CURRENT FEDERAL RAILROAD ADMINISTRATION SAFETY INITIATIVES

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RAILROADS

OF THE

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TRANSPORTATION AND
INFRASTRUCTURE
HOUSE OF REPRESENTATIVES

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CURRENT FEDERAL RAILROAD ADMINISTRATION SAFETY INITIATIVES

Tuesday, June 27, 2006

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON RAILROADS, COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE, WASHINGTON, D.C.

The subcommittee met, pursuant to call, at 10:05 a.m., in room 2173, Rayburn House Office Building, Hon. Steven C. LaTourette [Chairman of the committee] presiding.

Mr. LATOURETTE. Good morning. The Subcommittee on Railroads will come to order in the Subcommittee hearing this morning. I want to welcome all of the members, our witnesses to today's hearing on current FRA safety initiatives.

I have been advised that our distinguished Ranking Member is stuck in traffic, and so we again get Mr. Barrow to be the qualified pinch hitter, and we are happy to have him.

According to the Federal Railroad Administration, 70 percent of train derailments are caused by either defective track conditions or human factors such as fatigue.

The FRA, along with rail management and rail labor, have been working to reduce the number of derailments by the introduction of new operating rules, implementation of new inspection procedures, and the development of new technologies.

For example, most railroad track is still inspected by track walkers or employees driving slowly down the track in hi-rail vehicles. This era is coming to an end, however, as the FRA deploys automated track inspection vehicles capable of inspecting hundreds of miles of track per day.

Other new technologies, such as positive train control, have the potential to eliminate head-on collisions and derailments caused by misaligned switches.

And the rail vehicles themselves are becoming safer due to extensive collision testing by the FRA, the Volpe Center, and the Transportation Technology Center in Colorado.

Unfortunately, all of these new technologies will have only a marginal impact on one critical aspect of rail safety.

The sad fact is that most railroad fatalities involve grade crossing collisions or trespassers on the right-of-way.

This is doubly unfortunate because railroad employees work so hard to follow the rules. Railroad employees are given extensive safety training, they are required to comply with numerous company operating rules, complex Federal regulations, and mandatory drug testing.

But even the most conscientious railroad employee cannot rewrite the laws of physics. Trains can take over one mile to stop. A locomotive cannot steer out of the way to avoid an errant pedestrian or drunken motorist. And any engineer will tell you that hitting the emergency brake creates the risk of a derailment.

This Subcommittee takes all this very seriously and hopes that today's hearing serves as an encouragement to all those men and women who strive day by day to make our railroads safe and safer.

Before yielding to Mr. Barrow, just one brief housekeeping item. Ask unanimous consent to allow all members 30 days to revise and extend their remarks, and to permit the submission of additional statements and extraneous materials by our witnesses. Without objection, so ordered.

And it is now my pleasure to yield to Mr. Barrow for his opening remarks.

Mr. BARROW. Thank you, Mr. Chairman. Your housekeeping matter said all that I wanted to say this morning, because I want to hear from the witnesses. I want to make sure that Ranking Member Corrine Brown and other members have a certain amount of time to submit their remarks, and I thank you for the unanimous consent on that.

Now I would like to hear from the witnesses.

Mr. LATOURETTE. Well, I thank you very much for the clarity and brevity of your statement.

We have one panel today, and all of the witnesses are no strangers to the Subcommittee. We are going to welcome the Honorable Joseph Boardman, who is the Administrator of the Federal Railroad Administration; Mr. Edward Hamberger, who is the President and Chief Executive Officer of the Association of American Railroads; and Mr. James A. Stem, who is the Alternate National Legislative Director for the United Transportation Union.

I want to thank all of you for coming this morning. We look forward to hearing from you and—oh, Coach, do you have an opening remark before we begin?

Mr. OSBORNE. Not much of a remark. I just have been hearing a lot from people in the railroad industry. Conductors are in danger of being phased out, going from two-man crews to one. And this may not be particularly germane to this hearing, but any thoughts you have on that issue would be of interest to me, because it is something that seems to be on the front burner with at least a couple of railroads.

So that is all I have, Mr. Chairman, and thank you for giving me that opportunity.

Mr. LATOURETTE. Well, I am sorry I didn't see you before. And, Congressman Osborne, I appreciate your observations and appreciate your coming. The Subcommittee does plan to have an additional hearing on—and you are certainly free to ask any questions during the course of this hearing, but we plan to have an additional hearing, probably in July, on the human factor aspect of that and dealing with such things as circadian rhythms and things of that nature. And I know that we can explore that fully then, and you are free to explore it now, but thank you for your observations.

