three factors: the continuous hours that the crew member has been awake; the time of the day because we know that there are times of days that are more typically associated with the circadian low points; and reduced performance and alertness.

And we also look at cumulative sleep loss. If I require 8 hours of sleep, but I only got 6 hours last night. I've got a 2-hour sleep debt from last night. If tonight I only get 6 hours of sleep I will have a 4-hour cumulative sleep loss. So we think that the program, whatever's enacted, should appreciate the fact that the body has those functions operating against it as it relates to safety.

So we think that there are some computer modeling programs that can predict, based on somebody's work schedule, when they're most likely to be fatigued to the point that it could impair their performance and alertness.

Senator KLOBUCHAR. Thanks. Ms. Siggerud, do you think we need more inspectors. I think the numbers that we have, 400 FRA inspectors and 700 railroads are operating on 219,000 miles of track.

Ms. SIGGERUD. Senator Klobuchar, we didn't actually try to estimate the number of inspectors that would be appropriate. We're certainly open to the concept of assigning more inspectors. I think the real question would be how to best leverage those additional inspectors and the ones that we already have as they are deployed.

This is why we made a couple of recommendations in our report about trying to understand more about the outcomes and results of the existing inspection and enforcement program as well as why we made the observation about the risk management concept that's used in related industries. The virtue of a concept like that is that by involving the railroads in identifying safety risks, having them develop risk management plans, and then using some of FRA's inspection resources to focus on their inspections on the implementation of those risk management plans, FRA is able to essentially broaden the reach of these inspectors beyond the current, very small percentage of operations and activities that they are able to observe.

Senator KLOBUCHAR. And then, Ms. Strang, I'm running out of time here, but I'll ask you a question for the record. It might be something you'll want to bring back to your lawyers anyway. It's about the FRA's position about pre-emption of state claims. We have obviously some victims next door in Minot, North Dakota and other places. We're concerned about having some kind of remedy in state court. And we'd like to know the position and—FRA's position and what the reasoning is for it.

Ms. STRANG. Thank you. I'll be happy to get back to you for the record.

Senator KLOBUCHAR. OK, thank you.

[The information previously referred to follows:]

National uniformity of railroad safety laws and regulations is essential to safe and secure railroad operations. Without nationally uniform standards, a railroad would

be forced to continually change its operations, in an effort to meet different and often conflicting standards in every community through which it travels. This would create an impossible situation that would be both inefficient and extremely unsafe. Meaningful Federal preemption of state and local standards related to railroad safety and security is an essential component for maintaining national uniformity.

FRA sympathizes with anyone injured as the result of a railroad accident or hazardous materials release. FRA's mission is to prevent such incidents from occurring, and we work toward that every day in a wide variety of ways.

FRA is monitoring very closely the progress of the Minot cases making their way through the courts. However, FRA is not a party to any of these cases and is not permitted to take a position because the United States could become involved. If the Federal Government becomes involved in any of these cases, its position will be presented by the Department of Justice, which is the official representative of the United States in litigation.

Senator LAUTENBERG. Thank you very much, Senator Klobuchar. I want to close, but I just want to ask, Ms. Strang, one more thing. Do your inspectors regulate solid waste operations that take place at rail facilities?

Ms. STRANG. No, we do not. That would be an Environmental Protection Agency issue.

Senator LAUTENBERG. Or?

Ms. STRANG. Somebody else, but it's not us.

Senator LAUTENBERG. That's because there's a very serious question being raised about that. I have several other questions that I'll submit to each of you in writing.

And I note that something Senator Klobuchar talked about and that is we had in the last roughly 15 years an increase in the number of inspectors about 15 percent, adding roughly 50 more. While there has been a 50 percent increase in ton miles from well, just from 1990 to the year 2000. And a 20 percent increase in train miles. We're not gaining on this. Realistically though the statistics have improved in some cases.

I thank you and would—we'll keep the record open and send you any questions that we have; and ask for a quick response.

I invite the second panel to the table and would ask if you would please assemble there. I have a call that I must take and I'll be right back.

[Recess.]

Senator LAUTENBERG. The Subcommittee is back at work and I apologize for the delay. I think it's quite apparent around here we have major issue after major issue to work on. And there's not always enough time. And the skills that you each bring to the discussion is critical, so we thank you.

And I want to ask you, Mr. Wytkind, to start with your testimony and recognizing that 5 minutes is our target. You run over a minute or so, it's almost like passing an amber light, so please commence.

STATEMENT OF EDWARD WYTKIND, PRESIDENT, TRANSPORTATION TRADES DEPARTMENT, AFL–CIO

Mr. WYTKIND. I'm sure everyone heard that, but anyway. I'm technology deprived this morning.

I want to thank you for having us here and I want to say that we're here to discuss rail safety reauthorization because the railroad industry has derailed every attempt to pass such a bill for the last ten or more years. And I want to thank you for holding this

hearing and for giving us the opportunity to participate in the debate up here over how to move a strong rail safety bill.

It is our sincere hope that the safety of the American public and railroad workers will prevail over private interest in this debate. For too long railroad industry profits, which as you indicated a little bit ago, have been quite robust, has trumped safety. And as a result our members have waited too long for action on a number of very important safety initiatives.

Fatigue in the rail industry has reached a crisis situation. In dismissing legislative measures to address fatigue, too often the railroads claim a need for flexibility but fail to address the problem year in and year out. Having chronically tired workers is not good business. And it threatens the safety of workers and the public.

There are many cases in which the railroad should have learned this lesson. In Macdona, Texas in June of 2004, three people died, 30 more suffered respiratory injuries when two trains collided releasing chlorine gas, as we all know. The NTSB accident report described a work schedule where 11 of the engineers previous work days were 14 hour work days with one being a 22 hour day. And worker fatigue was cited as a probable cause of that accident.

Unfortunately it is routine for workers to be held several hours beyond the hours-of-service limitations in this industry. The NTSB found that at the time of the Texas accident more than 40 percent of the Union Pacific's crew assignments in the San Antonio area had extended into what's referred to as limbo time. If the American public truly understood the severity of the fatigue problem in the railroad industry they would be screaming for Congressional action or alternatively, would be working to stop freight trains from traveling in their neighborhoods.

I would urge this Committee to view the reports that I have read regarding excessive hours. And they're quite startling. I think you'll find that the stories in there and the reports in there are quite compelling. And we urge you to review them.

I also receive report after report from member unions about excessive hours-of-service across the board. These reports are not merely the gripes of individual employees but a sincere warning about jeopardized safety. Such as signalmen workers who routinely face much longer hours than they're supposed to have on the job.

Congress must step in and deal forcefully with the lack of employee training in this industry as well. It is appalling that in an industry that has earned $25 billion in the last 6 years provides such substandard training. This is the same industry that parades up here regularly to talk about all its safety and security initiatives and its safe, state-of-the-art 24/7 operations. Yet workers are just not being trained.

The rail lobbyists call post-training requirements, "redundant and unnecessary," but they have no answer for what workers are telling us. They are telling us they are receiving little or no training. And unfortunately there's this mass exodus of veteran employees that are leaving the industry as they retire. And a lot of institutional knowledge is being lost. And as a result of that that becomes a real safety issue because those co-workers are relied upon to train the next generation of workers in the rail industry.

We also believe that Congress needs to beef up the Federal rail inspection workforce. An average fine against a railroad in this industry is $39 per infraction.

Last, but not least, let me talk about the cultural harassment and intimidation in the industry. We've seen one case after another of workers being, not only mistreated, but threatened and intimidated from coming forward to report safety and security problems. Documented cases show a culture of harassing and suppressing the facts and using heavy-handing as the FRA has cited often in legal tactics to despise—to disguise the facts: underreporting of injuries, delaying medical treatment for injured workers, forcing employees to wait often 2 hours or more for treatment.

We had one employee who had a cut on his back that required stitches. But due to company policy was forced to wait for a supervisor to go 89 miles to that location before he could receive medical attention.

Clearly the Committee has a chance to enact strong measures that help to change this perverse culture. And we really do urge you to do so by putting very strong whistleblower protections in there that empower workers to step forward with their safety and security risks.

Let me wrap up by addressing two other issues, among others that are in my submitted testimony that we will be pushing very hard on. It's first, to consider measures to stop the outsourcing of train inspections to Mexico. It's an issue that's been addressed twice in petitions by the Union Pacific Railroad. We hope that you'll seek legislative action in that area.

And also we hope that you'll take action to begin to eliminate the dark territory problem that plagues the entire rail industry. As we all know the Graniteville, South Carolina wreck could have been avoided with the right use of technology. And there are other examples around the country where we should not have locomotive engineers and conductors traveling around trains in dark territory.

It is wrong. This is the 21st century. We should not be running trains in the dark without the proper signaling technology.

I want to thank you, Mr. Chairman for having us here. And look forward to any questions you may have. And look forward to working with you on this legislation. Thank you.

[The prepared statement of Mr. Wytkind follows:]

PREPARED STATEMENT OF EDWARD WYTKIND, PRESIDENT, TRANSPORTATION TRADES DEPARTMENT, AFL–CIO

Chairman Lautenberg, Senator Smith, and Members of the Subcommittee, let me first thank you for the opportunity to testify this morning and to present the views and concerns of transportation workers as you embark on efforts to reauthorize the Federal rail safety program. As this Committee knows, the Transportation Trades Department, AFL–CIO (TTD) consists of 32 member unions in all modes of transportation, including those that represent hundreds of thousands of rail workers in the freight, passenger and commuter sectors. There is no question that we have a vested interest in the topic of today's hearing and, in fact, have joined with you and other members of this Committee in pursuit of policies that will enhance the safety and security of this critical industry.

The workers who operate and maintain our Nation's rail system and equipment are critical to the safe and efficient movement of goods and people throughout our country. But for their dedication and professionalism, commerce in this country would come to an immediate standstill. Yet, for more than a decade the safety concerns of rail workers have been ignored in the legislative process as the railroad

lobby has stonewalled every attempt to update our rail safety laws. It is long-past time to move meaningful rail safety legislation.

As we talk about rail safety initiatives, it is important to recognize that we are not dealing with an industry that can claim it does not have the resources to comply with common-sense safety directives. The freight railroads have pocketed $25 billion in profits over the past 6 years according to their own annual reports. Yet, this same railroad industry has effectively blocked rail safety legislation since the last reauthorization bill expired in 1998.

Let me mention a few specific areas of concern that rail labor has advocated for years and place the need for rail safety authorization in some context for the Subcommittee.[1] I should also note that House Transportation and Infrastructure Committee Chair Jim Oberstar (D–MN) and Railroads Subcommittee Chair Corrine Brown (D–FL) have introduced a strong rail safety bill, H.R. 2095, which addresses many of these issues and which we have endorsed.

Reporting and Employee Protections

First, the railroad industry can never be safe if employees are intimidated and harassed when they report accidents, injuries and safety problems. Our members continue to face retribution, harassment and intimidation for reporting accidents and potential safety and security problems. As I have reported to this Committee before, there is a pervasive culture in the railroad industry that tamps down reporting. In the railroads' quest for Harriman safety awards and glowing safety reports, in reality, safety is compromised. Workers are routinely forced into "team" reporting where groups of workers are rewarded for filing no injury reports in a given time period. This means that when a worker severs a finger, for example, he may forego treatment or face pressure from his team—a convenient way for management to use co-workers to do their intimidating for them.

Safety measures in the railroad industry are based on FRA's data collection from accident and incident reports. Since workers are so soundly and routinely discouraged from actually submitting reports, the FRA's data is inherently flawed. Likewise, rules, regulations, penalties and fines that are based on accident and incident reports are misaligned as well.

Workers should not have to choose between job security and the security and safety of the rail transportation system—yet that is what is happening today. The stories I hear from members are shocking—yet are common. Members injured on the job are denied medical care until company representatives arrive on the scene and then convinced by the injured worker that they need urgent care. They are accompanied to the hospital or doctor by supervisors. Supervisors "remind" injured workers that taking a prescription drug would make the case reportable to the FRA. We have reams of paper documenting harassment and intimidation of workers with respect to accident and injury reporting. It is a pervasive problem in the industry that has gone unchecked for too long and must be addressed by Congress.

Strong whistleblower language is key to improving rail safety. Clearly, if Congress can find the will to protect those who report financial security problems as it did in the Sarbanes-Oxley Act, the same should be expected for rail workers. We were disappointed that the Administration failed to recognize the need for whistleblower protections for workers in its bill, but are pleased that the Oberstar-Brown bill includes strong whistleblower provisions. We also believe the section in H.R. 2095 assuring injured workers of prompt medical attention is important, and we support its inclusion in your bill.

Fatigue

It is well documented that fatigue is a factor in many rail accidents. The catastrophe in Macdona, Texas that resulted in three deaths should have been a wake up call. According to the National Transportation Safety Board (NTSB), the probable cause of that accident was train crew fatigue. And at the core of the issue were Union Pacific's train crew scheduling practices. With record profits and an overloaded system, it is unconscionable that the railroad industry refuses to hire the workers they need and instead make employees work dangerously long hours.

Operating crews often put in 12-hour days, then have to wait on their train "in limbo" for hours more until a replacement crew arrives, and then must return to work 10 hours later (or face retribution from their employer). Limbo time refers to the time consumed between completion of the maximum allowable 12-hour shift and the time when an employee is completely released from service. The railroads have

[1] Attached are two documents: "Safety Proposals by the Railroad Operating Crews," submitted by the United Transportation Union (UTU) and testimony to the House Railroads, Pipelines and Hazardous Materials Subcommittee by the Brotherhood of Railroad Signalmen (BRS).

taken advantage of an erroneous interpretation of the hours-of-service regulations and now regularly compel crews to remain at the work place to guard stationary trains until a relief crew is available for service. This "relieved but not released" status means workers are forced to remain on duty for hours and hours after completing a 12-hour shift. The railroads will tell you that eliminating limbo time will create impossible scheduling problems, but let's be clear: the reason eliminating limbo time is problematic for the railroads is because it has become a major component of their routine scheduling practices. Limbo time was not a problem prior to the Supreme Court decision in 1996 (which held that time waiting for deadhead transportation is limbo time and therefore neither time on-duty or time off-duty). Eliminating limbo time in its entirety is the only meaningful way to end its routine abuse.

For signal workers, the manipulation of hours-of-service has become commonplace. While the 12-hour law applies to signal employees, there is an exception that allows employees to work up to four additional hours "when an 'actual emergency' exists and the work of the employee is related to the emergency." Railroads have exploited this exception to the extent that now almost all signal work is classified as an emergency. Signal employees routinely work 16-hour days.

When the Hours of Service (HOS) Act was expanded to include signalmen in 1976, it was intended to be a 12-hour law. And, it should be noted, that is how the railroads originally applied the law. If, for example, signal personnel were working on a signal problem and were approaching the 12-hour work limit they would inform their supervisor and the supervisor would make a decision if the individual would finish the work within the time limit, or if another employee would be called to finish the repair work. However, through gradual "creep" by the railroads the law has become a 16-hour law. Signal employees today are instructed to work up until the 16-hour limit before they call for any relief personnel. In some cases, the railroads authorize outright violation of the HOS Act and order their signal employees to continue working until they are finished with the repair work.

Of greater concern, is that employees can be required to work 20 hours in a 24-hour period without adequate rest. Let me illustrate a typical duty time example for you: on Sunday evening a signalman goes to sleep at 9 p.m. and awakens at 5 a.m. to arrive for his regular Monday shift of 7 a.m. to 3:30 p.m. Under current law, at 3:30 p.m. his "rest" period starts. At 11:30 p.m. he is considered fully rested and a new 24-hour clock begins, despite the fact that he may have just gone to sleep at 10 p.m. After less than 2 hours of sleep he then receives a call to work at 12 a.m. on Tuesday. He works four additional hours and is finished with the trouble call at 4 a.m. He then travels home and has to return for his regular shift at 7 a.m. The cumulative effect of the law on the individual is that he is allowed to work a total of 20 hours-of-service within a 32-hour period without rest. You can imagine the situation exacerbated further when the railroads tack on their additional four "emergency" hours. The HOS Act should be amended to require that employees performing signal work receive at least 8 hours of rest during a 24-hour period.

Furthermore, scheduling continues to be a major problem for railroads and their employees. Unless employees know in advance what time they must report to work, they cannot properly prepare with adequate rest. Our railroads operate on a continuous schedule, 24 hours a day, 7 days a week from coast to coast. Rail workers do not have typical 9 to 5 work hours. However, with the technology available today there is no reason why every rail worker cannot know his or her schedule in advance and be able to plan (*i.e.,* rest, family time, personal time, commute time, etc.) accordingly.

Each rail carrier has an information delivery system which is commonly referred to as a "lineup" that is used to advise crews who are subject to call 24/7 regarding their status. Our members constantly complain of problems with these "lineups." It is absolutely essential that employees have early and reliable information about the date and time when they will be required to report for duty. Moreover, workers' rest time should not be interrupted by communications from their employers.

Adequately addressing the fatigue issue will require collaboration and cooperation as do all human factor issues in our industry. Having said that, we are committed to finding solutions to make our railroad safer and believe that there are several common-sense fixes that can be addressed immediately. The elimination of limbo time is essential. Guaranteed time off and shortened work days will result in better rested, better prepared and more efficient employees.

Training

The current training structure for rail workers is woefully inadequate. Despite the industry's claim that it will need to hire 80,000 more workers just to maintain the current movement of freight, it continues to ask its workers to do more with less.

Industry leaders will tell you about their railroads' extensive training programs and detailed security plans. Let me tell you what rail workers—the workers who move trains, fix track, maintain grade crossing signals, repair train cars and work on-board—are telling me. I hear first hand about an overworked, understaffed workforce that is ill-equipped to manage the capacity crunch facing our railroad system.

New hires have not kept pace with retirements in our aging workforce. As a result, new hires are commonly steered through shortened, one-size-fits-all training programs. Despite the hype you will hear about new state-of-the art training centers, our members continue to be frustrated by inadequate training programs. We know from reports in the field and exit interviews that new employees are resigning and leaving the industry because they are dissatisfied with the quality of their training, uncertain of their skills and uncomfortable with what they are asked to do with limited support.

For both operating and on-board crafts as well as maintenance workers, training is largely left to peer-to-peer training. As the workforce retires, critical "institutional" knowledge is lost. Coupled with limited classroom training and virtually no on-the-job training requirements, workers are entering the field with very little experience and little oversight. This is hardly a recipe for safe and stable operations. Not surprisingly, the Administration's bill did not address the need for a better trained and more prepared workforce. We urge you to do better and provide, at minimum, basic training standards for all class and crafts of employees.

Similarly, certification requirements for safety-sensitive work groups are needed. Certification provides important qualification standards for rail workers. To ensure accountability for the safe operation and maintenance of railroad equipment and facilities, carmen, conductors, mechanics, signalmen and other safety-sensitive personnel should be certified. Furthermore, any train that carries hazardous material should be staffed by workers certified in hazard identification, health effects and first response. Such training and certification should obviously also apply to emergency and first responders such as track and signal employees.

Track Safety

We anticipate that your rail safety agenda will include a myriad of changes to improve track safety and the safety of rail workers and communities. Of the many improvements related to track safety that are of concern to rail labor, let me mention just a few today.

Non-signaled, or "dark territory" refers to movement of trains over track without signals. Trains run through dark territory under the direction of a dispatcher but without the safety redundancies of switch monitors, block protection, or broken rail detection. Signal systems are affordable, relatively low-tech technologies that save lives. Unfortunately, the rail industry routinely fails to properly maintain signal systems and, in fact, often petitions the FRA to waive signal requirements for large areas of track.

The tragedy in Graniteville, South Carolina occurred in dark territory. A basic signal system would have noted that the hand-thrown switch was not properly lined and the train would have had a red signal to stop. Nine people died in Graniteville (including the train engineer who was not properly trained in hazmat evacuation procedures). Signal systems save lives when they are present and maintained properly. The NTSB has been clear in its recommendations in this area. Until the railroads commit to install adequate signal technology throughout the entire rail system, the NTSB recommendations are vital. Moreover, rail labor is adamant that petitions to remove signal systems and increase dark territory in our rail system be rejected.

Technological advances are important tools in creating a safer rail network. Rail labor has welcomed and adapted to technological changes over the years. The implementation of positive train control (PTC) systems is on the NTSB's most wanted list of transportation safety improvements. Rail labor has partnered with the FRA and others through the Railroad Safety Advisory Committee (RSAC) process to address PTC in order to prevent train collisions and over-speed accidents. We have been very supportive of developments in this area.

However, notwithstanding technological advancements, including PTC, we oppose single person operation of rail locomotives. The responsibilities of a railroad to operate safely over public crossings, to inspect the moving train, to open public crossings quickly when stopped, and to interact with emergency responders as situations warrant cannot be address by PTC, and were not designed to do so. Railroads that are intent on operating trains with a single individual are ignoring their responsibility to their employees, local communities, local emergency responders and the general public.

Oversight

A qualified, well-trained and adequately staffed inspector workforce is critical to the safety of our Nation's rails. To that end, rail labor notes that the current level of staffing at the FRA is woefully inadequate. Currently each FRA track inspector is responsible for over 500 miles of track. Current regulations call for a minimum of two track inspections a week. Understanding that track inspection is time-consuming, labor-intensive work it is impossible to expect the current inspector workforce to actually inspect all of the lines they are tasked to oversee. More inspectors not only will increase the safety of our railroads, but an increased presence on the railroads will have the added benefit of discouraging trespassers and those intent on creating havoc on the railroad.

As the General Accounting Office (GAO) has reported, there are myriad problems with safety oversight by the FRA. Because the number of FRA and state inspectors is small relative to the size of railroad operations, FRA inspections can only cover 0.2 percent of railroad operations.[2] When safety problems are found during that very small number of inspections (about 3 percent in 2005), the FRA does not measure the extent to which the identified safety problems have been corrected.[3] As I mentioned before, rail companies are making money hand over fist, and even the GAO states that it is not clear whether the number of civil penalties issued, or their amounts, are having the desired effect in improving compliance.[4]

Even the most robust safety rules are meaningless if not fully enforced by Federal regulators charged by Congress with this task. Yet we know that the railroads have used their considerable political clout to limit enforcement activities and oversight and in reality face little consequence for safety infractions. Fines, when they are levied at all, are little more than nuisances to multi-billion dollar rail companies. Congress must step in to make rail carriers that violate safety regulations accountable for their actions. Fines should be increased exponentially and penalties should more adequately reflect the level or number of infractions by a carrier.

Cross-Border Safety and Security

Finally, we hope this Committee will recognize the need to address the issue of safe cross-border transportation in the rail sector. As U.S. industries continue their drive to outsource American jobs and cut costs, we must remember the safety implications of such actions. Train inspections currently performed by U.S. rail workers play an important role in ensuring the safe and secure movement of U.S. cross-border operations. We hope this Committee will consider making a strong statement in the reauthorization bill to prohibit rail carriers from waiving U.S. inspection mandates (and outsourcing them to Mexico) or other safety requirements in cross-border operations.

We look forward to working with you and as the Committee prepares to move legislation that will make our railroad industry safer. I thank you for this opportunity to testify, and I will be happy to answer any questions.

ATTACHMENT 1

Safety Proposals by the Railroad Operating Crews

There are a number of safety improvements which Congress needs to address. We discuss them below in no particular order of importance. However, the most significant issues facing railroad workers today are fatigue and harassment.

Employee Protections Against Harassment and Intimidation

Nothing in the railroad industry is more disruptive and demeaning to an employee than harassment and intimidation he/she continues to experience on many railroads.

For example, some carriers use discipline or the threat of it to suppress the reporting of an injury. The current FRA requirements are virtually inadequate to prevent this harassment.

We must ensure that workers who report or identify a safety or security risk will not face retribution or retaliation from their employers. One should not have to choose between doing the right thing on safety or security and risk of losing his or her job. Despite the whistleblower protections included in the current law, rail workers and their unions continue to experience employer harassment and intimida-

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[2] *Reauthorization of the Federal Rail Safety Program:* Hearing Before the House Subcommittee on Railroads, Pipelines, and Hazardous Materials, 110th Cong. (2007) (statement of Katherine Siggerud, Director, Physical Infrastructure Issues, Government Accountability Office).

[3] *Id.*

[4] *Id.*

tion when reporting accidents, injuries and other safety concerns. Indeed, in an FRA report issued in July 2002 entitled *An Examination of Railroad Yard Workers Safety* (RR02–01), the FRA conducted focus group interviews with certain groups of rail workers. The FRA stated, "Perhaps of most significance, rail labor painted a generally adversarial picture of the safety climate in the rail industry. They felt that harassment and intimidation were commonplace, and were used to pressure employees to not report an injury, to cut corners and to work faster." It is disingenuous for rail carriers and government to ask workers to report problems while at the same time refuse to provide the basic protections needed to ensure that such reporting will not result in employer retribution.

Adequate provisions are necessary to protect safety of whistle-blowers and those subjected to intimidation. The various crafts have received countless complaints from employees of instances of outright harassment and intimidation. Some of these examples include:

Not reporting an injury or occupational illness soon enough for the carrier;

Railroads imposing multiple disciplinary hearings and investigations arising out of a single incident or accident;

Requiring multiple statements to a railroad arising out of a single incident in an attempt to obtain conflicting facts;

Constantly providing medical records to a railroad, even though no litigation has ensued;

Being harassed for not authorizing the use of defective equipment;

Retaliation for reporting, or attempting to report, on-the-job injuries; and

Supervisors interfering with their medical treatment for on-the-job injuries or work related illnesses in order to avoid making the injury reportable to FRA.

There needs to be effective employee remedies for an expanded number of safety activities. Currently, there are limited protections available under 49 U.S.C. 20109, which is administered under the Railway Labor Act, if an employee is discriminated against or discharged for filing complaints of rail safety violations or testifying in a rail safety proceeding. This procedure has proven to be ineffective in curtailing the harassment and intimidation. The list of protected activities needs greater expansion, and there needs to be effective employee remedies. As for remedies, there are current provisions for compensatory damages and for punitive damages which need to be expanded to remove the cap on liability, and to provide an effective deterrent even when an employee is made whole for any wage loss as a result of retaliation. Additionally, the affected employee should have the option to bring an action for damages in court, rather than the cumbersome procedures under the Railway Labor Act. This certainly would greatly deter anti-safety harassment in the industry.

Fatigue, Time on Duty, Deadhead Transportation, and Sleeping Quarters in Yards

One of the most critical railroad safety issues involves the hours-of-service of rail workers. This covers the maximum number of hours an employee should be permitted to work each day and each week, amount of undisturbed rest (*i.e.,* calling time), regular scheduling, and being required to remain on trains after the maximum time on duty has been reached. As shown by numerous studies, there is an overwhelming body of evidence which demonstrates that fatigue is endemic in the railroad industry. Those who have studied this issue agree that the problem is pervasive, and the industry has not adequately addressed it. Railroad operating crews are typically plagued by chronic fatigue caused primarily by excessive hours of work coupled with inadequate rest time, and by unpredictable and irregular work schedules. The problems experienced by the workers are varied: typically, the employee takes the few free hours he/she has off-duty to pay attention to personal and family matters; many experience circadian rhythm problems; employees are forced to work too many successive days without a day off; and others are called to duty sooner than expected. These problems have long been recognized in the industry. Not even the railroads can, with a straight face, dispute the evidence. Safety on the rails depend upon compliance with the safety statutes and regulations and the operating rules of the railroads. We know from the body of evidence that they are often compromised by employees' inability to obtain adequate rest.

The current law is deficient in various ways. It is not limited to the employees' weekly or monthly work hours, restrict the irregularity or unpredictability of on-call work schedules, or restrict commuting distances without compensatory time off. Extensive night work, irregular work schedules, extended work periods with few or no days off, and the policies and procedures that encompass such practices are permissible within the current law. (*See*, Coplen, M. and D. Sussman, *Fatigue and Alert-*

ness in the U.S. Railroad Industry Part II: Fatigue Research in the Office of Research and Development at the Federal Railroad Administration (March 2000).

We believe the remedy is to give the FRA authority to regulate fatigue, and at the same time, keeping in effect the statutory protections obtained over the years. Also, we strongly recommend that Congress amend the law to require that waiting for deadhead transportation and deadhead transportation be counted as time on duty, require undisturbed rest (calling time), and mandate the removal of the few remaining sleeping quarters from rail yards.

There have been numerous studies and recommendations regarding hours-of-service. The time for Congressional action is long overdue. Hopefully, your Committee will make the needed changes in the law. We will now summarize for the Committee the agencies that have investigated this problem, and demonstrate to you that fatigue is unfortunately a reality working on the railroads.

It is to be noted that in 1994 Congress granted FRA a limited authority to approve pilot projects, including waivers of the statute, proposed jointly by rail labor and management. This has not proven to be very effective.

Certification of Conductors

In 1988 Congress created an anomaly by requiring FRA to disqualify employees who were not performing work safely. However, it failed to address what should be the minimum "qualification" standards for rail employees. The amendment extends to conductors and trainmen the requirement for certification. Conductors and trainmen perform significant safety-sensitive functions, and should have formal competency requirements, as do engineers.

Administrator's Qualifications

There should be qualification standards for FRA Administrators similar to provisions which are contained in the NTSB law and appointees to the Surface Transportation Board. That is, the Administrator should be appointed on the basis of technical qualification, professional standing, and demonstrated knowledge in transportation regulation and safety.

Final Agency Action

The FRA rarely meets statutory deadlines for issuing regulations, or in responding to petitions by rail labor. One of the clearest examples of this deficiency is pointed out in House Report 102–205 on H.R. 2607.[1] There, the Committee on Energy and Commerce noted that 4 major rulemakings required to be completed within 2 years or less by the Rail Safety Improvement Act of 1988 were not completed by the statutory deadline.

> "In the Committee's view, section 23 mandated that the Secretary issue grade crossing signal system regulations within 1 year and provided the Secretary with discretion only to determine the extent of such regulations."

In the 1988 safety law, Congress mandated that the bridge protection standards for maintenance of way employees be issued within 1 year. The Notice of Proposed Rulemaking was not issued until January 30, 1991, and a hearing was conducted on May 1, 1991.

Regarding petitions filed by rail labor with the FRA, aside from the fact that they are rarely, if ever, granted, FRA historically has not considered them within the 1 year deadline required by Congress in 1976. *See,* 49 U.S.C. § 20103(b). An example of this is neglect is that the Brotherhood of Maintenance of Way Employees on May 30, 1990 filed a petition with FRA to require revisions of the Federal Track Safety Standards (FRA Docket No. RST–90–1). FRA did not even conduct a hearing until after the 1 year deadline had passed.

We have reviewed each statutory limit placed upon the FRA since the one year requirement was enacted, and the FRA has rarely met the deadline.

Studies by the Secretary

There are a number of studies which should be conducted on railroad safety. These include:

1. A detailed analysis of the quality of each railroad's training program.
2. A long term study of fatigue in the railroad industry.
3. The safety consequences of railroads contracting out of work to independent contractors.
4. The safety impact of drivers of railroad crews to and from duty assignment.

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[1] H. Rep. No. 102–205 at p. 9.

5. An evaluation of conflicting and confusing railroad operating rules.

6. A follow-up study of the Switching Operations Fatalities Analysis (July 2001) and a follow-up study of Collision Analysis Working Group (July 2006).

7. Locomotive cab environment and its impact on human performance.

Conrail Regulation

Section 711 of the Regional Rail Reorganization Act of 1973 (45 U.S.C. § 797j), among other things, prohibits any state from regulating any railroad in the region. This includes 18 states. That section was adopted in 1981 to deal primarily with the full crew laws where Conrail was operating, but the section, as adopted, was much broader to cover all regulation by the states. With Conrail mostly gone, the section has long ago fulfilled its purpose, and should be repealed.

Incorporation of AAR Standards

The Federal Government, through the FRA, delegates the authority to approve tank car designs to the AAR. Before any tank car may be used on the railroad system, the AAR Tank Car Committee must approve of its use on the rails. The builder of a tank car must apply for approval of the design, materials and construction, to the AAR for consideration by its Committee on Tank Cars.

The power brake regulations (*See, e.g.,* 49 CFR § 232.7), relating to periodic testing of brakes while cars are in the shop or repair track, requires the tests to be performed in accordance with the AAR Code of Rules.

The problem is the AAR has changed the rules without any official oversight by FRA.

Grants or Loans to Railroads

This arises out of the request by the DM&E railroad for a $2.3 billion loan from FRA. The FRA on 1/31/07 issued a Record of Decision in the matter, and only perfunctorily dealt with the safety issues. For example, it misled the public in Figure 3–1 regarding train accidents on DM&E. However, the FRA, in showing an improvement in 2006 over 2005, did not bother to point out that the monetary threshold for reporting accidents increased from $6,700 in 2005 to $7,700 in 2006, a 16 percent increase. Obviously, this is a large reason for the alleged safety improvement.

The railroad over the years has had the worst safety record, or among the worst, compared with any other in the U.S. (If you want stats., let me know). The FRA didn't think this was significant in considering the loan.

A Felony To Violate Grade Crossing Signals

It is obvious that something must be done, other than studying the crossing problem, if sufficient funds cannot be found to put protected crossings everywhere. The BEST solution is to place adequate sanctions upon those who don't obey crossing warning signs.

Training of Crews Transporting Hazardous Materials

In this day of heightened terror threats, coupled with the necessity for crews to transport more and more spent nuclear fuel, etc., there needs to be a certification that the crews have been properly trained. The railroads are doing a poor job, as will be shown in the testimony of Edward Wytkind, President of the Transportation Trades Department, AFL–CIO.

Minimum Training Standards

The lack of training in the industry transcends all classes of the railroad workforce. There are some FRA regulations which require training, but the extent of the training is left to each carrier. The problem is that due to the revised railroad retirement law, many early retirements continue to occur. The industry is becoming younger and younger, and at the same time business is booming, which puts pressure on the railroads to place the employees into service without sufficient training.

The lack of appropriate training is the number one safety issue facing the rail industry today—and it should be of significant and urgent concern to the Congress. These training deficiencies are not confined just to operating employees, but also include train dispatchers, signal employees, maintenance of way employees, locomotive repair and servicing employees, and track inspectors.

There was a time when trainmen and yardmen in freight and passenger service were naturals for becoming engineers. They possessed an impressive working knowledge of the physical characteristics of the terrain, in-train forces and operating rules and procedures. These veteran operating employees had only to become proficient in applying this knowledge to their new craft while, at the same time, honing their train handling skills. Unfortunately, this is no longer a reality.

As our aging workforce retires, and our railroad business increases dramatically, the railroads have delayed hiring replacements. As a result, they rush new hires through shortened, one-size-fits-all training programs. It is not uncommon on any train, anywhere in America, to find an inexperienced trainman paired with a new engineer. It is very unlikely the trainman received training over the territory he or she is working, or was taught the special problems that exist, and skills required, in regions with temperature extremes, heavy grades or complex operating environments. Most troubling is that it is unlikely either the new trainman or new engineer were provided classroom training where actual application of the operating rules were taught. They needed only to memorize rules—not know how to apply them—in order to graduate. What's more, most veteran employees believe that recurrent training in the railroad industry has become a farce.

Newly hired trainmen should not be required to work unsupervised or operate locomotives until they are truly experienced in the trainman craft. This ensures they have become proficient in their train service and have gained needed on-the-job experience before assuming additional demanding duties and responsibilities.

A 1 year minimum in train service prior to becoming a conductor would improve the quality and competency of railroad operating employees, which equates to safer and more efficient operations.

It also ensures that newly hired employees will have approximately 2 years of practical railroad experience before they can be expected to operate locomotives without direct supervision.

The attraction and retention of qualified candidates for employment and their training is a major safety issue for all unions in the rail industry. Unfortunately, the rail carriers have attempted to make training of new employees an issue reserved exclusively for collective bargaining, where the carrier's only concern is the cost of the training. The large turnover in new railroad operating department employees has a direct relationship to the lack of experience and proper training in our industry. Many new employees express their frustration at being overwhelmed with the level of responsibility that they have received with poor training and little experience on the job.

Another FRA initiative, the Switching Operations Fatality Analysis (SOFA) found that training and experience were critical safety issues.

The rail industry is absorbing a record number of new employees in every department while operating at maximum capacity because of the record levels of rail traffic. UTU has attempted to address the inadequate training issues in every forum, including the collective bargaining arena, with very little progress. The railroads have been reluctant to recognize that the adequacy of training is a genuine problem and have not addressed this issue with the unions in a meaningful manner. They have refused to even allow FRA to offer their expertise in training techniques, and have declined labor's offers to establish of cooperative mentoring programs for the critical component of "On the Job Training". The rail industry will have more than 80,000 new employees in the next 5 years. Unless we can quickly eliminate training as the major safety issue, we can only expect this negative trend in safety analysis to accelerate.

Venue

This really is not a lawyer issue; rather it is for the injured citizens in a state, and injured workers. First, when citizens are injured as in Minot, ND a few years ago, the railroads force the cases into Federal court which, for many, was located a long distance away from the homes of the injured. Also, we need not tell you how burdened the Federal courts calendars are these days. State courts should be available when alleging violations of Federal safety regulations. State judges are just as competent as many Federal judges to rule on preemption.

Regarding operating crews and maintenance of way employees, they travel sometimes hundreds of miles from home in their work. Injuries most often occur many miles from home. The railroads always attempt to have the case tried as far away from the employees' residence as possible, so that it will be inconvenient and expensive for the plaintiff. The employee is treated at his/her place of residence and should have the option of filing suit where he/she lives, rather than hundreds of miles away. Thousands of motions have been filed by the carriers to have the venue chosen by the plaintiff to be removed to another court.

Local Safety Hazard

Many of the state public utilities commissions are seeking to delete the local safety hazard provision contained in 49 U.S.C. § 20106(1). The National Association of Regulatory Utility Commissions has issued a resolution recommending that Congress eliminate the local hazard section. We support this change. Virtually every

time a state attempts to regulate an area, the railroads challenge the proposal. Most courts rule Federal preemption even though the FRA has not covered the particular problem. By simply eliminating the "local safety hazard" provision, the states still could not regulate if it *conflicted* with a FRA regulation or was *an undue burden on interstate commerce*.

State Common Law

The courts in the cases arising out of the Minot, ND accident have ruled that the citizens injured have no rights to seek damages because the state's common law is preempted by the Federal railroad safety laws. This is an outrageous decision, and even the President of the Association of American Railroads testifying in the House safety hearings stated that the industry disagreed with the decisions.

Congress is dealing with this matter in the pending transportation security legislation which is in conference. Hopefully, this will be corrected in that bill. If not, we urge you to place a provision in the safety legislation.

Prompt Medical Attention

First, the existing regulation addressing this issue is completely ineffective in assuring the employee receives prompt medical attention. It provides that a railroad shall have in place an Internal Control Plan which shall include, in absolute terms, that harassment or intimidation of any person that is calculated to discourage or prevent such person from receiving proper medical treatment or from reporting an accident, incident, injury or illness will not be permitted or tolerated and will result in disciplinary action against such person committing the harassment or intimidation. I am unaware of FRA ever enforcing this provision.

This above provision does not cover matters such as allowing the employee to go to the hospital before being forced to give a formal statement to a supervisor or claim agent, or go to the scene of the accident first with the supervisor; it doesn't require the railroad to provide prompt transportation to the employee; there is no protection regarding harassment; and simply following the plan of a treating physician is not addressed. A recent Federal court decision held that an Illinois statute mandating prompt medical attention was preempted. *See,* attached summary judgment in *BN/SF, et. al* v. *Charles Box, et. al.,* No. 06–3052, C.D.D.C. Ill., 1/18/07. Other states have adopted similar legislation, which is being challenged. A Federal amendment is needed to correct this problem.

Alcohol and Controlled Substances Testing

We strongly believe that railroads should be required to conduct all toxicological testing under the same protections as required under the Federal alcohol and drug testing regulations. There are many abuses connected with the testing conducted under the railroads own testing program. For example, some carriers do not allow a split sample to be retested by the employee. Each railroad has its own internal policies for testing, and protections for the integrity of such testing is not present in many instances. Therefore, we request that in the event a railroad conducts toxicological testing of its employees under its own program, such testing be conducted under the same protocols and procedures of Title 49, C.F.R., Parts 219 and 40.

Mexican Railroads and Employees

The railroads whose tracks connect with Mexico continue to seek waivers from the FRA regulations to allow Mexican workers make the tests and inspections in Mexico, and/or to allow trains to enter the U.S. without proper inspections on the U.S. side of the border. This should not be allowed for various reasons. Significantly, the U.S. cannot oversee the quality of testing inside Mexico. Also, Mexican engineers entering the U.S. do not have the same qualifications as U.S. certified engineers.

Critical Incident Stress Plan

This amendment seeks to require a critical incident stress plan similar to that in place at the FAA. It is designed to proactively manage the disruptive factors that an employee usually experiences after an accident/incident. It is designed to minimize the impact upon the employee. Rapid access to a CIS program following an accident will minimize the duration and severity of the distress associated with such an event. As with the airline industry, the employee involved will be removed from service immediately, and those involved in witnessing the event, upon request, shall be relieved as soon as feasible.

The railroads are a mixed bag in dealing with this problem—some do a decent job, while others act as if no problem exists.