Again, we welcome all of our witnesses this morning and, Administrator Boardman, we look forward to hearing from you.

TESTIMONY OF THE HONORABLE JOSEPH BOARDMAN, ADMINISTRATOR, FEDERAL RAILROAD ADMINISTRATION; EDWARD HAMBERGER, PRESIDENT AND CHIEF EXECUTIVE OFFICER, ASSOCIATION OF AMERICAN RAILROADS; AND JAMES A. STEM, ALTERNATE NATIONAL LEGISLATIVE DIRECTOR, UNITED TRANSPORTATION UNION

Mr. BOARDMAN. Thank you, Mr. Chairman and Ranking Member substitute for Brown, Mr. Barrow, I am glad to be here this morning; all the members.

I am going to do a presentation this morning with the video capabilities that your room has, and I appreciate that opportunity.

Go ahead.

The two things that we at FRA really do as our basic goals are to prevent accidents and, if we can't prevent those accidents, we mitigate those accidents.

Throughout the FRA, we have eight regions across the Country. We have 369 safety inspectors nationwide and another 298 support and analysis staff to help all across the United States. In addition to that, we have 160 inspectors that come from 30 State programs that we work hand-in-hand across the Country to improve railroad safety.

The railroad network across the Country you can take a quick look at, and I think really what you can see there is that since 70 percent of the U.S. population lives east of the Mississippi River, that is where you see more and more of the lines that provide the service to the United States.

But what I really came to talk about today was a National Rail Safety Action Plan. And it is based on targeting the most frequent, high-risk causes of accidents; focusing FRA oversight and inspection resources more precisely; and accelerating research efforts for the potential to mitigate the largest risk; to reduce train accidents caused by human factors, which you talked about a minute ago, Mr. Chairman, but also to improve track safety; enhanced hazardous material safety; and focus FRA resources on the greatest areas of concern; and improve highway-rail grade crossing safety, where you correctly pointed out this morning most of our fatalities between that and trespass occur.

When we look at—and we have seen it change a little bit in this pie chart. It used to be 37 percent human factors. And if you look at testimony I think at the last hearing, you would hear me say that 37 percent of the accidents were caused by human factors and 34 percent of it by track. That has changed and shifted, and seems to continue to shift more toward the human factors, where we have 38 percent of them now, based on the most recent data analysis, and 33 percent on track.

But the important thing to understand in looking at what is happening with delivering results for safety is a continuing reduction in the number of fatalities—and that is all fatalities; that is the grade crossing fatalities, that is the trespass fatalities, employee fatalities, and others—continue to head in the overall trending right direction, you will see bumps in that line, and those bumps in the line mean that from one year to the next—of if you look at the line in a shorter time span, you are going to see differences. But, over-

all, we are seeing a tremendous improvement in railroad safety in this Nation.

In regulatory research efforts, on top of the list is the human factors. We are making revisions right now, and have in clearance process our human factors rule, which takes railroad operating rules, especially those cardinal rules that the railroads operate with, and Federalizing those rules. We are using pilot projects to reduce human factor-caused accidents through observation and analysis of behavior, including close-call reporting and behavior-based safety; and pilot projects such as switch position indicators and positive train control.

Revisions to the continuous welded rail regulations continue to occur because, again, rail is the second most important safety area that we need to get through. And then we improve the FRA inspection capabilities through the automated track inspection cars. And I have a picture of one here just to identify it for you, and the number of miles that we can cover. By January of this year we will be able to cover more than 100,000 miles by deploying the fifth of one of those cars.

Grade crossing and trespasser prevention staff and working with our Federal highway and State DOTs to educate, enforce, and engineer are the main strategies for reducing highway rail grade crossing safety.

And when we really look at our passenger train occupant protection along with how we look at a strategy for reducing those things, as we look at hazard elimination first—in other words, prevention—and then we look at testing, both the—and you are going to see a clip of that in a minute—testing our theories and the structural crash worthiness and how occupants can be protected.

If we will go to the next slide, you are going to see here two trains. The one on top was the one before the changes were made and the one on the bottom was after we incorporated the crash energy management into our testing. I think it is a pretty significant. And I think maybe you have seen this before, but I think looking at this and seeing what really happened, we had anti-climbing devices, we have crash energy management, and we are looking at the inside, as well, on how passengers can be protected. This will be the final piece of that.

I know staff behind me really was sweating this out in March because we had a lot of observers in that particular second crash after we put the crash energy management in, and those changes have been incorporated into the latest procurement of railcars in California and also in Florida.