Additional Safety Inspectors and User Fees

In 1977 the FRA issued a comprehensive 5-year plan for attacking the safety problems in the rail industry. In the proposal entitled "Safety System Plan, September 1977," the FRA stated that 800 safety personnel were necessary at the agency. As testified by FRA Administrator Boardman on 1/30/07 in the House the total inspection staff today is 400. The number of miles of track in operation are greater than in 1977 (173,000 in 1977 and 219,000 today); over 1.6 million locomotives and cars in operation today *vs.* 1.7 million freight cars and 33,000 locomotives in 1977.

It should be kept in mind that, as noted by the GAO testimony on 1/30/07, FRA today is only able to inspect 0.2 percent of the railroads operations each year. Also, in a recent report by the GAO entitled RAIL SAFETY "The Federal Railroad Administration is Taking Steps to Better Target its Oversight, but Assessment of Results is Needed to Determine Impact" (Jan. 2007), it stated at p. 57:

> "FRA inspectors cite many defects, but cite comparatively few of these defects as violations warranting enforcement action. Since 1996, FRA inspectors have cited an average of about 4 violations for every 100 defects cited annually. According to FRA officials, inspectors cite relatively few defects as violations warranting enforcement action because FRA's focused enforcement policy guides inspectors to cite violations only for problems that pose safety risks. In addition, inspectors have discretion in citing a defect or a violation for a given instance of noncompliance—FRA directs inspectors to first seek and obtain the railroad's voluntary compliance with the rail safety regulations."

Warning in Non-Signaled Territory

The NTSB recommendation in its report of the Graniteville, SC accident which occurred on Jan. 6, 2005 seeks to rectify a nationwide problem in non-signaled territory to protect against a misaligned switch. This is long overdue. There should be visual or electronic warning to crews to clearly convey the status of a switch, so that a train can safely stop if the switch is misaligned.

Seniority for Workers Seeking Federal Employment

Many very qualified employees have refused Federal employment because of the current restrictions which require the person to give up his/her seniority in the railroad industry. This creates a penalty upon the employee without any benefit to the public or the government. An employee of the Federal Government, who previously was a railroad employee covered under a collective bargaining agreement, should have the right to return to the craft or class on the carrier with which he/she was employed. If he/she returns to the railroad industry, such employee should be placed in his/her former position and retain all prior seniority and accrue seniority with said carrier from the date the employee became an employee of the said Federal agency. The employee should also continue to accrue all rights and benefits under the applicable collective bargaining agreement during the time he/she held a position with the Federal Government.

ATTACHMENT 2

PREPARED STATEMENT OF W. DAN PICKETT, INTERNATIONAL PRESIDENT, BROTHERHOOD OF RAILROAD SIGNALMEN BEFORE THE U.S. HOUSE OF REPRESENTATIVES, COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE, SUBCOMMITTEE ON RAILROADS

February 13, 2007

Good Morning. I would like to thank Ms. Corrine Brown, Chairperson and Members of the Committee. It is an honor for me to testify today on fatigue in the rail industry, a subject of great concern to this country and to all employees of the Nation's railroads.

My name is Dan Pickett, and I am the International President of the Brotherhood of Railroad Signalmen. The Brotherhood of Railroad Signalmen ("BRS"), a labor organization with headquarters at 917 Shenandoah Shores Road, Front Royal, Virginia, 22630–6418, submits the following comments concerning fatigue in the rail industry.

BRS, founded in 2001, represents approximately 9,000 members working for railroads across the United States and Canada. Signalmen install, maintain and repair the signal systems that railroads utilize to direct train movements. Signalmen also install and maintain the grade crossing signal systems used at highway-railroad intersections, which play a vital role in ensuring the safety of highway travelers. Throughout our entire existence, the BRS has dedicated itself to making the railroad workplace safer, not just for rail workers, but also for the public at large.

Before any discussion of fatigue in the rail industry can even begin, it should be noted that the rail industry is moving more freight with fewer employees than at any time in the history of railroading. This is a critical point that must be acknowledged. Through mergers and railroad managements' never ending quest to eliminate workers, railroad staffing levels are at an all time low and continue to drop. Those railroad employees that are left are working longer hours for many days at a stretch. A 12 to 16 hour day is not unusual for a railroad worker and in many cases it is the norm. Railroads are abusing the very asset that is their most important resource.

The BRS seeks to amend the Hours of Service Act for signalmen. Currently the Hours of Service Act (HOS) allows individuals performing signal duties to work 12 hours in a 24 period with an emergency clause provision that allows for an additional 4 hours-of-service in a 24-hour period. The BRS seeks to eliminate the 4 hour emergency provision due to the abuse by the railroad industry.

When the HOS Act was expanded to include signalmen in 1976, it was envisioned and intended to be a 12-hour law. It should be noted that is how the railroads originally applied the law. If signal personnel needed additional time to correct a signal problem they would inform their lower lever supervisor that they were approaching the 12-hour limit of the HOS Act and the supervisor would make a decision based on their experience if the individual could finish the work within 12 hours, or if another signal employee would be called to finish the repair work. However, through gradual "creep" by the railroads the law has become a 16-hour law. Most, if not all, Class I railroads have issued instructions to signal personnel that "everything" is an "emergency" and it is not necessary to call anyone. When the law was new, it worked well, and for years the railroads limited signal workers to 12 hours of work in a 24-hour period. Now however, signal employees have seen the law mutate into a 16-hour law. Many railroads have official or unofficial policies that state that any signal problem is an "emergency" and workers need not contact their supervisors for an interpretation.

Signal employees are instructed to work up until the 16-hour limit before they call for any relief personnel. In some cases, the railroads authorize outright violation of the HOS Act and order signal employees to continue working until they are finished with the repair work. That is why it is necessary to remove the four-hour emergency provision in its entirety. This discretion combined with the railroads tendency to push the limits of the law have morphed the HOS Act and is contrary to the intentions of the 1976 Congress.

Of even greater concern is when a BRS member can work 20 hours in a 24-hour period without adequate rest. For example: On Day 1 a signalmen goes to sleep at 21:00 and awakens at 05:00 to arrive for his regular shift on Day 2 at 07:00 to 15:00. Under the current law at 15:00 p.m. his "rest" period starts. At 23:00 he is considered fully rested and a new 24-hour clock begins. In many cases it is highly likely that he may have just gone to sleep at 22:00. After less than 2 hours of sleep he then receives a call to work at 00:00 a.m. on Day 3. He works 4 additional hours and is finished with the trouble call at 04:00. He then travels home and then has to return to work for his regular shift of 07:00 to 15:00. The cumulative effect of the law on the individual is that he is allowed to work a total of 20 hours-of-service within a 32-hour period. While the employee has had 12 hours off, he has gotten virtually no sleep.

This situation is exasperated further when railroads then require signal personnel to work an additional 4 hours under the emergency provision. Additionally, if an "emergency" occurs at the end of his shift, the railroad could require him to work an additional 4 hours from 15:00 until 19:00. The cumulative effect of the law on the individual would now be that he is allowed to work a total of 24 hours-of-service within a 40-hour period with virtually no sleep. This type of work schedule is a recipe for disaster. This is especially true when you consider that after being off-duty for a period of 10 hours, 2 hours which are spent traveling to and from work, the signal employee has to return to work for his regular shift at 07:00 and can then work another 16 hours before he is entitled to another rest period. It is possible that after waking at 05:00 on Day 2, a signal employee may get only 8 hours of actual sleep in a 66-hour period. See Appendix A for further explanation of this scenario.

The BRS asks that the Hours of Service Act be amended to require that employees performing signal work receive at least 8 hours of actual rest during a 24 hour period. What drives our request is the fact that many, if not all, of the railroads willfully abuse the HOS Act. For example, when the railroad receives emergency calls (prior to the end of the 8 hours of required rest) they will delay calling signal personnel until 8 hours have passed since the end of their scheduled shift or their last additional duty so that they can start a new 24-hour clock. This is unacceptable. The railroads are aware that the signal personnel have probably not received ade-

quate rest. All the railroads care about is getting a new 24-hour clock started so that they can work the individual 12 to 16 additional hours.

Chairman Oberstar, you have gone on the record saying, "In previous Congresses, I have introduced legislation to strengthen hours-of-service. The railroads fought against it, stating that hours-of-service should be a dealt with at the collective bargaining table. I believe that the safety of railroad workers and the safety of the general public which all too often are the victims in these train accidents, should not be relegated to a negotiation agreement between management and labor. This Congress has a responsibility to prevent fatigue."

Chairlady Brown, I could not agree more. As explained in my earlier testimony, the railroads have manipulated a 12-hour Congressional Hours of Service Act into a 16-hour law. In fact the situation is even worse in the industry than what I have explained so far. The Brotherhood of Railroad Signalmen is currently engaged in National Negotiations with the railroads to reach a new agreement over wages, benefits and work rules. The railroads have targeted the employees I represent during these negotiations. The railroads want work rule provisions that allow them to subcontract our safety-sensitive signal work to the lowest bidder. While I will not go into the inherent degradation of safety by having untrained and unskilled contractors performing signal work I will explain one of the main reasons that the railroads want to subcontract this work. Contractors are not covered by the Hours of Service Act. I will repeat this. Contractors are *not* covered by the Hours of Service Act. If the railroads persevere in this pursuit they will have found away to supercede the intent of Congress by employing individuals to perform safety-sensitive signal work who do not have to comply with the provisions of the Hours of Service Act.

They will be able to hire contractors who can work an unlimited number of continuous hours performing safety sensitive signal work. While the railroad owners say that they are trying to find ways to combat fatigue in the railroad industry, the reality is they are trying to find ways to supercede the safety provisions contained in the Hours of Service Act.

The inability to perform adequate testing and the failure to comply with minimum Federal regulations have contributed, if not caused many recent railroad accidents. In their never ending zeal to focus on the financial bottom line, railroads have allowed staffing levels to fall below the minimum needed to perform basic safety functions. Additionally the railroads are not through with their desire to further reduce manpower levels. The railroads are currently pushing very hard to reduce train crew size to a single person, and the implementation of Remote-Control-Locomotives (RCL) is proliferating as I speak here today.

Training and Education

Training and education is another key preventive measure that needs to be considered. Rail labor considers it equally important to provide Advanced Training to improve the skills of the professional men and women that install and maintain safety systems for the rail industry. This is an area that will increase productivity, improve safety and reduce fatigue. A signal employee that receives advanced and recurrent training is a more productive employee who can solve the emergency problems that they encounter in less time than one who is lacking the necessary skills.

Often signal problems are caused by a signal appliance indicating that a rail is broken or a switch is not properly aligned or a track is flooded. A signalman must know the action to take to provide safety for the public and the rail carrier before considering how to repair the problem.

By being more efficient, the trained signal employee spends less time in the field and therefore encounters less fatigue. Rail labor will continue to work to implement training provisions which were agreed to by the industry—but to date have not been implemented on many of our Nation's railroads.

Conclusion

There is little question that more must be done to eliminate fatigue in the rail industry in general and to signal employees specifically. Signalmen install, maintain and repair the signal systems that railroads utilize to direct train movements. Signalmen also install and maintain the grade crossing signal systems used at highway-railroad intersections. As such it is in the best interest of the traveling public and the employees that work for the railroad that Congress act to solve the problem of fatigue for signalmen in the rail industry.

An adequately staffed signal department of well-trained, well-rested signalmen is needed to make the critical safety-sensitive decisions that are a routine part of their daily duties. Signal employees often work alone in the worst weather conditions in some of the most demanding terrain and it is imperative that these workers have the opportunity to perform their duties after receiving adequate rest.

There is much to accomplish to eliminate fatigue in the rail industry in order to make the Nation's railroads safer for communities across the country and for the employees of the railroads. Experience teaches us that it is Congress that must provide the leadership to make safety a reality. I hope we can work together to see that improved safety practices become a reality.

On behalf of rail labor and the Brotherhood of Railroad Signalmen I appreciate this opportunity to testify before the Committee. At this time I would be more than pleased to answer any questions.

APPENDIX A

Day 1	Day 2	Day 3	Day 4
00:00	00:00 sleep	00:00 emergency call	00:00 sleep
01:00	01:00 sleep	01:00 emergency call	01:00 sleep
02:00	02:00 sleep	02:00 emergency call	02:00 sleep
03:00	03:00 sleep	03:00 emergency call	03:00 sleep
04:00	04:00 sleep	04:00 travel home	04:00 sleep
05:00	05:00 wake for work	05:00 off duty	05:00 wake for work
06:00	06:00 travel to work	06:00 travel to work	06:00 travel to work
07:00	07:00 regular work	07:00 regular work	07:00 regular work
08:00	08:00 regular work	08:00 regular work	08:00 regular work
09:00	09:00 regular work	09:00 regular work	09:00 regular work
10:00	10:00 regular work	10:00 regular work	10:00 regular work
11:00	11:00 regular work	11:00 regular work	11:00 regular work
12:00	12:00 regular work	12:00 regular work	12:00 regular work
13:00	13:00 regular work	13:00 regular work	13:00 regular work
14:00	14:00 regular work	14:00 regular work	14:00 regular work
15:00	15:00 regular work	15:00 regular work	15:00 regular work
16:00	16:00 off duty	16:00 emergency call	16:00 emergency call
17:00	17:00 off duty	17:00 emergency call	17:00 emergency call
18:00	18:00 off duty	18:00 emergency call	18:00 emergency call
19:00	19:00 off duty	19:00 emergency call	19:00 emergency call
20:00	20:00 off duty	20:00 off duty/travel	20:00 emergency call
21:00 sleep	21:00 off duty	21:00 sleep	21:00 emergency call
22:00 sleep	22:00 off duty	22:00 sleep	22:00 emergency call
23:00 sleep	23:00 off duty	23:00 sleep	23:00 emergency call

In the above scenario, after waking at 05:00 on day two, a signal employee can be awake for 40 continuous hours; traveling to, or working 30 of those 40 hours, then after "receiving" 10 hours of rest (of which the actual sleep may only be 8 hours), the signal employee could then work an additional 16 hours. It is possible that after waking at 05:00 on day two, a signal employee may receive only 8 hours of actual sleep in a 66-hour period. The above scenario would be in total compliance with the Hours of Service Act, as currently written, pertaining to employees who perform signal service.

Senator LAUTENBERG. Thank you, Mr. Wytkind. I regret that I didn't note that you were the President of the Transportation Trades Department of the AFL–CIO.

We have with us Ed Hamberger, President and CEO of the Association of American Railroads and Mr. Richard F. Timmons, President and Treasurer of the American Short Line and Regional Railroad Association. And I thank you all. And now if you would, Mr. Hamberger, please proceed.

STATEMENT OF EDWARD R. HAMBERGER, PRESIDENT AND CEO, ASSOCIATION OF AMERICAN RAILROADS

Mr. HAMBERGER. Thank you, Mr. Chairman. I appreciate the opportunity to be here to address rail safety and at the outset let me emphasize that the rail industry's safety record is excellent and getting better.

Since 1980, the train accident rate is down 69 percent. The employee casualty rate is down 81 percent and the highway-rail grade

crossing incident rate is down 76 percent. The employee accident rate and the grade crossing accident rate in 2006 were the best ever in this industry. And the train accident rate was just fractionally higher than the record low set a few years ago.

And as you pointed out, Mr. Chairman, this is occurring at a time when traffic is growing exponentially. And at a time, as Mr. Wytkind points out, where we have new employees coming into the industry. Which must mean that we are doing one heck of a job of training these new employees and integrating them into our workforce, if we are able to set these record levels of safety.

Senator Smith asked where the industry stands in respect to other transportation industries. In my written statement the U.S. Department of Labor data indicate that railroads today have lower employee injury rates than other modes of transportation including air and truck and most other major industry groups and below all private industry. So in fact, we are one of, if not the safest industry in the country.

Having said that, there's obviously still work to be done. One key way to improve safety is to upgrade the quality of the infrastructure, as you have pointed out, Mr. Chairman. And the facts are that railroads are investing now more in their infrastructure than ever before. Last year we put a record $8.6 billion into capital expenditures for upgrading tracks and signals, new freight cars and new locomotives. This year the industry plan is to invest even more, a record $9.4 billion in capital expenditures to make us more efficient and safer.

And I emphasize that that is just CapEx. We spend an equal amount of money on maintenance capital to maintain the system that's already there. Part of this investment is dedicated to technology which is playing a major role in making railroads safer.

For example wheel profile monitors that use lasers and optics to capture images of wheels as the car is moving by signaling that a wheel set needs to be changed before an accident can occur. Similarly rail defect detector cars use laser technology to detect internal rail flaws before a broken rail can cause an accident.

Railroads are also moving forward with advanced train control systems that can help prevent accidents by automatically stopping or slowing trains before they exceed their authority. These systems are complex and must include reliable technology to warn locomotive engineers of a potential problem; and then be able to take action, if necessary, independent of the engineer to prevent the accident from occurring. We are committed to the development and implementation of this technology where it is appropriate and at a pace permitted by available funds.

We continue to seek other ways to improve safety. And one issue of particular concern is fatigue. It is not in the railroad's best interest to have employees who are too tired to perform their duties properly. Consequently, individual railroads are pursing a variety of fatigue countermeasures based on what they have found to be most effective for their particular operating environments. And our data indicate that 83 percent of rail employees work less than 200 hours a month; 95 percent work less than 250 hours a month.

You heard from the NTSB that the maximum number in the maritime industry is 360, for truckers it's 350. We have proposed

in legislation on the House side to cap the number of hours at 276, well below either of those industries and well below the current statutory allowance. I would hope that rail labor would join us in that statutory cap. We are amenable to examining the Hours of Service Act. I have made those suggestions in my written testimony.

And let me close by addressing hazmat transportation. Each year railroads move up to 1.8 million carloads of hazardous materials with extraordinary safety, some 99.997 percent of all cars moving from origin to destination without any release of material due to a train accident. The biggest concern, of course, lies with the subset of hazmat known as Toxic Inhalation Hazards, or TIH. Each year railroads move about 100,000 carloads of TIH.

The Federal Government requires railroads to transport these materials whether the railroad wants to or not. Without that common carrier obligation I believe that some railroads would not transport TIH materials because of the potentially ruinous claims that could arise from a catastrophic event. The current environment for the rail transportation of TIH is untenable.

We are asking Congress to consider legislation similar to the Price-Anderson Act governing the nuclear industry. It is impossible to carry enough insurance to cover a widespread catastrophic event. Without a statutory cap on liability each train carrying TIH material is literally a bet-the-company event. Without such legislation, railroads would be forced to consider the option of seeking to remove the common carrier obligation to haul TIH.

In the meantime we have implemented new standards for tank cars carrying chlorine and anhydrous ammonia effective January 1, 2008. We also support the accelerated development and use of inherently safer technologies as substitutes for toxic inhalation hazard materials. Product substitution has been endorsed by both the National Research Council and the Government Accountability Office.

Let me reiterate that safety is our top priority and we believe that shows through our ever improving safety record. We are committed to working with you, others in Congress, our employees and our customers to ensure that rail safety continues to improve. Thank you.

[The prepared statement of Mr. Hamberger follows:]

PREPARED STATEMENT OF EDWARD R. HAMBERGER, PRESIDENT AND CEO, ASSOCIATION OF AMERICAN RAILROADS

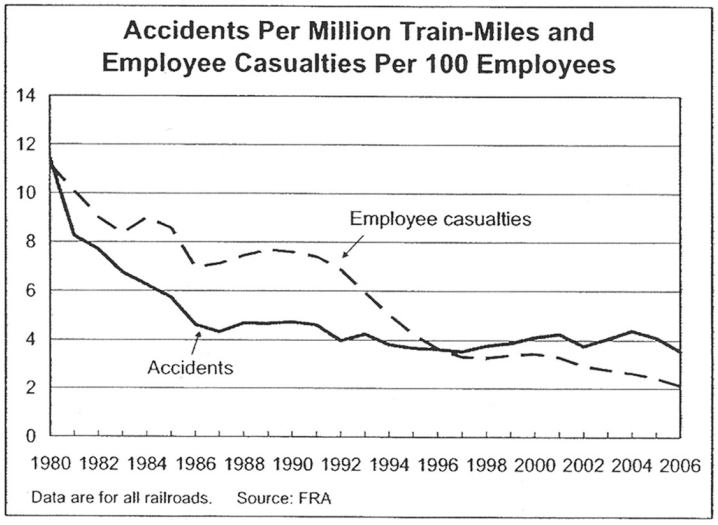
On behalf of the members of the Association of American Railroads (AAR), thank you for the opportunity to address rail safety. AAR members account for the vast majority of freight railroad mileage, employees, and traffic in Canada, Mexico, and the United States.