And then my final slide today—and I know I am a little bit over, but it is just a continuation in terms of a local. In Landover, Maryland, in cooperation with the Washington Metropolitan Transit folks, we have a rollover rig, we call it, where we train with fire safety and emergency evacuation so that the first responder crews can understand how better to mitigate or save lives if the worst does happen.

Thank you, Mr. Chairman.

Mr. LATOURETTE. I thank you, Administrator Boardman.

Mr. Hamberger, welcome to you, and we look forward to hearing from you.

Mr. HAMBERGER. Thank you, Mr. Chairman, members of the Committee, for the opportunity to address your Committee on the singularly most important issue to North America's freight railroads, and that is the safety of our employees, our customers, and the communities in which we operate.

Railroads are in the forefront of safety when compared to other industries. This has been accomplished through massive investments in safety enhancing infrastructure and technology; employee training; cooperative efforts with labor, suppliers, customers, communities, and the FRA; cutting-edge research and development; and a steadfast commitment to applicable laws and regulations.

The overall safety record is excellent, reflecting the extraordinary importance railroads place on safety. Since 1980, railroads reduced their overall train accident rate by 65 percent and the rate of employee casualties by 79 percent. In 2005, in fact, the employee casualty rate was the lowest in history. Railroads have lower employee injury rates than other modes of transportation and most other major industry groups. We also have employee injury rates well below those of most European railroads.

As you just heard, human error constitutes the largest category of train accidents: 38 percent between 2001 and 2005. Given the extent and complexity of rail operations—the railroad factory floor is outdoors and more than 140,000 miles long—some rail accidents are bound to occur. And while railroads respect and applaud the professionalism and attention to safety that rail employees bring every day to their jobs, employees will sometimes make mistakes. Railroads share FRA's goal of finding ways to make those mistakes as rare as possible. While the number of accidents caused by human error has risen over the past decade, the rate has stayed relatively constant, and in 2005, in fact, it was 53 percent lower than in 1980.

In addition, most of the increase in human factor-caused accidents over the past decade has been low speed yard accidents. The rate of accidents caused by human error involving freight trains on main and siding track in 2005 was 75 percent below the 1980 level and 46 percent below the 1990 level.

The railroads agree, of course, that they, rail labor, and the FRA must continue to try to reduce the frequency of accidents caused by human error, and we support the FRA in its rulemaking efforts to address human factor issues. In addition, we are cooperating with the FRA and rail labor to develop a close-call process suitable for voluntary adoption by individual railroads.

A new technology that will have a significant impact on human error accidents are train control systems that can prevent accidents by automatically stopping or slowing trains before they encounter a dangerous situation. These train control technologies could significantly reduce the incidence of human error caused train accidents, especially the more dangerous and tragic train collisions and derailments.

Railroads and their employees are also continuing their longstanding and varied efforts to gain a better understanding of fatigue-related issues and find effective, innovative solutions. Scientific research to date suggests that flexibility to tailor fatigue management efforts to address local circumstances is key to the

success of these programs. A one-size-fits-all government approach is unlikely to succeed, as well as cooperative efforts tailored to individual railroads.

After human error, track problems are indeed the second leading cause of accidents, and the rail industry is committed to reducing the number of these accidents as well. At a very basic level, railroading today is similar to railroading long ago; it still consists of steel wheels traveling on steel rails. This surface similarity, however, masks a widespread application of modern technology and a huge variety of ongoing initiatives to research, test, and apply advanced technologies to make railroads even safer.

Much of this new technology, as the Administrator has pointed out, has been or is being developed or refined at the Transportation Technology Center in Pueblo, Colorado. This Committee has had two trips to Pueblo in the past year, and we hope that we will have the opportunity to be there with you again in the future.

Many of these technological advances—some of which are already in widespread use and some of which are still under development—are part of the industry's Advanced Technology Safety Initiative, a maintenance system designed to detect and report potential safety problems and poorly performing equipment before problems occur. On page 10 of my testimony I detail many of those research initiatives.

The industry also supports three affiliated laboratory programs at Virginia Tech, Texas A&M University, and the University of Illinois. Through these programs, the rail industry monitors technological developments outside of our industry, evaluating the suitability of these technologies to railroads, and then supports that technology toward implementation where appropriate.

It is indeed necessary and appropriate for the FRA to focus its efforts on the biggest safety problems. Of course, railroads, as I have indicated, already are focused on those issues and have strong incentives to improve safety and reduce the costs of injury and accidents. They and their employees are in the best position to know how to do this. Thus, cooperative efforts are far more likely to improve safety than a top-down, overly prescriptive approach.