Overview of Rail Safety

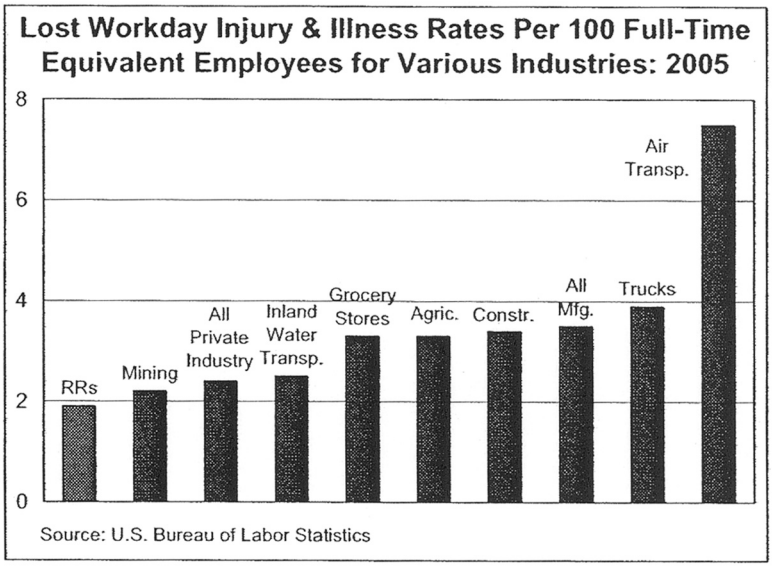
For railroads, pursuing safe operations is not an option, it is an imperative. It makes business sense and it's the right thing to do. Through massive investments in safety-enhancing infrastructure, equipment, and technology; extensive employee training; cooperation with labor, suppliers, customers, communities, and the Federal Railroad Administration (FRA); cutting-edge research and development; and steadfast commitment to applicable laws and regulations, railroads are at the forefront of advancing safety.

The overall U.S. rail industry safety record is excellent. As an FRA official noted in February 2007 testimony to Congress, "The railroads have an outstanding record

in moving all goods safely." Rail safety continues to improve. In fact, in aggregate 2006 was the safest year for railroads ever. According to FRA data, the rail employee casualty rate in 2006 was the lowest in history, having fallen 81 percent since 1980. Likewise, the grade crossing collision rate in 2006 was the lowest ever, having fallen 76 percent since 1980. And from 1980 to 2006, railroads reduced their overall train accident rate by 69 percent. The train accident rate in 2006 was just fractionally higher than the record low.



Decades ago, railroads were among the most dangerous industries to work for. That's no longer true. In fact, according to U.S. Department of Labor data, railroads today have lower employee injury rates than other modes of transportation and most other major industry groups, including agriculture, construction, manufacturing, and private industry as a whole. Available data also indicate that U.S. railroads have employee injury rates well below those of most major foreign railroads.



Railroads are proud of their safety record, which results from railroads' recognition of their responsibilities regarding safety and the enormous resources they de-

vote to its advancement. At the same time, railroads want rail safety to continue to improve. Railroads are always willing to work cooperatively with you, other policymakers, the FRA, rail employees, and others to find practical, effective ways to make this happen.

A commitment to safety that permeates the workplace is critical to promoting safety. Railroads have that commitment. But a healthy balance sheet is important to safety as well. A financially-viable railroad will be in a much better position to invest in safety enhancements (*e.g.,* heavier rail, newer freight cars and locomotives, technology R&D, more sophisticated training, and so on) than a financially-weak carrier. The record investments that railroads have made in their infrastructure, equipment, and technology in recent years have made railroads much safer, and these investments were made possible by the moderate improvements in profitability that railroads have enjoyed. Consequently, legislative or regulatory actions that created significant new spending requirements and/or unduly restricted rail earnings could have unintended negative safety consequences in addition to negative capacity, efficiency, and service reliability consequences.

Of course, no budget is unlimited, even for something as important as safety and even for railroads that have experienced financial improvement in recent years. Safety will not be advanced if resources are spent on programs that do little to improve safety or if unfunded mandates lock up resources that would have a more significant impact on safety if spent elsewhere. Unnecessary and unfunded mandates would also serve to increase the cost of rail service and drive more traffic to the highways, where the safety record is far less favorable than it is on the rails.

Below I will discuss several important topics associated with rail safety, discuss ways that railroads are working to advance safety in those areas, and discuss steps that we believe policymakers should take (or not take) to promote rail safety.

Role of Technology

Technology plays a crucial role in rail safety. Much of this technology has been (or is being) developed and/or refined at the Transportation Technology Center, Inc. (TTCI) in Pueblo, Colorado. A wholly-owned subsidiary of the AAR, TTCI is the world's finest rail research facility. Its 48 miles of test tracks, highly sophisticated testing equipment, metallurgy labs, simulators, and other diagnostic tools are used to test track structure, evaluate freight car and locomotive performance, assess component reliability, and much more. The facility is owned by the FRA but has been operated (under a competitively-bid contract with the FRA) by TTCI—which is responsible for all of its operating costs and some of its capital costs—since 1984. The rail industry is pleased that some members of this committee have had the opportunity to see TTCI in person, and I extend an open invitation to others in Congress, especially new members of this committee, to visit the facility when they can.

Just a few of the many technological advances that contribute to improved rail safety are described below. Many of these advances are preventive, designed to help protect freight cars, locomotives, track, and cargo before accidents or damage occurs.

- *Wayside detectors* identify defects on passing rail cars—including overheated bearings and wheels, dragging hoses, deteriorating bearings, cracked axles and wheels, and excessively high and wide loads—before structural failure or other damage occurs. Some of the newest wayside detectors use *machine vision* to perform higher-accuracy inspections through the use of digitized images. Tests at TTCI have revealed that it is possible to inspect wheels of moving trains using *ultrasonic probes*. Further tests of this system are underway, as are tests on ways to better understand and prevent *axle fatigue*.
- *Wheel profile monitors* use lasers and optics to capture images of wheels. The images show if wheel tread or flanges are worn and, consequently, when the wheels need to be removed from service before they become a problem.
- Trackside *acoustic detector systems* use "acoustic signatures" to evaluate the sound of internal bearings to identify those likely to fail in the near term. These systems supplement or replace existing systems that identify bearings already in the process of failing by measuring the heat they generate. This technology allows bearings to be replaced before they overheat and fail.
- Wheels constructed with stronger *micro-alloy metals* that resist damage and withstand higher service loads are being developed.
- Advanced *track geometry cars* use sophisticated electronic and optical instruments to inspect track conditions, including alignment, gauge, and curvature. TTCI is developing an on-board computer system that provides an even more sophisticated analysis capability of track geometry, predicting the response of freight cars to track geometry deviations. This information helps railroads determine track maintenance needs.

- *Improved metallurgy* and *premium fastening systems* have enhanced track stability, reducing the risk of track failure leading to derailments.
- *Rail defect detector cars* are used to detect internal rail flaws. The AAR and the FRA have jointly funded a Rail Defect Test Facility at TTCI that railroads and suppliers use to test improved methods for detecting rail flaws. In 2005, the capabilities of a prototype of the world's first laser-based rail inspection system were tested at TTCI. It is now being demonstrated in revenue service.
- *Ground-penetrating radar* and *terrain conductivity sensors* are being developed that will help identify problems below the ground (such as excessive water penetration and deteriorated ballast) that hinder track stability.
- Major U.S. railroads are deploying *remote control locomotive technology (RCL)* to improve rail safety. RCL allows rail personnel on the ground to operate and control locomotives in rail yards through the use of a hand-held transmitter that sends signals to a microprocessor on board a locomotive. In a March 2006 report, the FRA found that "[e]mployee injury rates were approximately 20 percent lower for RCL operations than for conventional switching operations . . ."
- *Electronically-controlled pneumatic (ECP) brakes* are being tested in revenue service. In an ECP braking system, an electronic signal applies the brakes on each car in a train almost instantaneously, resulting in a much shorter stopping distance, reduced slack, and improved train control. (The standard air brake system in use today sends an air pressure signal for cars to brake, slowing the cars one-by-one as the air pressure moves from car to car.) The FRA recently announced its intent to issue a notice of proposed rulemaking later this year to revise the Federal brake system safety standards to encourage railroads to invest in and deploy ECP brake technology.
- Because a relatively small percentage of freight cars (so-called "bad actors") can cause an inordinately high percentage of track damage and have a much higher than typical propensity for derailment, TTCI is working on ways to identify poorly performing freight cars as they pass across *truck performance detectors* and *hunting detectors*.[1]
- Much of the research underway regarding track and infrastructure is related to *heavy-axle load* (HAL) service, which entails the use of heavier (and often longer) trains. HAL-related work is underway on rail steels, insulated joints, bridges, welding, specialized track components, and more.
- *Tank car enhancements* have helped railroads reduce the overall rail hazardous materials accident rate by 86 percent since 1980 and by 28 percent since 1990, and railroads are constantly investigating ways to further enhance tank car safety. Hazmat safety will be discussed in much more detail below.
- Advanced *fault detection systems* monitor critical functions on locomotives. State-of-the-art locomotives today can have 20 or more sophisticated microprocessors that measure and check several thousand characteristics of locomotives and their operation.
- Railroads are constantly expanding their use of state-of-the-art global positioning systems, wireless technologies, and other *communications advances*.
- The *Integrated Railway Remote Information Service (InteRRIS),* an advanced Internet-based data collection system with wide potential applicability, is under development at TTCI. An early project using InteRRIS collects data from wheel impact 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) along railroad rights-of-way. InteRRIS processes the information to produce vehicle condition reports. These allow equipment which is approaching an unsafe condition to be removed from service and repaired before an accident occurs.

Many of the technological advances mentioned above have been incorporated in the rail industry's Advanced Technology Safety Initiative (ATSI). ATSI has already improved safety. For example, preliminary data indicate that the rate of main track broken rail and broken wheel accidents per million freight train-miles in the 29 months following the October 2004 implementation of ATSI was more than 7 percent below that of the comparable 29-month period prior to implementation.

[1] In terms of rail cars, "truck" refers to the complete four-wheel assembly that supports the car body. "Hunting" is an instability, more prevalent at higher speeds, that causes a rail car to weave down a track, usually with the flange of the wheel striking the rail.

Train Control Technology

Class I railroads are now developing and testing train control systems that, in certain circumstances, can help prevent accidents by automatically stopping or slowing trains before they encounter a dangerous situation. Through predictive enforcement, train control technologies could significantly reduce the incidence of train accidents caused by human error, especially train collisions and derailments due to excessive speed.

Train control systems are extremely complex. At a minimum, they must include reliable technology to inform dispatchers and operators of a train's precise location; a means to warn operators of actual or potential problems (*e.g.,* excessive speed); and a means to take action, if necessary, independent of the train operator (*e.g.,* stop a train before it reaches the physical limits of its operating authority or allowed speed). Some systems will also include additional features, such as expanding the ability to monitor the position of hand-operated switches. Perhaps the most critical element is sophisticated software capable of accommodating all of the variables associated with rail operations. When successfully implemented, these enhanced train control capabilities will enable trains to operate more safely than trains operate today.

Major railroads are engaged in various ongoing projects to test elements of this new technology. For example, BNSF has done extensive and successful pilot testing of its version of train control (Electronic Train Management System—ETMS) in Illinois and elsewhere. BNSF recently received final approval from the FRA to implement the technology on lines elsewhere on its system. Other train control projects in progress include CSX's Communications-Based Train Management (CBTM) system, Norfolk Southern's Optimized Train Control (OTC) system, and Union Pacific's Communications-Based Train Control (CBTC) system.

Implementing advanced train control technology will require significant capital investments in wireless networks; sophisticated location determination systems; highly reliable software; and digital processors onboard locomotives, in dispatching offices and, for some systems, along tracks. Railroads are committed to the development and implementation of train control technology where it makes sense to do so and at a pace that can be justified by available funds.

Hazmat Transport by Rail

Each year, 1.7 to 1.8 million carloads of hazardous materials ("hazmat") are transported by rail in the United States, with two-thirds moving in tank cars. "Toxic inhalation hazards" (TIH)—gases or liquids, such as chlorine and anhydrous ammonia, that are especially hazardous if released—are a subset of hazardous materials and are a major (though not exclusive) focus of hazmat-related rail safety efforts. Each year, railroads transport around 100,000 carloads of TIH, virtually all in tank cars.

Railroads recognize and deeply regret the occurrence of a few tragic accidents involving hazardous materials over the past couple of years. Nevertheless, the rail hazmat safety record is extremely favorable. In 2005 (the most recent year for which data are available), 99.997 percent of rail hazmat shipments reached their final destination without a release caused by an accident. Railroads reduced hazmat accident rates by 86 percent from 1980 through 2005.

Still, no one disputes that efforts should be made to increase hazmat safety and security where practical. Railroads understand this better than anyone. Today, the Federal Government, through the railroads' common carrier obligation, requires railroads to transport highly-hazardous materials, whether railroads want to or not. Unlike firms in other industries, including other transportation companies, railroads today have not been able to "just say no" to entering into a business relationship with consumers or manufacturers of these materials.

Absent railroads' common carrier requirement, many railroads would not transport these materials because of the potentially ruinous claims that could arise in the event of a catastrophic accident involving a release of these materials. Indeed, while accidents involving highly-hazardous materials on railroads are exceedingly rare, history demonstrates that railroads can suffer multi-billion dollar judgments, even for accidents where no one gets seriously hurt and the railroads do nothing wrong. Drunk drivers, impatient motorists driving around a grade crossing gate or ignoring a signal at a grade crossing, faulty repairs by the owner of a tank car, and pranksters—not terrorists—have caused incidents that could have been disastrous if they had involved the release of these materials.

Some years ago in New Orleans, a tank car that railroads did not own containing more than 30,000 gallons of liquid butadiene began to leak. Vapor from the butadiene tank car rolled out across a neighborhood until the pilot light of an outdoor gas water heater ignited it. More than 900 people were evacuated, but no serious

injuries or fatalities occurred. The National Transportation Safety Board found that the probable cause of the accident was an improper gasket that a chemical company had installed on the tank car. Nevertheless, a state court jury entered a punitive damages verdict against the railroads involved in the amount of $2.8 billion.

In essence, the transport of highly-hazardous materials is a "bet the business" public service that the government forces railroads to perform.

Railroads face these huge risks for a tiny fraction of their business. In 2005, railroads moved just over 100,000 TIH carloads and nearly 37 million total carloads. Thus, shipments of TIH constituted only about 0.3 percent of all rail carloads. The revenue that highly-hazardous materials generate does not come close to covering the potential liability to railroads associated with this traffic. Moreover, the insurance industry is unwilling to fully insure railroads against the multi-billion dollar risks associated with highly-hazardous shipments. And even though TIH accounts for a tiny fraction of rail carloads, it contributes approximately 50 percent of the rapidly-rising overall cost of railroad insurance.

For all these reasons, the current environment for the rail transportation of highly-hazardous materials, especially TIH, is untenable. If the Federal Government is going to require railroads to transport highly-hazardous materials, it must address the "bet the company" risk it forces railroads to assume.

Congress can address this inequity in one of at least three ways. First, Congress could create a statutory liability cap for freight railroads similar to the one that applies to Amtrak. Amtrak's total liability for all claims, including punitive damages, from a single accident—regardless of fault—is capped at $200 million. Congress could enact a similar type of cap on the liability a freight railroad would incur from an accident involving highly-hazardous materials, regardless of fault, with the government paying liabilities in excess of the cap.

Second, Congress could enact a Price-Anderson type solution. Price-Anderson limits a company's liability from an incident involving the release of nuclear material (including in transportation) and provides for a fund, to which all owners of nuclear power plants contribute when an incident occurs, to cover damages exceeding that limit. Under a similar rail proposal, railroads would be liable for a defined amount of damages arising from a rail accident involving highly-hazardous materials. In the event of an accident, damages above that defined amount would be paid from a fund to which producers and end-users of these materials would contribute.

The main purpose of such legislation would be to cap the railroad's liability for claims, while still ensuring compensation for the general public. However, it also seeks to balance the societal need to compensate the injured and damaged with the need for any railroad involved to be able to continue to operate and remain viable.

Both of these proposals leave railroads with substantial liability. Both are also reasonable, given railroads' federally-imposed common carrier obligation and the fact that accidents occur even when railroads operate carefully and safely. Under either proposal, limiting freight railroads' liability from an accident involving highly-hazardous materials would reduce railroads' risk exposure. It would also bring certainty to the insurance market. Hopefully, more insurance companies would again be willing to offer railroads coverage.

Absent these two alternatives, Congress should relieve railroads of their common carrier obligation to haul TIH and other highly-hazardous materials. If Congress will not provide some degree of protection from unlimited potential liability from transporting these materials, then it should not mandate that the railroads' shareholders assume that risk. Rather, railroads should be permitted to decide for themselves whether to accept, and at what price they are willing to accept, such materials for transportation.

What Railroads Are Doing

In the meantime, railroads support prompt, bold actions by all stakeholders to reduce the risks associated with hazmat transport. Railroads themselves are taking the lead:

- In December 2006, an industry committee approved a new standard for chlorine and anhydrous ammonia tank cars that will significantly reduce the risk of a release. (Anhydrous ammonia and chlorine combined account for around 80 percent of rail TIH movements.) The standard will be phased in beginning in 2008.[2]
- As noted earlier, railroads help communities develop and evaluate emergency response plans; provide training for more than 20,000 emergency responders each year through their own efforts and the Transportation Community Aware-

[2] The delay in implementation is due to an FRA request.

ness and Emergency Response Program (TRANSCAER®); and support Operation Respond, a nonprofit institute that develops technological tools and training for emergency response professionals.

- Railroads work closely with chemical manufacturers in the Chemical Transportation Emergency Center (Chemtrec), a 24/7 resource that coordinates and communicates critical information for use by emergency responders in mitigating hazmat incidents.
- Railroads participate in a variety of R&D efforts to enhance tank car and hazmat safety. For example, the Tank Car Safety Research and Test Project (which is funded by railroads, tank car builders, and tank car owners) analyzes accidents involving tank cars to help identify the causes of tank car releases and prevent future occurrences.
- Upon request, railroads provide local emergency response agencies with, at a minimum, a list of the top 25 hazardous materials transported through their communities. The list helps responders prioritize emergency response plans.
- For trains and routes carrying a substantial amount of highly-hazardous materials, railroads utilize special operating procedures to enhance safety.
- In addition to implementing their Terrorism Risk Analysis and Security Management Plan, railroads are working with DHS and the DOT to identify opportunities to reduce exposure to terrorism on rail property.
- Railroads offer hazmat awareness training to all employees who are involved in hazmat transportation. Employees responsible for emergency hazmat response efforts receive far more in-depth training.
- Railroads are pursuing a variety of technological advancements to enhance rail safety, including hazmat safety.
- Railroads are working with TIH manufacturers, consumers, and the government to explore the use of coordinated routing arrangements to reduce the mileage and time in transit of TIH movements.

What Hazmat Manufacturers and Consumers Should Do

Manufacturers and consumers of hazardous materials should take a number of steps to help ensure hazmat safety.

First, concerted efforts should be made to encourage development and utilization of "inherently safer technologies," which involve the substitution of less-hazardous materials for highly-hazardous materials, especially TIH, in manufacturing and other processes. As noted in a recent report by the National Research Council (part of the National Academy of Sciences), "the most desirable solution to preventing chemical releases is to reduce or eliminate the hazard where possible, not to control it." Ways this can be achieved include "modifying processes where possible to minimize the amount of hazardous material used" and "[replacing] a hazardous substance with a less hazardous substitute."[3] In a similar vein, in a January 2006 report, the Government Accountability Office (GAO) recommended that the Department of Homeland Security "work with EPA to study the advantages and disadvantages of substituting safer chemicals and processes at some chemical facilities."[4]

One real-world example of product substitution occurred at the Blue Plains wastewater treatment facility just a few miles from the U.S. Capitol. Like many wastewater treatment facilities, Blue Plains used chlorine to disinfect water. Not long after 9/11, the facility switched to sodium hypochlorite, a safer alternative.[5]

Railroads recognize that the use of TIH cannot be immediately halted. However, over the medium to long term, product substitution would go a long way in reducing hazmat risks.

Second, manufacturers and receivers of TIH, in conjunction with railroads and the Federal Government, should continue to explore the use of "coordination projects" to allow TIH consumers to source their needs from closer suppliers. For manufacturers and users, this could involve "swaps." For example, if a chlorine user contracts with a chlorine supplier located 600 miles away, but another supplier is located 300 miles away, the supplier located 600 miles away might agree to allow the closer shipper to supply the user.

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[3] *Terrorism and the Chemical Infrastructure: Protecting People and Reducing Vulnerabilities,* National Research Council—Board on Chemical Sciences and Technology, May 2006, p. 106.

[4] *Homeland Security: DHS is Taking Steps to Enhance Security at Chemical Facilities, but Additional Authority is Needed,* Government Accountability Office, January 2006, p. 7.

[5] A March 2007 GAO report lists 23 large wastewater treatment facilities located throughout the country that have recently converted or plan to convert from chlorine gas to a safer alternative. (GAO, *Securing Wastewater Facilities: Costs of Vulnerability Assessments, Risk Management Plans, and Alternative Disinfection Methods Vary Widely,* March 2007.)

Third, hazmat consumers and manufacturers should support efforts aimed at increasing tank car safety and reliability. Not long ago, for example, the FRA, Dow Chemical, Union Pacific, and the Union Tank Car Company announced a collaborative partnership to design and implement a next-generation railroad tank car. (TTCI has been selected to support testing and developments initiatives related to this project.)

What the Government Should Do

The government too has a key role to play. First, as noted earlier, if the government requires railroads to transport highly-hazardous materials (via their common carrier obligation), it must address the "bet the company" risk this obligation forces railroads to assume.

Second, the government should help facilitate the "coordinated routing arrangements" and "coordination projects" mentioned earlier.

Third, the government should encourage the rapid development and use of "inherently safer technologies" to replace TIH and other highly-hazardous materials.

Fourth, as explained in more detail below, the government should reject proposals that would allow state or local authorities to ban hazmat movements through their jurisdictions or order railroads to provide local authorities advance notification of hazmat movements through their jurisdictions. The purposes of these types of proposals are protection of the local populace against hazmat incidents, including terrorist attack (especially in perceived "high threat" areas), and enhancing the ability to react more quickly to hazmat incidents. The proposals may be well intended, but the end result of their enactment on a locality-by-locality basis would likely be an *increase* in exposure to hazmat release and *reduced* safety and security.

Hazmat Bans

Banning hazmat movements in individual jurisdictions would not eliminate risks, but instead would shift them from one place to another and from one population to another. In shifting that risk, it could foreclose transportation routes that are optimal in terms of overall safety, security, and efficiency and force railroads to use less direct, less safe routes.

The rail network is not similar to the highway network where there are myriad alternate routes. In the rail industry, rerouting could add hundreds of miles and several days to a hazmat shipment, and those extra miles and days could be on rail infrastructure that is less suitable (for a variety of reasons) to handling hazmat. Additional switching and handling of cars carrying hazmat could be needed, as could additional dwell time in yards. As the Department of Justice and DHS noted in a joint brief opposing a proposed D.C. hazmat ban, the increase in the total miles over which hazmat travels and the increase in total time in transit would "increase their exposure to possible terrorist action," and therefore potentially *reduce* safety and security. (It has been estimated, for example, that a ban on hazmat transport through the District of Columbia would result in some 2 million additional hazmat car-miles as railroads had to use circuitous alternative routes.) That's why the International Association of Fire Chiefs, among many others, has urged Congress to reject hazmat bans, noting that such bans "ultimately would compromise the safe movement of hazardous materials."

If hazmat were banned in one jurisdiction, other jurisdictions would undoubtedly follow suit. In the wake of so far unsuccessful attempts by the D.C. City Council to ban hazmat movements through Washington, similar efforts are being discussed for Atlanta, Baltimore, Boston, Buffalo, Cleveland, Chicago, Las Vegas, Memphis, Philadelphia, Pittsburgh, and probably other cities too, as well as for all of California.

An integrated, effective national network requires uniform standards that apply nationwide. The clarity and efficiency that uniformity brings would be lost if different localities and routes were subject to widely different rules and standards, or if local and/or state governments could dictate what types of freight could pass through their jurisdictions. The problem is especially acute for railroads, whose network characteristics and limited routing options mean that disruptions in one area can have profound impacts thousands of miles away. These disruptions would negatively affect all rail traffic, not just hazmat traffic.

Of course, it is unlikely that cities and regions that would see increased hazmat traffic because of rerouting elsewhere would welcome the additional hazmat traffic with open arms. For example, in response to a proposal to reroute hazmat traffic from Washington, D.C. through parts of Maryland instead, the Maryland Transportation Secretary said that routes through his state would be "simply unacceptable." A local Maryland official complained that rerouting would make his county "a

dumping ground," noting that "we're not interested in playing on those sets of rules."

Finally, as the U.S. Departments of Justice, Transportation, and Homeland Security indicated in comments opposing the D.C. law, hazmat bans also unreasonably burden interstate commerce and interfere with Federal regulation of hazmat shipments by rail. Bans would also lead to more reliance on moving hazmat by trucks on busy highways.

Hazmat Pre-Notification

Hazmat pre-notification to local authorities is problematic for several reasons and may not accomplish the goals of those seeking it.

First, upon request the rail industry already notifies communities of, at a minimum, the top 25 hazardous commodities likely to be transported through their area. In the event of a hazmat incident, train consists are available to emergency responders, and railroads, at TSA request, have agreed to provide movement data on all TIH cars.

Second, pre-notification would vastly increase the accessibility of hazmat location information. Making this information more accessible could increase vulnerability to terrorist attack by magnifying the possibility that the information could fall into the wrong hands.

Third, at any one time, thousands of hazmat carloads are moving by rail throughout the country, constantly leaving one jurisdiction and entering another. The vast majority of these carloads do not—and due to the nature of rail operations, cannot be made to—follow a rigid, predetermined schedule. The sheer quantity and transitory nature of these movements would make a workable pre-notification system extremely difficult and costly to implement, for railroads and local officials alike. That is why the Fire Chief of Rialto, California, commented, "You'd have to have an army of people to stay current on what's coming through. I think it wouldn't be almost overwhelming. It would be overwhelming." The greater the number of persons to be notified, the greater the difficulty and cost.

Fourth, railroads provide training for hazmat emergency responders in many of the communities they serve, and they already have well-established, effective procedures in place to assist local authorities in the event of hazmat incidents.

Finally, since railroads already make communities aware of what types of hazardous materials are likely to be transported through their area and since they already provide 24/7 assistance for emergency responders (many of whom railroads have trained), it is not at all clear that information obtained by local authorities through a pre-notification system would improve their ability to respond to hazmat incidents in any meaningful way.

Fatigue in the Rail Industry

It is not in the best interest of railroads to have employees who are too tired to perform their duties properly. That's why railroads have long partnered with their employees to gain a better understanding of fatigue-related issues and find effective, innovative solutions to fatigue-related problems.

Combating fatigue is a shared responsibility. Employers need to provide an environment that allows their employees to obtain necessary rest during off-duty hours, and employees must set aside time when off-duty to obtain the rest they need.

Factors that can result in fatigue are multiple, complex, and frequently intertwined. Therefore, efforts to combat fatigue should be based on sound scientific research, not on anecdotes or isolated events. Research demonstrates that flexibility to tailor fatigue management efforts to address local circumstances is key. Significant variations associated with local operations (*e.g.,* types of trains, traffic balance, and geography), local labor agreements, and other factors require customized measures. There is no single, easy solution to fatigue-related problems, especially in an industry that must operate 24 hours per day every day of the year, and a one-size-fits-all government approach is unlikely to succeed as well as cooperative efforts tailored to individual railroads.

The on-duty time of rail employees involved in operating, dispatching, and signaling trains is governed by the Hours of Service Act (HSA). Under the HSA, rail conductors and engineers must go off-duty after 12 consecutive hours on the job, and then must have at least 10 consecutive hours off-duty. If they go off-duty after less than 12 hours on the job, they must have at least 8 consecutive hours off-duty. On-duty time starts the minute the employee reports for duty and includes any work that involves engaging in the movement of a train and transportation to a duty assignment. Off-duty time starts when the employee is released from duty, generally at a designated terminal or place of lodging. Dispatchers and signal employees have slightly different hours-of-service requirements.

Individual railroads are pursuing a variety of fatigue countermeasures, based on what they've found to be most effective for their particular circumstances. Not every countermeasure is appropriate for every railroad, or even for different parts of the same railroad, because the effectiveness of various fatigue countermeasures depends on the circumstances unique to each railroad. Countermeasures that are used by one or more railroads include:

- Increasing the minimum number of hours off-duty between shifts.
- Implementing a morning return to work time if off work more than 72 hours.
- Permitting napping by train crew members under limited circumstances (*e.g.,* when a train is expected to remain motionless for a minimum period of time).
- Encouraging sleep disorder screening.
- Improving rest-inducing standards for lodging at away-from-home facilities.
- Devising systems (including websites, e-mails, pagers, and automated telephone systems) to improve communication between crew callers and employees.

Railroads and unions have also agreed, in some cases, to additional scheduling tools to provide for an improved opportunity for rest. They include:

- Enhanced emphasis on returning crews home rather than lodging them away from home.
- Providing more predictable calling windows and rest opportunities between shifts.
- Providing for a set number of days off after being available for a given number of days.
- Allowing employees to request an extra rest period when they report off-duty.
- Offering fatigue education programs for employees and their families, including individualized coaching to help employees improve their sleep habits. The rail industry is also developing an educational website designed solely for railroads and rail employees.

The importance of education cannot be overstated, since the value and effectiveness of fatigue-related initiatives depends on the actions of employees while off-duty. Many employee actions while off-duty (for example, working second jobs) can contribute to fatigue, and railroads have little control over these actions. Employees must make proper choices regarding how they utilize their off-duty time, and education of the entire family is important in encouraging sound decisionmaking.

Railroads support continued research on ways to fight fatigue and will continue to work with rail labor to find effective solutions to fatigue issues. To that end, railroads are amenable to a careful reexamination of the Hours of Service Act's statutory limitations. Changes in the HSA might help reduce fatigue in the rail workplace, but they need to be carefully considered to maximize the probability that they will actually attain the goals they are designed to achieve.

Specifically, railroads do not object to several changes to existing employee hours-of-service regulations. First, railroads do not object to prohibiting train and engine and signal employees from working unless they have had at least ten consecutive hours off-duty (up from 8 hours under existing law) during the prior 24 hours. Railroads do not object to a requirement that those 10 hours should be free of non-emergency phone or page communications from railroads. Second, any employee who works 12 consecutive hours on duty, and then at least 1 hour of limbo time,[6] would receive at least 14 hours of off-duty time once he or she is released from duty. Third, rail train and engine employees would be subject to a new monthly maximum of 276 hours on duty, and even though limbo time is not on-duty time, it would be included in those 276 hours.[7] Hours beyond this new maximum, which is consistent with permissible hours for other modes of transportation, would be a violation of the HSA. (Today a rail employee could theoretically work 432 hours per month and still be in compliance with the HSA.)[8]

Together, these measures not only significantly reduce the maximum on-duty time under current law, but they also strike a balance between the concerns that limbo

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[6] "Limbo time" refers to the time that crews spend waiting for transportation and the time they spend being transported to where they are released from duty. Limbo time counts as neither time on-duty nor time off-duty.

[7] KCS and CN do not agree with this position, and Amtrak abstains on the issue.

[8] In fact, though, we know of no cases where this has occurred. The vast majority of railroad workers are on duty each month for periods comparable to most other U.S. workers. Some 83 percent of these rail workers are on duty less than 200 hours per month and more than 95 percent are on duty less than 250 hours per month.

time contributes to fatigue and the realities of the unpredictability of railroad operations.

The above changes reflect the railroad industry's preferred approach. Failing use of this approach, railroads would support a transfer of the hours-of-service authority to the FRA, with reliance on FRA's professional judgment.

To enable signal employees to finish their work at far-away sites without having to commute multiple times, railroads and signal employees historically have agreed to modified work schedules—for example, eight consecutive work days (ten hours each day) followed by six consecutive days off. These work schedules are permitted under the HSA, are contained in collective bargaining agreements with signal employees, and result in much less total off-duty travel time for employees working a substantial distance from home.

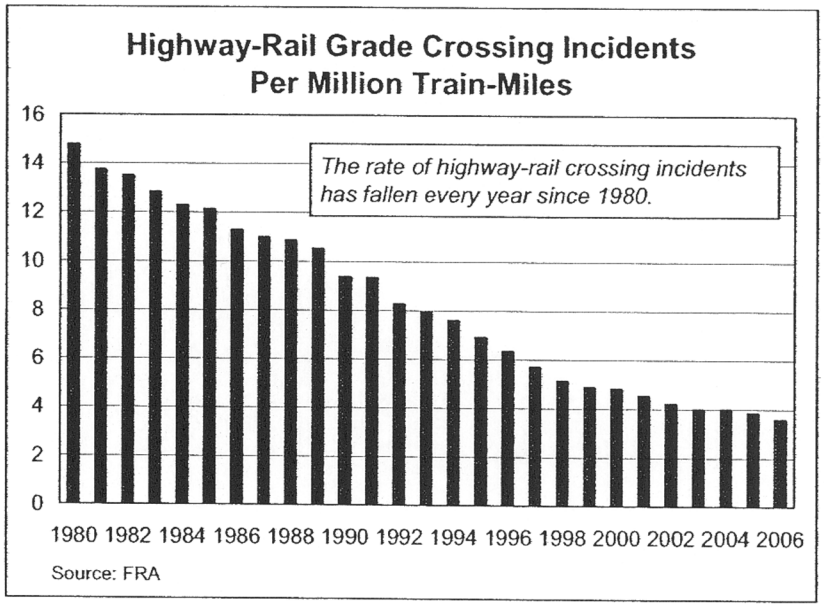
However, schedules like this are not permitted by Federal Motor Carrier Safety Administration (FMCSA) hours-of-service regulations, which apply to the many railroad signal employees who drive commercial vehicles to perform their duties. Several years ago, railroads and rail labor (through the Brotherhood of Railroad Signalmen) petitioned FMCSA to allow the HSA to take precedence over FMCSA's hours-of-service requirements. To date, FMCSA has refused. This problem can be rectified if it is made clear statutorily that hours-of-service requirements for rail signal employees under the HSA shall not be subject to hours-of-service restrictions imposed by another government agency.

Highway-Rail Grade Crossings and Trespassers

Collisions at grade crossings, along with incidents involving trespassers on railroad rights-of-way, are critical safety problems. In 2006, these two categories accounted for 97 percent of rail-related fatalities. Although these incidents usually arise from factors that are largely outside of railroad control,[9] and even though highway-rail crossing warning devices are properly considered motor vehicle warning devices there for the benefit of motorists, not trains, railroads are committed to efforts aimed at further reducing the frequency of crossing and trespasser incidents.

Much success has already been achieved. In 1980, according to FRA data, 10,611 grade crossing collisions resulted in 833 fatalities and 3,890 injuries. According to preliminary data, 2,908 collisions in 2006 (down 73 percent) involved 366 fatalities (down 56 percent) and 1,006 injuries (down 74 percent). The rate of grade-crossing collisions per million train-miles fell 76 percent from 1980 through 2006, and has fallen every year since 1980. And because total exposure (train-miles multiplied by motor vehicle-miles) has risen sharply over time, the reduction in crossing incidents and casualties per unit of exposure has been even higher.

[9] A June 2004 report by the U.S. DOT's Office of Inspector General (OIG) confirmed that motorist behavior causes the vast majority of grade crossing accidents. According to the OIG report, "Risky driver behavior or poor judgment accounted for 31,035 or 94 percent of public grade crossing accidents" from 1994–2003. The remaining accidents included such circumstances as vehicles stuck, stalled, or abandoned at crossings.



The Section 130 program, a national highway safety program created by the Highway Safety Act of 1973 and expanded most recently in SAFETEA–LU, is a major reason for the impressive grade crossing safety gains. Under the program, funds are apportioned to states each year for the installation of new active warning devices such as lights and gates, upgrading existing devices, and replacing or improving grade crossing surfaces. The rail industry commends and thanks the members of this committee and others in Congress for their support of this critical program.

Railroads continue to work hard to improve grade-crossing safety, including cooperating with state agencies to install and upgrade grade crossing warning devices and signals (and bearing the cost of maintaining those devices); helping to fund the closure of unneeded or redundant crossings; and supporting the national Operation Lifesaver grade crossing and pedestrian safety program. Railroads spend more than $250 million annually to improve, operate, and maintain grade crossings.

A recent initiative that will result in improved safety is the use of "stop" or "yield" signs along with crossbucks at grade crossings. The National Committee on Uniform Traffic Control Devices has recommended revising the Manual of Uniform Traffic Control Devices (MUTCD) to require the use of stop or yield signs in conjunction with crossbucks to make it clear what is expected of motorists at crossings. The AAR strongly supports amending the MUTCD as recommended by the National Committee and follow through on the installation of signs. AAR also supports FRA's recommendation, included in its May 2006 report to Congress on emergency notification systems for grade crossings, that signs comply with the MUTCD recommendations.

The report to Congress also recommended that Class I railroads continue their emergency notification programs, which provide the public with telephone numbers, posted at grade crossings, that can be called in the event of grade-crossing emergencies. AAR's member railroads will continue these programs.

Comprehensive Highway-Rail Grade Crossing Safety Agenda

A comprehensive agenda of engineering, education, and enforcement actions should be implemented so that further improvement in crossing safety can be achieved. Congress and the Federal Government should adopt and implement the following set of grade crossing safety and trespasser prevention initiatives:

- Adopt a uniform national grade crossing closure process, combined with a freeze on the overall number of grade crossings within each state.
- Require the adoption of highway design standards that ultimately eliminate grade crossings on the National Highway System.

- Redefine "private grade crossings" in such a manner that all grade crossings that are routinely accessible to the general public are eligible for Section 130 funding.
- Fund a research and development program to design effective low-cost active warning systems for grade crossings, and continue evaluations of the effectiveness of more advanced warning device systems such as four quadrant gates.
- Enhance grade crossing traffic law enforcement by requiring grade crossing safety as part of commercial driver's license educational *curricula* and by maintaining tough grade crossing traffic violation penalties.
- Initiate active enforcement programs with local police agencies—*e.g.,* encourage video enforcement and establish and fund a program for state and local law enforcement officers to serve in FRA's regional offices as liaisons for grade crossing and trespassing matters with state and local law enforcement organizations.
- Require a minimum set-back or physical safety barrier between active railroad tracks and adjacent parallel trails and paths.
- Continue to fund the national Operation Lifesaver grade crossing and pedestrian safety program.
- Increase Federal liability insurance requirements for contractors whose funded projects interface with or impact a railroad.

Trespassers

For many years, significantly more fatalities on railroad property have been associated with trespassers than with highway-rail grade crossing accidents. It is an unfortunate reality that too many people inappropriately use railroad property for short cuts, recreation, or other purposes, sometimes with terrible results. Railroads are engaged in ongoing efforts to educate the public that, for their own safety, they should stay off rail property.

Each year, scores of people tragically choose to end their life by stepping or lying in front of a train. To help prevent the tragedy of suicide, railroads support the Suicide Prevention Action Network (SPAN USA), a charitable organization dedicated to preventing suicide through public education and awareness; community action; and Federal, state, and local grassroots advocacy. In addition, through its Railroad Research Foundation, the AAR is researching the prevalence of, and underlying causal factors for, rail-related suicides. Such understanding could facilitate countermeasures to reduce suicides on railroad rights-of-way.

Performance Standards

There are two general approaches to workplace safety regulation: design-based standards and performance standards.

Design-based standards specify the precise characteristics of facilities, equipment, and processes a firm must use in the manufacture or delivery of its product or service. The FRA relies overwhelmingly on design-based standards in regulating rail safety. Design-based standards are costly for both railroads and the FRA to administer and maintain. They also tend to impede innovation by "locking in" existing designs, technology, and ways of thinking.

The discolored wheel rule provides a classic example of a design-based standard that discourages new technology. This FRA rule required railroads to remove freight car wheels that showed four or more inches of discoloration, on the grounds that such discoloration could portend wheel failure. However, research demonstrated conclusively that discoloration in new heat-treated, curved-plate wheels did not portend failure. Despite this evidence, the FRA took more than a decade to exempt such wheels from the requirement. During this period, railroads had to discard perfectly safe wheels at a cost that reached $100 million per year.

In contrast to design-based standards, *performance-based standards* define the desired result, rather than mandate the precise characteristics that a workplace must exhibit. Performance-based goals focus attention and effort on the outcome, not the method.

Under one type of safety regime based on performance standards, each railroad would have goals for train safety (*e.g.,* accidents per million train-miles) and employee safety (*e.g.,* injuries per 100 employees) as part of a comprehensive risk management plan, based on targets established by the industry and approved by the FRA. If a railroad failed to meet these goals, it would come under increased FRA scrutiny, be required to specify how it planned to correct the problems, and eventually be subject to monetary penalties or even a return to design-based regulation. While some (but not all) of the old regulations would be suspended under a performance-standard regime, the FRA would retain the power to conduct safety audits and to impose emergency directives at any time to protect public safety.

Under safety performance standards, railroads would have the opportunity and incentive to achieve safer operations as efficiently as possible. Performance standards would rely on the superior knowledge of railroads and their employees and would give railroads the discretion to experiment with new technologies and processes to improve safety. The result would be superior safety performance at a lower cost to railroads and their customers.

Risk-based performance standards represent a reform, not an abandonment, of safety regulation. Except in emergencies or after continued failure to meet targets, the FRA would no longer specify how a railroad would achieve its safety goals. Instead, the FRA would oversee and validate the goal-setting process, ensure that measures and data are accurate, and impose any necessary sanctions.