The rail industry looks forward to working with Congress and the FRA, our customers, our employees, and others to ensure that the improvement in rail safety continues.

Thank you for the opportunity to be here, Mr. Chairman.

Mr. LATOURETTE. Thank you very much, Mr. Hamberger.

Mr. Stem, thank you for coming this morning, and we look forward to hearing from you.

Mr. STEM. Chairman LaTourette, Ranking Member Ms. Brown, members of the Committee, on behalf of the men and women that are operating the trains moving on our Nation's railroads today, we want to thank you for giving us the opportunity to testify on our priorities for rail safety.

I work here in the Washington Office as our Alternate National Legislative Director. I also have been assigned by International President Paul Thompson of the UTU to work with FRA to coordinate our activities on the Rail Safety Advisory Committee.

We are FRA's partners working together to improve safety in our rail industry. We are thankful for the positive relationship that has

been developed with Administrator Boardman and also Associate Administrator of Safety Jo Strang and their staff.

The most appropriate solution to identified rail safety concerns are consensus results produced with FRA, labor, and rail management's active participation. With the FRA guidance, the RSAC process brings all the stakeholders together to address specific concerns and to improve safety through practical application of the resolution.

UTU fully supports this FRA initiative and recognizes the fact that this process contributes to improved safety.

The introduction of Secretary Mineta's FRA Action Plan states: "The railroad industry's overall safety record has improved over the last decade and most safety trends are moving in the right direction. However, significant train accidents continue to occur, and the train accident rate has not shown substantive improvement in recent years. Moreover, recent train accidents have highlighted specific issues that need prompt government and industry attention. . . ."

While the numbers of "fender-benders" and minor incidents have decreased, the number of train collisions, train derailments, and major events in the rail industry have increased in number and frequency. That is a reference to the FRA's recent submission of the 11 year Accident Industry Summary.

FRA data reveals that over a three-year period ending in December 2005, train collisions increased by more than 42 percent and employee fatalities were up by 17 percent.

Moreover, the Washington Post reported a terrorist attack on railcars carrying chlorine gas "could kill or injure tens of thousands." New York Times reported railroads "transport more than 1.7 million shipments of hazmat every year, including 100,000 tank cars filled with toxic gases like chlorine and anhydrous ammonia." A White House homeland security advisor said, "Chemical transport is clearly the greatest vulnerability in the Country today." Clearly, railroad safety is an urgent matter affecting public safety and national security.

Training. It is obvious to UTU this rend in declining rail safety is directly related to a failure in the current training programs and the rampant fatigue problems throughout our industry.

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 United States 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 the case.

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 brand new engineer. It is very unlikely the trainman received training over the territory he or she is working on, or was taught the special problems that exist and skills required in regions with temperature extremes, heavy grades, or complex operating environments.

Most troubling about this is that it is unlikely either the new trainman or new engineer were provided classroom training where actual application of the operating rules was taught. They needed only to memorize rules, not know how to apply them, in order to graduate them. What is more, most veteran employees believe that recurrent training in the rail industry has become a farce.

UTU is of the strong opinion that 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 one 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 operation. It also ensures that newly hired employees will have approximately two years of practical railroad experience before they can be expected to operate locomotives without 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, that we commonly refer to as SOFA, found that training and experience were critical safety issues.

Our 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 cooperative mentoring programs for the critical component of "On the Job Training."

Rail industry will have more than 80,000 new employees in the next five years. Unless we can quickly eliminate training as a major safety issue, we can only expect this negative trend in safety analysis to accelerate.

Fatigue. Unless a human being knows in advance what time they must report to work, they cannot arrange to be rested and fit for duty. The railroad industry functions on a 24/7 schedule with continuous operations from coast to coast. This is not an excuse for the current position of the railroads holding that their employees do not deserve and are not entitled to advance knowledge of the time they must appear for their next assignment. Every railroad terminal has an information line commonly referred to as a "lineup" that is intended to advise crews that are subject to call 24/7 regarding their status. Every railroad has "problems" with the accuracy of these "lineups." The employees must have early and reliable information indicating when they will be required to report for duty.

Even though it is the same company officers, using the same company computers and programming that forecast the number of trains to be operated, the projected time on duty information available to railroad operating employees and reality are seldom even close. The data produced by these computers is frequently inaccurate by several hours. These are the same computers that the railroads are telling you will be used to operate two-mile-long freight trains with only one person on the train.

UTU has voluntarily participated in many different forms on Fatigue, Work Rest issues, and pilot projects designed to help stabilize the work schedules for operating crews. There are a few successful Work Rest projects continuing across the Country, but these represent no more than 2 percent of the affected employees. Railroads have adopted unilateral availability policies that set arbitrary guidelines for employee work schedules. One railroad availability policy states that employees will be available for service 85 percent of their time. The average American worker that is expected to work 40 hours each week is available for service about 24 percent of their time.

The Federal Hours of Service Act states that rail employees involved with train operations and signal appliances can only work 12 consecutive hours on duty. In our rail industry today, 20 consecutive hours between reporting for duty and being relieved is not unusual, with 14 to 16 hours on duty commonplace.

The rail industry is the only place in the United States where 12 hours on duty means 12 hours plus any additional time the railroad finds to be convenient. A court case pursued by the rail industry created a new definition of the time an employee can legally remain on duty, called "Limbo Time." The Supreme Court stated that limbo time was neither time on duty nor time off duty.

The practical application of that railroad victory in the Supreme Court means that the Hours of Service Law today is supplied so that you stop the train at the expiration of your 12 hours and then sit on the locomotive until it is convenient for the railroad to send someone out to bring you to a terminal. The employee sitting on the locomotive continue under pay, they are expected to protect the train against vandals or unauthorized movement, and are prohib-

ited from leaving the train in almost every instance by the Operating Rules of the company.

When we hear the railroads discuss fatigue, it becomes obvious that the top executives of the industry actually know more than labor about the effects of fatigue on safety. On many occasions, when confronted with direct questions about the safety concern of fatigue, these executives have placed their hands over their mouths and exclaimed: "I am shocked to learn that there is gambling in this place!"

Before the limbo time ruling was implemented industry-wide, 12 hours on duty actually meant 12 hours on duty for the operating crews. Rail management made the necessary arrangements to timely relieve the crews as required by the Hours of Service Law, and their operations were much more fluid because of those decisions.

When the House of Service Act was implemented for signal employees in 1976, it too was a 12-hour law. There is a provision in the Act to work signal employees up to an additional 4 hours "... when an 'actual emergency' exists and the work of the employee is related to the emergency." Railroads have slowly, but surely, expanded the criteria for an "actual emergency" so that almost all signal work is classified as an emergency. Signal employees routinely work 16-hour days. The 12-hour law has in effect mutated into a 16-hour law. This was never the intent, nor should it be the application of the law.

To credit FRA, a Collision Analysis Working Group, commonly referred to as CAWG, was created to analyze more than 50 main line collisions, to identify commonalities, and recommend changes to prevent future collisions. Rail management, the UTU, the Brotherhood of Locomotive Engineers and Trainmen, and the FRA were all equal partners in this exercise. This analysis obviously showed a direct link to fatigue as a contributing factor in many of these collisions and the corresponding loss of situational awareness by the crews. The industry participated in the analysis as an equal partner.

The industry also participated in drafting and approved the final language contained in the report as an equal partner, and afterwards demanded that their officers' names be stricken from the final report when senior management learned the involvement of fatigue was mentioned in connection with these collisions. I am thankful that FRA had the courage to remove the railroad officers' names from the report and publish this significant work.

Fatigue in the rail industry has become a major safety concern because of the critical shortage of personnel in every department caused by intentional and ill-founded hiring practices that were promulgated over labor's objections, together with implementation of the limbo time ruling. Cumulative fatigue and the safety sensitive nature of the duties performed by railroad workers is an issue that might require Congressional intervention to resolve.

Mr. LATOURETTE. Mr. Stem, you are cresting on 14 minutes, so, by unanimous consent, your full statement is included in the record. I would ask that you sort of wrap up here in the next minute or so.

Mr. STEM. Thank you, Mr. Chairman.

I would like to mention briefly single person operation. We have had many questions about single person operation, and we are aware that the industry has briefed virtually every member of this Committee. The rail industry is demanding from their employees and the Federal Railroad Administration the authority to operate trains with only one person in the locomotive. When this demand was first made during the current round of national negotiations, the industry first provided assurances and indicates that the safety of the operation could be authorized with one person because of a pending development in positive train control.

When research revealed that system-wide implementation of any PTC system was many years and many billions of dollars away, the carriers continued with their single person operation demands. One railroad even attempted to receive back-door approval for such controversial operations by filing a Product Safety Plan with FRA that promoted single person operation with a waiver request.

Single person operation of freight trains involves a completely different analysis of the rail safety equation and a complete reassessment of the overall safety of operations that extends far beyond consideration of this specific issue. Responsibilities of the railroad to operate safely over public crossings, to inspect the moving train at every opportunity, to open public crossings quickly when stopped, and to interact with emergency responders are issues that are not addressed by any PTC system, and they were not designed to do so.