Railroads have proposed a performance standard pilot project focused on locomotive inspections. In addition, the standards the industry committee issued in December 2006 for anhydrous ammonia and chlorine tank cars incorporate performance standards. The committee standards mandate tank thickness, head shields, and top-fittings protection. However, tank car owners or builders can petition the Committee to accept a tank car that, *in lieu* of the specified tank thickness and head shields, achieves the same safety improvement.

Conclusion

Thank you for the opportunity to testify on this critical topic. The railroad industry is committed to working with its employees, Congress, the FRA, its customers, and others to ensure that rail safety continues to improve.

Senator LAUTENBERG. Thanks very much, Mr. Hamberger. Mr. Timmons, we look forward to hearing from you.

STATEMENT OF RICHARD F. TIMMONS, PRESIDENT, AMERICAN SHORT LINE AND REGIONAL RAILROAD ASSOCIATION

Mr. TIMMONS. Well, good morning, Mr. Chairman. I appreciate the opportunity to appear this morning on behalf of the American Short Line and Regional Railroad Association. Nationwide there are over 550 Short Line Railroads operating nearly 50,000 miles of track, employing just over 23,000 individuals.

Like the Class I railroads, the Short Line industry is proud of its safety record and believe that the trends over the last 10 years demonstrate the commitment we have made to improving safety. In the last 10 years our total accidents and incidents has declined by 44 percent. And our employee injuries have declined by 58 percent. I'm particularly pleased to tell you that in 2006, we had 206 Short Line Railroads without a single personal injury and another 77 Short Lines with personal injuries below the Short Line Industry average.

We know that any accident is one too many. And tireless effort is required to improve our record. But the trend line for small railroads has been heading in the right direction for some years now. I'd like to briefly touch on a number of things that will help us further improve our record; and a number of items that will not.

First, we take safety training very seriously. In 2005 the Short Line Association entered into a new partnership with the National Academy of Railway Sciences to facilitate Short Line use of this outstanding training facility. Short Line attendance has increased steadily since the new partnership was announced. And we believe that the higher more intense level of training will contribute to safer Short Lines.

Greater access through the Internet is on the way making this training even more useful and effective for the Short Line industry. Additionally we are partnering with the Federal Railroad Adminis-

tration in putting on seminars in drug and alcohol training, engineer certification and track and bridge safety standards.

Second, improving our infrastructure will improve our safety record. The Short Line industry puts nearly one-third of its annual gross revenues into track and equipmenting improvements, a higher percentage than any other industry in the country. Every dollar we invest in upgrading track makes our railroads safer.

The Federal Tax Credit that Congress enacted in 2004 has allowed Short Line to increase that investment. It's also leveraged significant additional investments by railroad customers and state and local governments. That credit expires at the end of 2007. And Senators Blanche, Lincoln and Gordon Smith have introduced S. 881 to extend that credit for another 3 years. Enacting legislation which maximizes infrastructure investment is the single most important measure Congress could enact to enhance Short Line Railroad's safety.

The Railroad Rehabilitation and Improvement Financing Program or the so called RRIF program is another way the Federal Government can leverage significant investment in track improvements. This program provides loans to railroads for a variety of capital purposes including track and equipment rehabilitation. It provides loans at "cost of money" to the government for 25 year terms.

Short Line Railroads cannot secure this kind of funding in the private markets. And the program should serve as one of the most cost effective public/private partnerships in the transportation field. These are loans that must be fully repaid. There is absolutely no cost to the Federal Government. The loans are secured by collateral equal to 100 percent of the loan value plus the payment of a so called "credit risk premium" that covers the risk of default. This program could go a long way toward upgrading the Short Line system at no cost to the Federal Government, unfortunately it is not.

Since the program was initiated in 1988 only 15 loans have been approved. Now I'll not take your time this morning explaining all the reasons for this failure. And indeed I am not sure I understand all of them myself. But if this Committee could get to the bottom of that problem, you would be making an enormous contribution to railroad safety.

As has been referenced here today the House Transportation and Infrastructure Committee is currently considering safety legislation in H.R. 2095. There are a number of provisions in that legislation that will reduce the amount of money Short Lines are able to invest in track upgrades. And will do so without any measurable improvement in safety.

Let me comment on these very quickly. And then if you wish, spend time on them in the question and answer portion of the hearing. The legislation mandates regulations we're requiring on main lines in non-signal territory. A system that would warn a train in advance of a misaligned switch or an operating policy that trains be operated at speeds that will allow them to be stopped in advance of misaligned switches.

Short Line Railroads have well over 15,000 switches, as a conservative estimate on non-signal main lines. The cost of this provision would be well beyond the resources of the Short Line Rail-

roads. Moreover, such a provision would provide a strong incentive to remove under-utilized switches to the detriment of our smallest customers and communities.

The legislation also places signal contractors under the Hours of Service Act. Short Line Railroads use these highly specialized people for the majority of their signal work. They are an efficient and cost effective group of workers. Subjecting them to the Hours of Service Act will increase their costs and those increases will be passed on to the Short Lines. I might add that since the Railway Worker Rule went into effect in 1996, no Short Line Railroad has ever had a railway worker fatality.

And the legislation changes the emergency work provision for signal employees by providing that it can not be invoked for more than 3 days during a period of seven consecutive days; and providing they can not be invoked for routine repairs, maintenance and inspections. This is going to be particularly harmful for small signal contractors who will have to hire additional full-time employees to cover what will be an occasional event.

The Short Line Railroad Industry understands the importance of safety and has made a substantial investment in making our property safer. It is good for our business. And it is the necessary and right thing to do for our employees. We stand ready to work with the Federal Government in its efforts to continue making progress in this important area.

Mr. Chairman, thank you very much for this opportunity. And I'll be glad to address any questions the Committee may have at the appropriate time.

[The prepared statement of Mr. Timmons follows:]

PREPARED STATEMENT OF RICHARD F. TIMMONS, PRESIDENT, AMERICAN SHORT LINE AND REGIONAL RAILROAD ASSOCIATION

Good morning, Mr. Chairman and members of the Committee. I appreciate the opportunity to appear this morning on behalf of the American Short Line and Regional Railroad Association (ASLRRA). Nationwide there are over 500 short line railroads operating nearly 50,000 miles of track and employing over 23,000 individuals.

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We know that any accident is one too many and tireless effort is required to continue to improve our record. But the trend line for small railroads has been headed in the right direction for some years now.

I would like to briefly touch on a number of things that will help us further improve our record and on a number of items that will not.

First, we take safety training very seriously. In 2005 we the Short Line Association, entered into a new partnership with the National Academy of Railway Sciences to facilitate short line use of this outstanding training facility. Short line attendance has increased steadily since the new partnership was announced and we believe that the higher more intense level of training will contribute to safer short lines. Additionally, we are partnering with the Federal Railroad Administration in putting on seminars on drug and alcohol training, engineer certification, track safety standards and bridge safety standards. Greater access through the Internet is on the way making this more useful and effective for Short Lines.

Second, improving our infrastructure will improve our safety record. The short line industry puts nearly one-third of its annual gross revenues into track and equipment improvements, a higher percentage than any other industry in the coun-

try. Every dollar we invest in upgrading track makes our railroads safer. The Federal tax credit the Congress enacted in 2004 has allowed short lines to increase that investment. It has also leveraged significant additional investments by railroad customers and state and local governments. That credit expires at the end of 2007 and Senators Blanche, Lincoln, and Gordon Smith have introduced S. 881 to extend that credit for another 3 years. Enacting legislation which maximizes infrastructure investment is the single most important thing Congress could do to enhance short line railroad safety.

The Railroad Rehabilitation and Improvement Financing Program or so-called RRIF program is another way the Federal Government can leverage significant investment in track improvements. This program provides loans to railroads for a variety of capital purposes including track and equipment rehabilitation. It provides loans at "cost of money" to the government for 25 year terms. Short line railroads cannot secure this kind of funding in the private markets and the program should serve as one of the most cost effective public-private partnerships in the transportation field. These are loans that must be fully repaid. There is absolutely no cost to the Federal Government. The loans are secured by collateral equal to 100 percent of the loan value, plus the payment of a so-called "credit risk premium" that covers the risk of default.

This program could go a long way toward upgrading the short line system at no cost to the Federal Government. Unfortunately it is not. Since the program was initiated in 1998 only 15 loans have been approved. I will not take your time today explaining all the reasons for this failure, and indeed I am not sure I understand all of them myself. But if this Committee could get to the bottom of that problem you would be making an enormous contribution to railroad safety.

As has been referenced here today, the House Transportation and Infrastructure Committee is currently considering safety legislation, H.R. 2094. There are a number of provisions in that legislation that will reduce the amount of money short lines are able to invest in track upgrades and will do so without any measurable improvement in safety. Let me comment on these very quickly and then if you wish spend time on them in the question and answer portion of the hearing.

1. The legislation mandates regulations requiring on main lines in non-signaled territory a system that would warn a train in advance of a misaligned switch, or an operating policy that trains be operated at speeds that will allow them to be stopped in advance of misaligned switches. Short line railroads have well over 15,000 switches on non-signaled main lines. The cost of this provision would be well beyond the resources of the short line railroads. Moreover, such a provision would provide a strong incentive to remove under-utilized switches to the detriment of our smallest customers.

2. The legislation places signal contractors under the Hours of Service Act. Short line railroads use these highly specialized people for the majority of their signal work. They are an efficient and cost effective group of workers. Subjecting them to the Hours of Service Act will increase their costs and those increases will be passed on to the short line. I might add that since the Roadway Worker rule went into effect in 1996 no short line railroad has ever had a railway worker fatality.

3. The legislation changes the emergency work provision for signal employees by providing that it cannot be invoked for more than 3 days during a period of seven consecutive days and by providing that it cannot be invoked for routine repairs, maintenance and inspections. This is going to be particularly harmful for smaller signal contractors who will have to hire additional full time employees to cover what will be an occasional event.

Lastly, I would like to briefly address the issue of hazardous material. The short line railroad record in this area is excellent. The U.S. Department of Transportation Hazardous Materials Information System indicates for 2004, 2005 and 2006 that no short line railroad has been responsible for any fatalities, injuries, or hospitalizations resulting from a hazardous materials release. Since 1973 FRA has recorded one hazardous material related fatality on a short line and that fatality involved an unauthorized rider on a freight train.

The vast majority of short line railroads would prefer to give up this traffic. We cannot adequately insure for the risk and for most short lines a single accident means going out of business. In the majority of cases the short line does not even set the rate so there is virtually no relationship between what we earn and the risk we assume. Compounding the rate inadequacy problem is the fact that for short lines the cost to insure one car is just a much as 100 cars.

I fully understand how difficult this issue is for Congress. There is strong special interest opposition to a meaningful cap on liability. Neither the producers nor the end-users are willing to pay the real price associated with this transportation and would vigorously and probably successfully oppose any such proposal in Congress. But the fact remains that some day there will be an accident on a short line railroad and that railroad will be put out of business. When that happens many more short line railroad owners will decide the risk is too great and will throw in the towel.

We believe that a realistic solution to this problem will involve some combination of a limit on liability, a greater assumption of the cost by the producers and end-users and perhaps some kind of government insurance program that assumes the risk above a certain level. For that to work for short lines however there needs to be some bridge between our company insurance and what will undoubtedly be a much higher liability limit under the new mechanism.

I strongly urge this Committee to vigorously pursue a solution before, not after, a crisis occurs. The short line industry certainly stands ready to make whatever modest contribution we can to crafting that solution.

The short line railroad industry understands the importance of safety and has made a substantial investment in making our properties safer. It is good for our business and it is the necessary and right thing to do for our employees. We stand ready to work with the Federal Government in its efforts to continue making progress in this important area.

Senator LAUTENBERG. Thank you very much each of you for your testimony.

I would ask first, Mr. Wytkind, do you believe that the FRA could accomplish what the railroads and labor could not collectively agree upon, that is a fair and effective update to the hours-of-service law? Do you think the FRA can accomplish that despite the fact that the railroads and labor could not agree upon it?

Mr. WYTKIND. Well, let me say the Federal Railroad Administration to the extent it needs the authority to—to try to address the issue; that should be done. But Congress needs to speak on this issue and provide very clear directives on some very important issues. Not the least of which are how you manage this fatigue crisis in the industry, how the workers are scheduled, the overuse and abuse of limbo time and the need to eliminate that.

So, I think obviously the Federal Railroad Administration needs to have a role in establishing the new standards that will be applicable to the railroad industry. But the Congress has to speak on it. We've spoken very aggressively on the House side. We obviously have expressed our views over here on the Senate side.

And it is our hope that the legislation will very clearly address these issues. So that you do not have, for example, a worker seeing its employer use six, 7 hours of limbo time on the job and then basically run into this crisis that you and the government panel had a long discussion about which is how you manage this long residual effect of fatigue in the workforce.

Senator LAUTENBERG. Mr. Hamberger, we're pleased to see the robust growth in the industry. We look at profits as an ordinary reflection of the opportunity in business. I come from the corporate world and I know the profits are good, but I hope that it's not at the expense of safety. And I heard you talk about the growth and safe performance over the last years. How do you propose addressing the fatigue question in the railroad industries?

Mr. HAMBERGER. Let me—if I could just address the first part of your predicate there. It is indeed true that 2006 was a good year for our industry and that's why we are re-investing $9.4 billion back into the industry. We are not sitting idly by.

Senator LAUTENBERG. What are the revenues of the industry?

Mr. HAMBERGER. About 50, so it's about 20 percent.

Senator LAUTENBERG. Fifty billion dollars.

Mr. HAMBERGER. Yes, about 20 percent going back into CapEx and then on top of that a similar amount for maintenance. So we spend close to 40 percent on maintaining, expanding and improving the infrastructure. And frankly, if we weren't doing that——

Senator LAUTENBERG. Forty percent of what?

Mr. HAMBERGER. Forty percent of all revenues.

Senator LAUTENBERG. And you're not suggesting that that 40 percent is part of operating cost, are you?

Mr. HAMBERGER. There's CapEx and there's maintenance. No, on top of that would be labor cost which is about another 35 percent of the revenue. So, no.

Senator LAUTENBERG. Careful, you're going to run out of profits.

Mr. HAMBERGER. Good point.

Senator LAUTENBERG.—will not get a lot of sympathy for you.

Mr. HAMBERGER. And so the point is we are not sitting idly by. We are investing. And frankly, the fact is that we are growing the business. A little known fact is that UPS is our biggest single customer. They have very high demands on being able to move their containers across the system. You can't do that if you sit back and let track become decrepit, as some have suggested. In fact, we are investing and upgrading the track, upgrading the signal systems and that improves both service and safety.

Senator LAUTENBERG. But also we don't want to see gain based on unfair treatment of employees. I mean the hours-of-service are just——

Mr. HAMBERGER. Absolutely correct. Our proposal on limbo time, specifically. Let me give you our whole fatigue proposal that we submitted to the House. Certainly we believe that the 8 hours off is not enough. In the current statute it should be 10 hours off after every shift, both at home and away terminals. And that should be uninterrupted time off. That is to say that you would not get called for your next turn of duty until that 10 hours has expired.

We believe, generally speaking, there are one or two railroads that don't agree with this but, generally speaking, there should be a cap of 276 hours per month, far below what you heard from the NTSB with respect to maritime and trucking. And with respect to limbo time, we agree that if limbo time occurs, that there should be additional rest because the issue is—as the NTSB gentleman said, you don't want to send someone out there with a sleep deficit.

Now, limbo time occurs because something has happened on the system. It is not baked into our operating plans. There's a grade crossing accident and all of the trains have to stop while that is dealt with at the crossing. There's a washout. There's an accident. There are any number of issues that can cause the system to slow down. And what we're saying is it should not be a violation of hours-of-service, but indeed, the employees should get 14 hours of rest when limbo time—when more than 1 hour of limbo-time occurs.

Senator LAUTENBERG. Mr. Wytkind, are you satisfied that some show of improvement from where we've been for these years?

Mr. WYTKIND. Safety in the industry?

Senator LAUTENBERG. Yes.

Mr. WYTKIND. No. Because one of the things I think that's lost in the statistics is that—and if you go back actually 20, at least 20 years, going back to the 1980s. Every major governmental investigation report I've read in my career representing workers in this town has shown a significant amount of under-reporting; and very inadequate government data collection in understanding what injuries and accidents actually occur and how many there are.

So the fact that our workers are constantly harassed and intimidated in an effort to suppress the reporting of injuries and accidents and in our proposal we say it goes further to include safety and security risks on the job.

Senator LAUTENBERG. Just for the moment and look at what Mr. Hamberger said about the increase in the hours for rest from eight to ten, is that what I——

Mr. HAMBERGER. Yes, sir.

Senator LAUTENBERG. Is that a positive?

Mr. WYTKIND. Well, look. Any movement by the railroad industry to try to address this issue is obviously going to get us to, hopefully, a position where we're actually talking to the employers about how best to address this. But it's very clear to us that they do not want Congress to prescribe much of what they do operationally as railroads.

And from our—in our judgment for us to actually deal with this issue in a responsible way we're going to have to stop the abuse of how you schedule workers. You're going to have to put very legitimate benchmarks in the law that prescribes how you're going to deal with rest, how you're going to deal with the length of time on the job. I don't think they're going far enough.

Senator LAUTENBERG. I don't want to place anybody at a disadvantage here. I'm not an arbitrator but I was just struck by one thing that indicated at least some improvement of, well, significant magnitude.

Mr. WYTKIND. Well, yes, but Mr. Chairman, one important point missing is, Mr. Hamberger didn't talk about the need to eliminate the misuse of limbo time. And the fact that workers are sitting for several hours in—on the job.

Senator LAUTENBERG. Well, I heard and once again I don't pick favorites.

Mr. WYTKIND. I understand.

Senator LAUTENBERG. That when I hear, regardless of how you identify, but a wait time or a home time, but the same rest period should be, the rest period should be lengthened.

And this isn't to say that there's not fault to go around here, absolutely. I'm concerned most about the safety issue here. And in order to make sure that safety opportunity is maximized; you have to consider the condition of the employees who are running the thing.

I mean, look at our disservice to the trucking industry and because so many independent operators are there, it makes it much tougher to manage. And so, but, Mr. Timmons, with the Short Lines, business is growing and are profits showing? I don't mean to be poetic here, it's just.

Mr. TIMMONS. Mr. Chairman, the trickle down effect from the Class I railroads onto the Class II's and Class III's is direct. In other words, as the Class I's do well, so do the Class II and Class III railroads. And over the last 5 years or so, the success of the Class I railroad industry has certainly been felt. And the smaller railroad industry is growing and investing in its systems, expanding and improving the infrastructure.

Now in the last year or so we've seen a softening of the economy and so there's generally a flat profile for the small railroad industry. And I think that's probably not uncharacteristic of what's going on, at least, this year in the Class I industry. So, not bad in the last few years, but we've hit a soft spot for the present.

The investment in the safety piece, of course, as the Class Is become more sophisticated and increase, as a result the market forces, the weight of their equipment. The Class II and Class III industry have had to adjust and increase the robustness of their track structure. The tax credit which was passed in 2005, went in effect in 2005 and 2006 and exhausts this year was one of the principle ways for us to facilitate increasing the track structure to 286,000 pounds.

Senator LAUTENBERG. You stated earlier that the Short Line industry puts nearly one-third of its annual gross revenues into track and equipment improvements. Now, again, similar to the question I asked Mr. Hamberger, you're not talking about operating expenses in that class of expenditure?

Mr. TIMMONS. No, sir. We are not. This is a——

Senator LAUTENBERG. We could call them capital investments.

Mr. TIMMONS.—capital expenditures, yes, sir.

Senator LAUTENBERG. Capital expenditures. Now, equipment is commonly purchased, sold and leased. I mean, we've seen the airline industry and sometimes a purchase is made directly by the lessee. And is that considered debt on your balance sheet, the leases that you sign for equipment?

Mr. HAMBERGER. I'm going to defer and get back to you on that sir.

Senator LAUTENBERG. I was curious. There are plenty of investors who want to take title to this equipment.

Mr. HAMBERGER. There are leasing companies. For example, GE Capital is a large——

Senator LAUTENBERG. Yes.

Mr. HAMBERGER. I better leave it where I said I'll get back to you.

[The information previously referred to follows:]

RAILROAD INVESTMENT IN INFRASTRUCTURE AND EQUIPMENT

Railroads are highly capital intensive and they commit funds for infrastructure and equipment in three general ways. First, railroads incur operating expenses primarily for repair and maintenance of both roadway and structures, and locomotives and freight cars. Class I railroad operating expenses for infrastructure and equipment during 2006 totaled $10.9 billion or more than one-quarter of all operating expenses (excluding an additional $4.4 billion in depreciation expenses associated with "writing off" prior long-term investments).

The second type of spending by the railroads is capital expenditures. These funds are used for replenishment and expansion. Class I railroad capital expenditures for 2006 totaled $8.5 billion. These outlays are comprised of both the traditional large-scale projects which are booked as capital expenditures and expensed over a period

of years as depreciation as well as long-term leases of rolling stock which are similarly capitalized. Unlike most other modes, freight railroads own the infrastructure over which they operate and must build, replace, and maintain that infrastructure at their own expense. Capital expenditures for wooden and concrete track *ties alone* have totaled over $1 billion for the past four consecutive years. To put the heavy capital demands of railroading into perspective, freight railroads' capital expenditures per revenue dollar (17.2 percent) have been five times that of the average U.S. manufacturer (3.4 percent) over the past 10 years.

Operating leases are a third type of investment vehicle that railroads use, and this method is employed mostly for rolling stock. Railroad leases that are *capitalized* (discussed above) are reported in the balance sheet [1] of the regulatory report made by Class I railroads. There is no such accounting provision for the reporting of *operating* leases. The western Class I railroads in particular make significant use [2] of operating leases to add new locomotives to their fleet, and the financial impacts of those transactions are not reflected in the balance sheet or capital expenditure items of the regulatory report.[3] In their shareholder reports, some railroads disclose a "lease-adjusted debt to total capital" percentage, but it is considered a non-GAAP (Generally Accepted Accounting Principles) financial measure. Operating leases are quantified or valued by stating them on a net present value of future lease payments basis. The Association of American Railroads estimates that new operating leases represented a Class I railroad investment commitment of over $1 billion in funds in 2006. Any difficulty or inconsistency in accounting for operating leases and their impact on balance sheets is currently being addressed. On July 19, 2006, the Financial Accounting Standards Board announced a new agenda item to "reconsider the current accounting standards for leases." Some believe that potential changes to the current accounting standards for leases could cause almost all leases to be capitalized.

The Association of American Railroads (AAR) will sometimes refer to infrastructure and equipment "outlays" or "spending". This is a measure of capital expenditures plus related operating expenses. Because depreciation-generated amounts apply to prior capital expenditures, depreciation expense must be deducted from the capital expenditure and expense sum total to avoid double counting. Class I infrastructure and equipment spending for 2006 totaled $19.3 billion.

The AAR will also sometimes refer to "capital commitments" for infrastructure and equipment. This is a measure of capital expenditures plus the net present value of new operating leases. The AAR does not have a report to directly retrieve the value of operating leases, but some figures can be found in railroad presentations and reports to shareholders, investors, and stock analysts. Although the AAR originally projected capital commitments for 2006 to be $8.6 billion, we now believe that they may exceed $9.0 billion.

Senator LAUTENBERG. Mr. Hamberger, safety technology is moving at a rapid pace in other industries. New cars that can self-park and others that have a collision warning system to warn drivers of impending obstacles and stop the car if the driver doesn't react. Accordingly locomotive cab alert systems and automatic devices that stop trains have been in place for, in portions of the railroad industry, for many years. Why is it taking so long for the industry to further implement the PTC?

Mr. HAMBERGER. Well, one of the issues and you put your finger on it earlier, is indeed capital and where do you put that capital. We are putting it into upgrading the infrastructure. For example, new track and new signal systems, new locomotives, new cars, new capacity to serve the customers.

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[1] *Annual Report Form R–1,* Schedule 200, Line 43. The Surface Transportation Board requires every Class I railroad operating within the United States to submit the Annual Report.

[2] Union Pacific Corporation lists the net present value of its new operating leases for 2006 as $443 million on page 4 of its 2006 *Analyst Fact Book.* A similar amount can be concluded for Burlington Northern Santa Fe based on their Capital Commitments slide used in presentations to stock analysts.

[3] Therefore, "debt" is somewhat underrepresented in the balance sheet of carrier reports to the Surface Transportation Board—although the figure reported is accurate by the rules of accounting.

At the same time, we were in a 5 year program with the Department of Transportation and the Illinois Department of Transportation to try to prove that technology south of Chicago. Former FRA Chief Jolene Molitoris, sent a report to Congress indicating that a PTC system at the time would be about $6 billion to implement with about $2 billion worth of benefits. And so, that cost benefit ratio wasn't there.

What's happened in the interim because of that work done in Illinois is that some of these suppliers have developed a less costly and effective system as opposed to a fail safe system. One of our members has gotten approval from FRA to implement. Others are testing it and I think that it will be rolled out in the next several years across the industry.

One of the things that we've got to make sure, of course, is that it is interoperable. That is, we have so many trains that run from——

Senator LAUTENBERG. What about the improvements being made now and even contemplated further with the tanker cars?

Mr. HAMBERGER. Yes, sir. We have implemented a new tank car standard effective January 1, 2008. It will reduce the likelihood of leaks if an accident occurs.

Senator LAUTENBERG. Rupture.

Mr. HAMBERGER. Yes, sir, by 63 percent.

Senator LAUTENBERG. And that's further thickening.

Mr. HAMBERGER. It's further thickening of what is called the head shield, the ends of the tanker as well as the sides of the tanker and a new design of the top fittings where the chlorine or the anhydrous ammonia goes in.

Senator LAUTENBERG. It's not dissimilar from the double hull?

Mr. HAMBERGER. It's not specifically a double hull, but——

Senator LAUTENBERG. I understand.

Mr. HAMBERGER. The concept is the same, yes, sir.

Senator LAUTENBERG. Mr. Timmons, you folks are looking at PTC, I'm sure. What other technological improvements are the Short Lines looking at in order to improve safety?

Mr. TIMMONS. Well, sir the ability for us to enhance and capitalize on detectors, weight size detectors for hot bearings journals, GPS for tracking hazardous materials; better dispatching and reporting systems that are done electronically.

There are about 556 small railroads, many of which are very, very small, measured in less than ten mile increments. Some are very, very sophisticated and are seven, eight and nine hundred miles. The very, very small railroads are marginally profitable. And so the challenge for them and the challenge for us is to provide technology solutions that will permit them to interface and connect with the major railroad's systems and their Class II and Class III brethren.

So, there's a whole host of both electronic reporting measures and safety measures that would give us an indication of the serviceability and the reliability.

Senator LAUTENBERG. Those are included in the plans for the industry these——

Mr. TIMMONS. Yes, sir, indeed they are.

Senator LAUTENBERG. I wanted to get back to something that Mr. Wytkind raised because from the research that we've done. We hear that there are lots of complaints in the area of harassment and intimidation of employees. Now, Mr. Wytkind, do you see FRA doing what it can or as much as it can do to prevent harassment and intimidation and to punish those who violate FRA regulations?

Mr. WYTKIND. No, I don't see them doing enough. Mr. Chairman, I do not see them doing enough. There are a number of reports that I've read that we've provided the Committee that provide overviews of specific instances where workers are harassed and intimidated in cases involving, for example, personal injuries on the job.

But I believe the only way that this is going to be addressed is if Congress speaks very forcefully with strong whistleblower protections, as you have in many other pieces of legislation up here over the years. And make it very clear that if a worker deals with an injury, a security risk or a safety risk on the job; he or she will not face intimidation, harassment or any employer reprisal as a result of speaking out on these issues.

The Federal Railroad Administration could be far more vigilant about it. They unfortunately are not unless a specific case is brought to their attention. And then they go through their investigative process. But the bottom line is we think Congress has to speak on this issue.

Senator LAUTENBERG. I have several other questions which I will submit in writing. I close with this one for general response. There are lots of retirements. We've heard that for a long time about railroad employees. And what suggestions do we have for improving training for the railroad employees that are new and ensuring an adequately trained rail workforce? That's the critical issue.

Mr. WYTKIND. Well, one of the things that I've been working on—I appreciate that question, Mr. Chairman, is over many years we've tried to get workers more training. By giving them true classroom style, on the job training, not just this one-size-fits-all or send them home with a video. Which I think was a big issue we discussed in this Committee in the aftermath of 9/11.

And I hear very specific reports from my member unions that workers are not receiving real training in the way that you and I would think real training is. A worker comes on the job and the railroad industry relies on his or her peers to get that worker ready for the job that he or she performs. We think there have to be very specific, very specific mandates that this training be comprehensive, that it be uniform, that it not just simply rely on the worker to worker, kind of peer training program that workers are allowed on the job to be given true classroom style training.

And if you pivot that to the security arena that becomes a really, really important task because if you have workers that really do not know what they are supposed to do if there is a security breach on the job; which I hear all the time from my member unions and their local people then you've got a real problem. That this industry, despite its profit, isn't dealing with, I believe, adequately.

Senator LAUTENBERG. Are you comfortable that FRA is the agency to monitor these complaints and criticisms?

Mr. WYTKIND. I think that's fine as long as the Congress puts very specific requirements in the law that allow—establishes such standards under which the FRA——

Senator LAUTENBERG. We can write the laws—enforcement of laws that we write is often a question.

Mr. WYTKIND. Well, and I think they don't have enough inspectors, which is what I said in my submitted testimony. We believe the hiring of more inspectors is needed systemwide at the Federal Railway Administration which would help in monitoring a lot of the safety compliance questions.

Senator LAUTENBERG. Mr. Hamberger, you look like you want to comment on this.

Mr. HAMBERGER. I'm not much of a poker player. This is about the fifth time, Mr. Wytkind and I have testified next to each other this spring. And I sometimes believe we're in parallel universes.

My members, of course, do not believe there is a culture of harassment and intimidation. And in fact, just the opposite that there is a culture of safety. There are rules on the books for whistleblower protection. And when a case comes up and if a manager has made a transgression that manager is reprimanded and punished.

With respect to training there are training regimes that have to be submitted to the FRA for engineers that the FRA can and has to review. And UTU, the conductors on the locomotive have a 6-month training program that was developed with UTU involvement.

And again when we talk about the new employees coming into the industry the facts tell you that they must be trained properly because our accident rate continues to improve. Our employee injury rate continues to improve. With respect to security training, we have developed through Rutgers University, a fine university, I might add, and the National Transportation Institute modules for security training. We've submitted that to the FRA, to TSA. They have approved it.

I believe the Rail Security bill has training in it. You know, great. You know, we want our people to be trained. We do believe that the training that we do will meet the requirements of TSA and FRA.

Senator LAUTENBERG. We thank you. Mr. Timmons we won't close you out, your response.

Mr. TIMMONS. Give me just a moment, sir. And let me say that I think this is a good news story for the small railroad industry. And as you are—as you commented and are precisely correct, by 2012 there will be a large reduction in railroad eligible retirees; 80,000 will reach 60 years of service—60 years of age and 30 years of service.

The good news for the Short Line industry is that there is some trickle down in that regard. As they retire from the Class I industry many of those people migrate into the small railroad community. In addition to the training initiatives and there are three or four of them that are afoot. Primarily the Class Is do a lot of training, formal training of small railroads through their programs as their interchange partners.

The Short Line Association as well as the FRA has partnered in a number of training programs on an annual basis both specific

programs and broader based programs related to safety and hazardous material. And of course we're partnered with the National Academy of Railway Sciences. Along with Internet-based programs we believe that we've got a fairly reasonable approach to training new employees coming into the industry and capitalizing on those that are actually retiring at age 60. More to be done, a lot more seminar work that we're engaged in on an annual basis, but I think it's a reasonably good story considering the size and the tempo of our organization.

Senator LAUTENBERG. Thank you each. We'll be considering your testimony very seriously as we start to do a new FRA reauthorization. Thank you.

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

A P P E N D I X

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. FRANK R. LAUTENBERG TO JO STRANG

Question 1. If given the authority to set hours-of-service standards via the rulemaking process, what reason do you have to believe that the Administration will be able to devise a standard that will improve safety and withstand judicial challenge, unlike the hours-of-service approach in the trucking industry?

Answer. Section 307 of the Administration bill would insulate regulations issued under that section from judicial review. (In particular, please see proposed 49 U.S.C. 20158(d) in section 307(c) of the bill.) We have requested that language to avoid delays in implementing this important initiative.

However, even in the absence of this restriction, we would pursue implementing this important initiative if given the authority. Several reasons lead FRA to firmly believe that the agency will be able to devise a standard that will improve railroad safety and, we hope, will withstand judicial challenge.

First, if the Secretary is granted railroad hours-of-service rulemaking authority, FRA in exercising that authority would, of course, have the benefit of hindsight. In any future hours-of-service rulemaking, FRA would be able to use past adverse decisions to avoid similar alleged procedural pitfalls.

Second, we have proposed to use FRA's Railroad Safety Advisory Committee (RSAC) to fully involve all concerned stakeholders, especially labor organizations and the carriers, in the rulemaking process. Under this process, all affected stakeholder groups are expected to reach consensus on the proposed rulemaking, increasing the likelihood of acceptance. This consensus-based process should result in an effective hours-of-service regulation that will allow flexibility within railroad industry to adjust individual fatigue risk management systems as times or conditions, or both, change.

Third, standards developed in the RSAC process will be based on a detailed consideration of the science that underlies circadian rhythms, sleep, and alertness specific to the railroad industry, thereby reducing the likelihood that any judicial challenge could be successful. FRA has accumulated a considerable body of scientific information about work schedules, fatigue, operator performance, technology to manage fatigue, and accidents in the railroad industry over the past 10 years. This information will help the RSAC make informed decisions about how to balance the operational needs of carriers against operators' need for adequate rest and the public safety. More detail about available research can be found on the FRA website at—*http://www.fra.dot.gov/downloads/safety/fatiguewhitepaper112706.pdf*.

Fourth, FRA would propose to take a fatigue prevention and management approach to this task—focusing on education and awareness, as well as hours-of-service. Again, this will ensure that the regulatory process is well aligned with the science of fatigue management.

Question 2. In your opinion, what is preventing Class I railroads from implementing Positive Train Control systems nationwide?

Answer. FRA recognizes that it may seem that it is taking a long time for railroads to implement Positive Train Control (PTC) systems on their properties. The fact is, however, that a great deal has been done and is currently being done toward this end. Also, ongoing development and implementation of these systems continues to increase at a quicker pace as more is learned and experience is gained, making development and implementation of the systems less onerous a task, as well as various benefits are realized. FRA believes continued and perhaps more aggressive growth in the implementation of these systems is highly likely. A summary of the existing projects follows below:

- There are currently 12 different PTC system projects.
- They involve a total of eight different railroads and are located in 15 different states.

- Current test projects consist of a total of 2,333 route miles and a total of 2,618 track miles.
- BNSF Railway Company alone has plans for implementing its Electronic Train Management System (ETMS) on 35 subdivisions.
- The Union Pacific Railroad Company is looking at its PTC system being implemented initially on four major subdivisions, with longer-term goals of its being expanded systemwide.
- The Northeast Illinois Regional Rail Corporation, or Metra, is planning a PTC system on it Rock Island line.
- CSX Transportation, Inc., the Norfolk Southern Corporation railroads, the Alaska Railroad, and the Ohio Central Railroad Company are all involved in the development of PTC systems on their lines.

It should be noted that PTC is a reality on much of the Northeast Corridor, including all segments where train speeds exceed 125 mph, under an FRA order. Between New Haven, Connecticut, and Boston, Massachusetts, all trains (intercity passenger, commuter and freight) run equipped with the Advanced Civil Speed Enforcement System (ACSES)—which is integrated into the automatic cab sign and automatic train control system. Amtrak continues to develop the capabilities of that system, but its fundamental elements provide for full PTC functionalities. Amtrak's Incremental Train Control System currently supports operations up to 95 mph, and Norfolk Southern freight trains on the line are also equipped.

Additional details are available on the "Positive Train Control (PTC) Project Chart," which I would like to submit for the record.

On the other hand, some of the main reasons that progress has not been faster are as follows:

- the costs of PTC, which far exceed its safety benefits;
- railroads' limited funds available for capital investment;
- the belief on the part of many in the industry that the business benefits of PTC can be captured by other, less costly technology;
- the absence of interoperability (*e.g.,* locomotives equipped with one type of PTC that works on a line equipped with that type of PTC cannot use their PTC on certain other lines equipped with a different type of PTC); and
- the concern that systems may not be reliable and thus could exacerbate congestion.

The impediments to implementation of PTC are described in somewhat greater detail in DOT's views letter on Section 601 of H.R. 2095 as introduced; that section would in effect mandate implementation of PTC systems on the main lines of Class I railroads by the end of 2014. Although as reported by the full House Transportation and Infrastructure Committee, the Section allows the Secretary to extend the implementation deadline for up to 24 months, FRA thinks that the proposed mandate may still be premature. In particular, DOT continues to have three main concerns about the provision.

First, as reflected in the FRA's report to the Committees on Appropriations entitled *Benefits and Costs of Positive Train Control* (August 2004) and in FRA's letter to Congress dated May 17, 2000 (enclosing the RSAC's report entitled *Implementation of Positive Train Control Systems* (September 8, 1999)), the direct safety benefits of PTC systems would fall far short of justifying the large investments required to deploy the technology. Business benefits will be required to support the investment, and if they are there, no mandate should be required. If they are not, then the process of technology integration has not matured to the point that it should be mandated, there being insufficient justification related to safety.

Second, as described in these reports, the Department has actively supported deployment of PTC through research and demonstrations, technical assistance, and issuance of performance-based regulations, and the railroads have been actively exploring the use of such systems, but much work remains to be done in developing the systems and in improving standards for interoperability. We believe strongly that the technologies that make up PTC should be deployed as they become market-ready, and not before.

Finally, much of the benefit of PTC is expected to come from equipping passenger trains and routes. However, these benefits are unclear, as is whether these benefits would outweigh the costs of implementing the system, which are also unknown.

It should be noted that recent months have brought new optimism that the major freight railroads will move forward with deployment of interoperable PTC. There appears to be a convergence of major freight railroads around the basic technology

that supports the BNSF Railway's ETMS. As you know, this past December FRA approved the Product Safety Plan for ETMS Configuration I as well as informational filings to test for several of the other PTC projects ongoing. (See 49 C.F.R. part 236, subpart H.) The next steps for further deployment of PTC are for FRA, the railroads, and the product vendors to continue to work in a cooperative manner toward development of successful safety documentation supporting continuing implementation of PTC. Major technical obstacles still must be overcome, including management of radio frequency spectrum so that system functions in a timely way and supports the necessary complement of on-board and wayside units.

Question 3. The NTSB has said the Home Valley, Washington accident was caused by the failure of the railroad to respond to reports of "rough rides," which is a sign of defective track conditions. Are railroads allowing their own track inspectors enough time to perform inspection duties? Is this a problem in the busy Northeast Corridor?

Answer. In the case of the April 3, 2005, Home Valley, Washington, derailment, some local personnel of the BNSF Railway Company ignored multiple notifications that the track was deteriorating. Train crews had reported the location, a carrier geometry car had marked the location, and an FRA inspector had noted the location while riding an Amtrak train several days before the accident. Interviews taken following the accident show that the local personnel did not take any action to correct the conditions. The personnel involved were terminated following the accident investigation. The track segment involved in the Home Valley accident normally receives four inspections per week, a frequency that exceeds the FRA minimum inspection requirements. These inspections would provide the inspectors with adequate time to locate and properly identify noncomplying conditions and then bring them into compliance or notify the proper carrier management for any follow-up actions, or both.

The railroad industry has been having increased traffic, requiring the railroads to be more efficient in their use of available track time to inspect, repair, and maintain track, as well as bridges and other wayside structures. The railroads are utilizing automated inspection technologies to increase their inspection efficiency and focus their track inspector's activities. The technologies include track geometry cars, internal rail defect test cars, gage restraint measurement systems, and vehicle/track interaction monitors mounted on locomotives. In addition, new technologies are being developed to assist in focusing the inspector's activities, such as high-speed, high-resolution optical systems to detect failed joint bars and connections, and ground-penetrating radar systems to detect developing subgrade problems.

The Northeast Corridor is considered a high-speed corridor, and the track and vehicles are treated as an interacting system. The FRA Track Safety Standards require the track to be manually inspected twice a week. The manual inspections are accomplished by inspectors walking or riding a hi-rail vehicle over the track. FRA inspectors periodically accompany the railroad inspectors and indicate that adequate inspection time is available.

Because the higher speeds require that the track and vehicle be treated together as a system, the Track Safety Standards also require that the high-speed track classes (Classes 6–9, track used for the operation of passenger trains and certain freight trains at maximum speeds ranging from 110 mph to 200 mph) receive various forms of automated inspections depending on the track class. Among the automated inspections required for high-speed track classes are inspections using—

- An instrumented car measuring dynamic vertical and lateral loads on the carbody and trucks;
- An instrumented car measuring dynamic vertical and lateral loads on the wheels;
- A track geometry measurement system; and
- A gage restraint measurement system.

The combination of manual and automated inspections allows Amtrak to identify and focus inspection and maintenance resources on deteriorating areas before they reach the point of noncompliance.

In addition, all passenger vehicles operating on Class 7–9 track (from 125 mph to 200 mph) are required to have a permanently installed lateral accelerometer on each truck frame for purposes of measuring truck hunting accelerations. Truck hunting can result from car suspension wear or track anomaly or both. This instrumentation assists the track inspector in locating possible deteriorating track conditions.