In summary, historically, each train has been considered as a self-contained operating unit that had the capability of moving safely in and out of terminals and sidings, and moving on main track utilizing a variety of train control system and methodologies. Each train was able to set out defective cars en route to provide self-inspection and repair for dragging equipment, shifted lading, hot journals, broken coupling devices, sticking brakes, and, importantly, the ability to expeditiously open public grade crossings when necessary. Single person operation ignores all of those responsibilities.

I thank you for the opportunity to testify, Mr. Chairman.

Mr. LATOURETTE. Well, Mr. Stem, I thank you for your very complete statement this morning.

Before we begin questioning, I mentioned at the beginning of the hearing that our distinguished Ranking Member was stuck in traffic. She has now joined us.

And I will tell you, Ms. Brown, that Mr. Barrow stood in for you. No one can ever adequately take your place, but we did manage a unanimous consent request to allow all members to put their statements and other observations in the record. But as a courtesy to you, if you have an opening statement to give, we will take that, then we will do questions.

Ms. BROWN. Thank you, Mr. Chairman. First of all, I would like the unanimous consent to have the young woman from Pennsylvania to sit in on the Committee meeting and ask questions.

Mr. LATOURETTE. Without objection. It is a pleasure to have Ms. Schwartz with us.

Ms. BROWN. Mr. Chairman, let me thank you for holding this important hearing.

I want to begin by expressing my disappointment with the fact that the witnesses invited to testify before this Subcommittee continue to submit their statement for our review well passed the requested deadline. The invitation letter clearly states that they are due at least two to three days prior to the hearing, but we continue to receive testimony in the evening before the hearing, and this doesn't give the staff the time to thoroughly review the testimony and prepare the member, this member in particular.

And I know that the Federal Railroad Administration is doing what it can to get its statement cleared before the Office of Management and Budget in a timely manner, but when it comes to the private sector witness, there is no excuse, and I hope the Chairman will address this matter.

In terms of this hearing, the FRA says that human factor and track defect account for over 70 percent of all rail accidents. Indeed, the National Transportation Safety Board determined that the probable cause for the 2005 derailment of Norfolk Southern train in Graniteville, South Carolina was the failure of the crew to return a main switch line to the normal position. The results of the Union Pacific train in Shepard, Texas, in 2005 and the derailment of the Canadian Pacific train in 2002 was the result of track defects, cracked joints, bars and broken rail.

Prior to this hearing, I reviewed the Department of Transportation data on rail safety. It shows that human factors and track defects have been the main cause of accidents since 1975. It concerns me that it took 30 years for the FRA to hone in on the two areas, but I am pleased to see that the agency, under the leadership of the Administrator at this time, is beginning to take action.

In May 2005, the FRA unveiled the Rail Safety Action Plan. I am interested in getting a status report on the action items contained in the Plan, as well as an update on FRA's efforts to mitigate fatigue.

I am also interested in FRA's new National Inspection program, which wasn't fully implemented until this past March. DOT data shows that over the last few years the number of inspections conducted by the FRA has declined by 6.3 percent, which is a serious concern. I therefore plan to join Congressman Oberstar in sending a letter to the DOT Inspector General within the next few months to ask him to conduct a full audit of FRA Rail Safety Action Plan and the National Inspection Plan.

Mr. Chairman, I want to again thank you for conducting this hearing, and the testimony has been very interesting, and I have some pointed questions at the proper time.

Mr. LATOURETTE. Well, I thank the gentlelady very much. I am glad she was able to navigate through the horrible traffic here in the District.

As to the first point, we obviously encourage all of our witnesses to get us their testimony in a timely fashion so that the staff and members can do thoughtful work in preparing for these hearings, so any courtesies that could be extended to us, we would appreciate.

Administrator Boardman, going back to your pie chart that talked about the human factors and the track conditions, there was also a slice of pie that was 14 percent that was miscellaneous. Can

you just give the Subcommittee some indication of what is included in the miscellaneous category?

Mr. BOARDMAN. Probably not as good as you would like it at this point in time, because I am drawing a blank, but let me get some staff here to help. It really is miscellaneous, it is obstructions on the track, it is snow, it is the other kinds of things that create the problems.

Mr. LATOURETTE. OK. And you showed us a picture of I think the car was a T–17 car. And if I understood you correctly, you say that you are bringing a fifth one on line this year, is that——

Mr. BOARDMAN. It will be out by January. The fourth one will be in September, the fifth one in January.

Mr. LATOURETTE. I think I have had the privilege of riding on a geometry car in Florida, I think. If my memory serves me right, it was owned by the Norfolk Southern Railroad—I might be wrong about that—and other members of the Subcommittee did as well. So aside from your soon to be five T–17 cars, are there also geometry cars that are owned and operated by the railroads?

Mr. BOARDMAN. They have some of their own inspection cars and they actually have been using the photo technology to put on their hi-railers to inspect the rails as well.

Mr. LATOURETTE. And one of the railroads uses their own equipment as opposed to the FRA T–17 cars. Is that data reported to you after they have completed inspection of a set of tracks?

Mr. BOARDMAN. I believe that is correct, yes.

Mr. LATOURETTE. OK.

Mr. BOARDMAN. I will make sure of that and confirm it.

Mr. LATOURETTE. In 2005 there was a major fatal accident on the Metrolink system in California; 11 people died and 8 of those were in the so-called cab car at the front end of the train. And my question is—and I think you might have just released a report on cab cars, but how do locomotives compare to cab cars in terms of risk to passengers and the engineer, and what is the FRA's current position on the use of cab cars?

Mr. BOARDMAN. Well, as you could see in the video clip that you saw in our testimony, we have been working very hard to reduce the severity of any accident for cab cars with crash energy management. So certainly in California that particular commuter organization right now is in the lead in making changes that were incorporated in the accident that you saw.

The study itself, as it was released, what we found and what was determined—and one of the difficulties here is that there—and we are glad of it, frankly—is there are so few of those accidents, the data to find that information is very difficult. But what we found was that there was not—with the kinds of energy that were released in that kind of an accident and others, there was not a significant difference of whether there was a locomotive in the lead or whether it was a cab car or an MU in the lead of that particular accident.

On other accidents, when there is a huge kinetic energy to absorb, then it is unclear as to what would really happen at that point in time.

Mr. LATOURETTE. OK. And speaking of sort of crashes, I didn't have the pleasure of going out and watching that collision in

March, but it is my understanding that that is performed at about 35 miles an hour?

Mr. BOARDMAN. That is correct.

Mr. LATOURETTE. The Acela train goes 150, maybe 110. Is the FRA working on survivability studies as well for higher speed passenger rail, higher than 35 miles an hour?

Mr. BOARDMAN. Yes. The note that just got passed to me, it is not only the crash energy management, but it is the positive train control, especially on the northeast corridor, where you have those higher speeds. Communication-based train control has been a large factor, a huge factor in the prevention of those accidents.

When you have the high speeds, whether it is on rail or whether it is in airplanes or whether it is in automobiles, it is very difficult to predict the survivability of passengers when the physics that are involved are just huge. So there is a much greater emphasis placed on prevention, just like there is in Europe, which is their primary concern as well.

Mr. LATOURETTE. Thank you.

Mr. Hamberger, relative to a good portion of Mr. Stem's observation, not only from his testimony, but also it is my understanding that the Class I railroads are experiencing a wave of new hiring, as many of the more experienced employees are reaching retirement age. My question to you, has the loss of this experienced workforce had a negative impact on safety, and can you give us your observations from the AAR's point of view?

Mr. HAMBERGER. I indeed would be pleased to do so.

Let me first take my trip to the woodshed. I believe I was certainly one of the ones to get my testimony in late last evening. I apologize. Not as an excuse, but by way of an explanation, this is my fourth hearing in exactly two weeks, so we did have trouble getting our own clearance process caught up.

But I think, over the years, we have done a bit better job. I apologize both to you, Congresswoman Brown, and to staff, Mr. Chairman and everybody else, for being late. I believe we got it in last evening. So I apologize.

Mr. LATOURETTE. I appreciate that apology, but I would say that since there are only three of you up there, we sort of figured it was you.

Mr. HAMBERGER. Yes. I figured I might as well come clean, since it was pretty clean.

Back to your question, Mr. Chairman. I guess the short answer is no, it has not had a deleterious effect on safety, as indicated by the fact that in 2005 our accident rate per million train miles was less than in 2004 and 2003; and that is because of the emphasis on training that we do have.

And when I testified here exactly two weeks ago on hazmat, I submitted for the record at that time the voluminous training documents that Norfolk Southern uses for its new employees. In fact, they have a new training facility in McDonough, Georgia. CSX has a new training facility in Atlanta. Both of those facilities include classrooms, state-of-the-art simulators, extensive yard track settings with dedicated locomotives and cars for live, hands-on learning that complements the computer-based instruction.