Track time to conduct inspections is finite. As train traffic increases, the available inspection time will constrict. Quality inspections to identify deteriorating conditions are crucial for safe train operations. Therefore, we expect to see railroads implement

additional technical improvements that will help the railroads' inspectors to focus their efforts to accomplish their duties.

Question 4. I understand that the FRA is reviewing safety procedures to protect pedestrians at rail locations where there are multiple at-grade crossings, especially those near train stations. What is the status of this review, and how close is the FRA to developing safety standards to protect pedestrians?

Answer. Under the DOT Grade Crossing Safety Action Plan (Action Plan) issued in June 2004, FRA has the responsibility to develop and make available a compilation of pedestrian warning devices in use at grade crossings of all types, including pedestrian-only crossings over railroad tracks. (I should note that FRA's activities in this area are intended not to establish safety standards but instead to provide a tool to be used by local authorities when addressing pedestrian safety issues at crossings; local authorities are best placed to make the decisions necessary to enhance safety.) FRA has worked to gather information on any signs, signals, pavement markings, or other devices used to enhance the safety of pedestrians at grade crossings. State DOTs and rail transit operators have made several submissions, which have included background information and illustrations. These are presented in the draft compilation so that the larger grade crossing safety community might benefit from the work of others in this important area. A draft of the compilation of pedestrian warning devices has been completed and been fully reviewed within FRA. The compilation should be published and available before the end of Fiscal Year (FY) 2007.

Meanwhile, the Railroad Safety Advisory Committee's Passenger Safety Working Group has also established a task force to address general passenger safety issues, including boarding and alighting from trains and moving safely in passenger stations. That task force is currently working on the issue of platform gaps, but the task force intends shortly to take up the issue of pedestrian safety at pedestrian-only crossings in relation to "second train incidents" in and around passenger stations. A "second train incident" involves a situation in which a pedestrian is injured or killed when trying to cross two or more sets of railroad tracks at a pedestrian-only crossing because of the movement of a "second" train traveling on one track typically after the "first" train has stopped and already activated the crossing warning system. Initially, the task force intends to document the extent and nature of the problem and to evaluate best practices that can be brought to bear to reduce these incidents, including the use of "second train coming" warning systems and pedestrian awareness efforts.

Question 5. What are FRA's plans to begin working with the other four states (CA, IL, IN, OH) identified by the Inspector General that continue to have the most grade crossing collisions and when FRA will start doing so?

Answer. First, as background, FRA, the Federal Highway Administration (FHWA), and the State of Louisiana have already developed and put in place, a state-specific crossing safety plan for Louisiana, and FRA and FHWA are currently working with the State of Texas to develop a crossing safety plan for that State, which should be completed by the end of FY07.

Let me address the four States mentioned in your question. FRA has had initial discussions with the Illinois Commerce Commission, which has agreed to participate in the development of a plan for that state. Formal planning meetings with Illinois agencies will begin before the end of FY07. Based on experiences with the previous plans, it is anticipated that the Illinois plan will be completed by the end of FY08. FRA will approach the appropriate State agencies in California and Ohio no later than the second quarter in FY08 to solicit support for the development of plans in these states. The state agency in Indiana will be approached when the State plan for Illinois is completed. This should be toward the end of FY08 or the beginning of FY09.

Question 6. How does FRA plan to proceed in working with the FHWA to develop model legislation for states that will address all types of sight obstructions at grade crossings, especially those that are not protected with automatic gates and flashing lights?

Answer. FRA and FHWA will establish a joint working group to develop model State legislation addressing sight distances at grade crossings equipped with passive warning signs. The joint working group will review existing State statutes that address sight distance to determine the best practices in place. The model legislation would be developed using the best practices and would be distributed to all States, with the goal that they consider the legislation and take appropriate action as a result.

Question 7. In the FRA's written response to the Inspector General's grade crossing report that was issued on May 3, the Subcommittee would like to know FRA's

plans to ensure that railroads have consistently issued a violation and assessed a civil penalty each time a railroad fails to report a grade crossing collision, as required?

Answer. FRA plans to amend its Statement of Agency Policy at title 49 of the *Code of Federal Regulations* (49 C.F.R.) part 209, appendix A, the agency's General Manual, and the agency's *Operating Practices Compliance Manual* to make obligatory the submission of violation reports for each detected violation of 49 C.F.R. part 225, when the violation in question is a clear-cut failure to report (*i.e.,* not involving any question with regard to interpretation of the regulation or sufficiency of the facts constituting the alleged failure), subject to application of considerations mandated by the Small Business Regulatory Enforcement Fairness Act (SBREFA) where relevant.

Question 8. I understand the FRA has expressed reservations about assessing a civil penalty each time a railroad fails to report a grade crossing collision. Why?

Answer. Since mid-2004, FRA has had in place a verbal instruction that each clear-cut violation of an accident/incident reporting obligation—whether it relates to a crossing collision, employee injury, or train accident—should, absent special circumstances, be the subject of a proposed civil penalty.

However, it should be noted that use of civil penalty authority is subject to the general guidance contained in 49 CFR part 209, appendix A, which specifies criteria to be applied in making these determinations, and appendix C, which addresses small entities, as required by the Regulatory Flexibility Act and SBREFA. So, for example, should an FRA inspector encounter a single mistaken failure of a small railroad to report a grade crossing collision (*e.g.,* out of confusion with the monetary threshold required for rail equipment accident/incidents), and should the railroad immediately file a report as required, FRA might omit use of a civil penalty out of deference to the Congressional policy related to small entities and in recognition of the fact that the circumstances are unlikely to be repeated.

It also should be noted that FRA has the right to cite a railroad for each day that a violation continues. This can represent a potentially very high liability for each accident/incident not timely reported. FRA will utilize this mechanism (citing for multiple days) to assess more substantial penalties where railroad conduct is persistent and without substantial justification.

ATTACHMENT

PTC Projects Nationwide

[Current and Proposed]

FRA Region	State Location	RR	System Name	Route Miles	Track Miles
1	MA, RI, CT, NJ	Amtrak	ACSES/ATC	177	376
	DE, MD	Amtrak	ACSES/ATC	27	54
Total	6	1	1	204##	430##
2	OH	OCRS	Train Sentinel	356	356
3	SC, GA, TN	CSX	CBTM	273	273
	SC	NS	OTC	120	120
Total	3	2	2	393	393
4	MI	Amtrak	ITCS	74**	84**
	IL	UP	NAJPTC#	120	120
	IL	BNSF	ETMS I	132	132
	IL	METRA	ETMS	34	75
Total	2	4	4	358	409
5	TX, OK	BNSF	ETMS II	205	217
6	NE	UP	CBTC–VTMS	175	367
7	—	None	—	0	0
8	AK	Alaska	CAS	531	541
	WY, WA, ID	UP	CBTC–VTMS	168	198
	ND, MT	BNSF	ETMS I*	153	153
Total	6	3	3	852	892
Grand Total	21	8	13	2,545	3,066

#This system moved to the Transportation Technology Center, Inc., at Pueblo, CO, for further development.
##Currently in revenue service, supporting speeds up to 150 MPH. Two additional ACSES segments, engineered but not funded, are not included.
*Upon planned installation on BNSF's Hettinger Subdivision.
**Assuming that ITCS is extended another eight miles to Indiana State line. ITCS is currently installed on 66 route miles (76 track miles). ITCS track miles include six controlled sidings totaling 10 miles.

Acronyms for PTC Systems in Chart

ACSES/ATC—Advanced Civil Speed Enforcement System/Automatic Train Control
CBTM—Communication Based Train Management system
OTC—Optimized Train Control system
ITCS—Incremental Train Control System
NAJPTC—North American Joint Positive Train Control system
ETMS I—Electronic Train Management System configuration I
ETMS II—Electronic Train Management System configuration II
CBTC–VTMS—Communication Based Train Control-Vital Train Management System
CAS—Collision Avoidance System

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. FRANK R. LAUTENBERG TO HON. ROBERT L. SUMWALT

Question 1. Given the trucking hours-of-service experience, shouldn't there be some limitations on the authority given to the Administration—to prevent them from weakening the hours-of-service rules currently in law?

Answer. Minimum periods of undisturbed rest time and maximum on duty time alone do not take into consideration other factors that can contribute to both acute and cumulative fatigue, such as scheduling practices, shift rotations, and the natural circadian rhythm. The Federal Railroad Administration needs the authority to regulate train crew fatigue by using scientifically based research.

Question 2. In your opinion, what is preventing Class I railroads from implementing Positive Train Control systems nationwide?

Answer. Requirements for the installation of positive train control systems have been on the National Transportation Safety Board's list of Most Wanted Transportation Safety Improvements for 17 years. Positive Train Control systems provide a safety redundancy to override human mistakes. In the past 10 years, we have investigated 52 train collisions and over-speed accidents that could have been prevented if positive train control systems had been installed. We do not believe that there are obstacles preventing Class I railroads from implementing positive train control systems and believe that it is time to establish mandates for the installation of these systems.

Question 3. The NTSB has said the Home Valley, Washington accident was caused by the failure of the railroad to respond to reports of "rough rides," which is a sign of defective track conditions. Are railroads allowing their own track inspectors enough time to perform inspection duties? Is this a problem in the busy Northeast Corridor?

Answer. Certainly, track time, inspection techniques and the number of inspectors available are all factors that can affect the adequacy of inspection activities. During our investigation of the Home Valley, Washington accident, we learned that because of the high amount of train traffic, approximately 57 trains a day over 58 miles of the inspector's assigned territory, the track inspector said that he had about ½ hour or less to get from station to station while inspecting track from a hi-rail vehicle. Stations were about 10 to 15 miles apart. The track inspector stated that on occasion he conducted a walking inspection of the curves but that it had become too difficult after he lost his helper. The Safety Board determined that the BNSF Railway Company's response to multiple reports of rough track conditions was inadequate and recommended that the BNSF, as part of its track inspector audit program, determine whether inspectors are provided adequate track time to perform their duties and take corrective action if necessary.

The Safety Board has not investigated any accidents on the Northeast Corridor where track time for inspectors was found to be a safety issue.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. FRANK R. LAUTENBERG TO KURT W. HYDE

Question. Your office reported to the full Committee that railroads should take measures to ensure railroad police forces are used in ways that do not harass and intimidate employees. The Class I railroads have stated they are in compliance with your recommendations. Do you agree that they are in compliance? Can you check and report back to us?

Answer. In response to the question, OIG's Chicago Office reached out to John F. Wetzel, Vice President, Association of American Railroads to ascertain information

regarding the Class I freight railroads implementation of OIG recommendations. Wetzel provided the following summary response:

- All Class I freight railroads, BNSF Railway, CN, Canadian Pacific, CSX, Kansas City Southern, Norfolk Southern, and Union Pacific—have adopted "specific guidelines for the conduct of . . . investigations" involving their employees, as recommended in the November 2004 OIG report. In addition, Amtrak had previously adopted such guidelines, as your report noted.
- With respect to the two smaller railroads studied, Wetzel related it was his understanding that the Florida East Coast has adopted such guidelines, although that railroad is not a member of the AAR. He added he will continue to reach out to the Indiana Harbor Belt, also a non-AAR member.

Based on this response and the supporting information provided (see attached), we feel the that all AAR-member railroads have taken the steps recommended in the IG's report. Additionally, we will reach out to the non-AAR members to determine at what level they have or intend to implement the OIG recommendations.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. FRANK R. LAUTENBERG TO EDWARD WYTKIND

Question 1. Do you believe the FRA could accomplish what the railroads and labor could not collectively agree upon—that is a fair and effective update to the hours-of-service law? How else do you propose to address employee fatigue in the railroad industry?

Answer. It is a well-established fact that fatigue is a cause of accidents in the railroad industry. Labor organizations and government witnesses, including the FRA and NTSB, have testified before Congress on numerous occasions to this end. The core purpose of the FRA is to regulate safety in the rail industry. As such, we do believe it is necessary to grant the FRA the authority to regulate fatigue; however, the statutory protections embodied in the hours-of-service law are important and must be retained. Further, there are several areas which should be addressed immediately. As transportation labor has testified, limbo time should be eliminated in its entirety. Since 1996, the railroad carriers have abused the "off-duty" time spent in transportation to a designated terminal. Similarly, railroad signal workers are regularly forced to work beyond their hours-of-service limits due to a routinely-abused four-hour "emergency" extension of their 12 hour work day. The four-hour emergency provision should be repealed. Additionally, workers' rest time should not be interrupted by communications from their employers. Despite the 24/7 operation of the railroad industry, with the advances in technology and communication devices there is no reason railroad workers should not have advance notice of their schedules and be able to plan accordingly for rest, commute and personal time. Adequate work-rest periods must also be established by amending the Hours of Service Act. Finally, workers must not face retribution if they are unavailable to work due to extreme fatigue. Railroads' imposed attendance policies which require employees to be on-call up to 95 percent of the time create unsafe conditions on our Nation's railroads and are egregious and unfair to employees.

Question 2. Many railroad workers have lost their lives or been injured working in the rail industry. As this Subcommittee begins to draft legislation on rail safety, what are the most critical issues which must be addressed from the employees' perspective?

Answer. Because the laws governing rail safety have not been reauthorized in over a decade, the safety of railroad workers has been compromised. As I mentioned in my written statement and in those statements submitted by TTD member rail unions, there are a number of issues that must be addressed. Any worthwhile rail safety bill must include strong whistleblower protections for workers; stricter enforcement of rail safety laws and regulations and stronger penalties against companies and employers that violate safety laws; improved and mandatory worker training programs; track safety improvements especially in the area of dark territory; reforms of the hours-of-service laws to eliminate "limbo" time and the abuse of "emergency" time for signal workers, prevent unnecessary communication with workers during rest time, and require adequate work-rest schedules; and prohibit the outsourcing of railroad inspections and operating responsibilities at our southern border.

Question 3. Is the FRA doing as much as it can to prevent harassment and intimidation of employees and to punish those who violate FRA regulations?

Answer. No. There continues to be a culture of intimidation and harassment that permeates the railroad industry like no other. It is routine for workers to be "discouraged" from reporting accidents and from seeking appropriate medical attention. H.R. 2095, the Federal Railroad Safety Improvement Act of 2007, includes provisions—which we strongly endorse—to provide strong whistleblower protections for workers who report safety violations on the job (Title II) and increase enforcement and penalties against employers who violate safety regulations (Title V). Further, we support the provision (Section 606 as amended) in H.R. 2095 which provides for prompt medical attention for an injured worker.

Question 4. Given the expected impending retirements of so many long-time railroad employees, what suggestions do you have for improving training for railroad employees and ensuring an adequately trained rail workforce?

Answer. Training programs for basic proficiency and safety as well as security must be made mandatory for all crafts and classes of railroad workers—including contract workers. Historically in the railroad industry it is on the job peer-to-peer training rather than classroom or formal apprenticeship programs that is the norm. As looming retirements of an aging workforce deplete the ranks of experienced workers, the industry must respond by instituting programs to adequately train their workforces. Unfortunately, history also shows that it is exceedingly unlikely that the carriers will institute proper training *curricula* without a legal directive. Therefore, we urge you to include a training mandate for both new hires and recurrent programs for existing employees (and contract workers) in any rail safety legislation. Further, certification requirements for certain crafts would also improve overall rail safety. Currently, locomotive engineers must be certified. Certification requirements which would mandate competency standards for safety-sensitive groups such as conductors, dispatchers, signal workers, carmen, electricians and onboard personnel should be included in any rail safety bill.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. FRANK R. LAUTENBERG TO EDWARD R. HAMBERGER

Question 1. Do you believe the Federal Railroad Administration could accomplish what the railroads and labor could not collectively agree upon—that is a fair and effective update to the hours-of-service law? How else do you propose to address employee fatigue in the railroad industry?

Answer. Railroads are amenable to a careful reexamination of the Hours of Service Act's statutory limitations. Changes in the HSA might help reduce fatigue in the rail workplace, but they need to be carefully considered to maximize the probability that they will actually attain the goals they are designed to achieve.

Specifically, railroads do not object to several changes to existing employee hours-of-service regulations. First, railroads do not object to prohibiting train and engine and signal employees from working unless they have had at least ten consecutive hours off duty (up from 8 hours under existing law) during the prior 24 hours. Railroads do not object to a requirement that those 10 hours should be free of non-emergency phone or page communications from railroads. Second, any employee who works 12 consecutive hours on duty, and then at least 1 hour of limbo time,[1] would receive at least 14 hours of off-duty time once he or she is released from duty. Third, rail train and engine employees would be subject to a new monthly maximum of 276 hours on duty, and even though limbo time is not on-duty time, it would be included in those 276 hours.[2] Hours beyond this new maximum, which is consistent with permissible hours for other modes of transportation, would be a violation of the HSA.

Together, these measures not only significantly reduce the maximum on-duty time under current law, but they also strike a balance between the concerns that limbo time contributes to fatigue and the realities of the unpredictability of railroad operations.

The above changes reflect the railroad industry's preferred approach. Failing use of this approach, railroads would support a transfer of the hours-of-service authority to the FRA, with reliance on FRA's professional judgment.

Question 2. Locomotive cab alert systems and automatic devices to stop trains have been in place in portions of the railroad industry for many years. What is it

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[1] "Limbo time" refers to the time that crews spend waiting for transportation and the time they spend being transported to where they are released from duty. Limbo time counts as neither time on-duty nor time off-duty.

[2] KCS and CN do not agree with this position, and Amtrak abstains on the issue.

taking so long for the industry to go a step further to fully implement "Positive Train Control?"

Answer. Positive Train Control has been and continues to be a tough technical challenge. Not only do systems have to be interoperable when implemented as traditional train control systems are today, but they also need to improve safety while not degrading system capacity or throughput. The most difficult task is to incorporate predictive braking systems that are tied to current train control systems (*e.g.,* signals) and do so to absolute stop (zero speed). Alerter systems are stand alone devices not connected in any way to the train control system and are much simpler than PTC. They rely on time based actions from the locomotive engineer to make sure he is performing a function to control the train and if not then the train is stopped. With the PTC system precision is required or there is an operational (capacity) impact if the system does not meet the precision needed—which can ripple through the entire network.

Developing and implementing the precision required for "predictive" braking systems as described above has been and continues to be a very difficult task. In the meantime the train collisions per million train miles have dropped 86 percent since 1980, so the fault space is much less. That improvement brings into question whether PTC can be cost effective (much smaller improvement in safety) and does not introduce risks that exceed the potential benefit. New technology always has some new risks when initially introduced. The FRA rule requires those risks to be assessed and this is not a trivial exercise.

Question 3. Given the expected impeding retirements of so many long-time railroad employees, what suggestions do you have for improving training for railroad employees and ensuring an adequately trained rail workforce?

Answer. Railroads can always make improvements to our training programs and are constantly reexamining them. However, we believe our training programs are fundamentally sound. Despite the new influx of employees in our industry, our safety record is outstanding. We are pleased that 2006 was the safest year ever. According to FRA data, the rail employee casualty rate in 2006 was the lowest in history, having fallen 81 percent since 1980. Likewise, the grade crossing collision rate in 2006 was the lowest ever, having fallen 76 percent since 1980. And from 1980 to 2006, railroads reduced their overall train accident rate by 69 percent. The train accident rate in 2006 was just fractionally higher than the record low.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. FRANK R. LAUTENBERG TO RICHARD F. TIMMONS

Question 1. Aside from comprehensive Positive Train Control systems, what technological improvements are the short line railroads eying in order to improve safety?

Answer.

- Continue to install signal equipment in dark territory.
- Install low cost AEI wayside readers to know where equipment and commodities (HazMat) are in real time.
- Press to continue to fund Freight Scope with upgrades for real time HazMat Tracking of all Class II/III HazMat movements.
- GPS locomotives are in Short Line service today permitting real time information on equipment location, dwell time, train speeds, delays, distance traveled, crew time, and alerts or problems in a specific area of railroad territory.
- Fuel-saving equipment and monitoring devices are under review as are emissions compliance technologies.
- Hybrid locomotives burning biodiesel and propane fuels are in use today providing environmentally sound equipment for EPA emissions standards.

Question 2. Given the expected impending retirements of so many long-time railroad employees, what suggestions do you have for improving training for railroad employees and ensuring an adequately trained rail workforce?

Answer.

- Department of Labor Grants for Promotion of the Rail Industry to potential young railroad workers.
- Initiatives to attract former military service members into rail service as a career. (Many are retiring or getting out of the military).
- Initiatives to attract Hispanic citizens into railroad educational programs and training leading to a career in the railroad industry.

- Grants or long term loans to those individuals interested in railroading as a career for enrollment in railroad company training programs, or private railroad academic or tradecraft programs at universities or colleges.
- Grants or long term loans for currently employed railroaders to return to educational institutions to enhance railroad knowledge, skills and abilities.

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