In addition to simulators and dedicated tracks and equipment, BNSF and UP have created partnerships in the west with centrally located colleges, among other approaches, to advance training on a range of operational jobs.

So we believe—I guess we just have a basic disagreement. We believe that we do provide very extensive, very comprehensive training, that that training is continuous, and that the results are proven out by the fact that our train accident rate is declining. So we believe that we are doing what is necessary to get the new employees trained properly and sufficiently.

Mr. LATOURETTE. I thank you very much.

Ms. Brown?

Ms. BROWN. Thank you. I guess I will start with Mr. Hamberger.

You said that your accident rates are declining, but the seriousness of the accidents have not, and in your testimony you indicated that you believe that a lot of the future of rail safety lies in improved technology, but human factors constantly rank as the to two reasons for train accidents. Please tell us what safety practice—not technology—the AAR feels needs to be implemented to reduce human factors.

Mr. HAMBERGER. Well, I am not sure I can accommodate that question because, frankly, what we are working on is technology. That is one of the areas where, by both supplementing and replacing some of the human activities with technology, you then have the ability to eliminate the potential for human factor errors.

But, at the same time, what we are doing, as I just mentioned in response to the Chairman's question, enhancing the training that I just went through so that the training is obviously an important piece, the continuous training, the job briefings that go on daily are an important part and, of course, working with the FRA and, as Mr. Stem indicated, in a consensual way with labor and the FRA through the Rail Safety Advisory Committee to come up with different approaches to address some of the human factor causes that I think will result in a new rule coming out of the FRA this summer.

Ms. BROWN. Mr. Stem, would you like to respond to that? And let me tell you your testimony was very interesting, but if we had gotten it earlier, a lot of what I said, I could have just used yours.

Mr. STEM. Yes, ma'am. Let me join Mr. Hamberger in the woodshed. I also offer our apology. We submitted our testimony only slightly before AAR. We were also late, and I will commit to you——

[Laughter.]

Mr. STEM. I will commit to you that we will do better in the future.

And I would like to comment on Mr. Hamberger's answer. There is no argument that the industry has facilities available. Training is not just about a physical classroom setting. Training is about the curriculum, knowledge transfer, technique on teaching new employees the application of the rule. It is not about memory work. And you can't teach how to operate a train in a classroom. You need mentoring programs, you need on the job experience.

We are trying something new in this industry. When I went to work on the railroad, my training was classroom, reading, and

mainly on the job training. I was restricted in the responsibilities that I could take until I had some experience, until I had some exposure. Today, we are hiring new employees, 19, 20, 21 year old kids, and in eight or ten weeks we give them a freight train. And the indication that the training process has failed is the constant increase not only in the severity of the accidents, but also the fact that human factor caused accidents is on the rise, not the decline.

Ms. BROWN. Mr. Boardman, let me just ask you one quick question. The FRA reviewed its accident investigation procedures in 2004 to collect information on employee sleep, rest, and evaluation fatigue as a casual factor of accidents. Since 2004, what observations or conclusions were reached after reviewing the data?

Mr. BOARDMAN. One of the things we will be doing is producing a report on fatigue and a model of that report by this fall. That was one of the elements of the Safety Action Plan. And I wanted to bring to your attention, both you and the Chairman, you asked for a status report on Safety Action Plan. I have that to give you after the hearing. So we are working on a regular basis with RSAC and others to find a fatiguing model that will help railroads in their efforts to reduce that in their crews.

Ms. BROWN. And thank you for turning your report in on time.

Mr. BOARDMAN. You are welcome. I was shocked.

[Laughter.]

Ms. BROWN. Thank you, Mr. Chairman. We are going to have another round?

Mr. LATOURETTE. We can. I thank the gentlelady very much.

Coach Osborne.

Mr. OSBORNE. Thank you, Mr. Chairman.

And thank you for being here today, Mr. Boardman. I recently had a hearing that indicated that the rail capacity crunch in the United States is very real. In your opinion, could advanced signal systems, such as positive train control, help relieve this congestion and improve safety?

Mr. BOARDMAN. At the time I wasn't part of that one, that is the reason Ed was late over here in terms of that; that was over in the Senate, I believe, the capacity hearing. But we believe that positive train control is a part of the solution to improving capacity because capacity measured in terms of the velocity of the trains is important, and we know for a fact that it will substantially improve safety.

Mr. OSBORNE. All right, thank you for that comment.

I had a question for Mr. Hamberger. I know that railroads, as you mentioned, are experiencing a wave of new hiring as many employees reach retirement age. Has this had a negative impact on safety, railroad safety? I know you expressed some concern. Are there any objective quantifiable measures indicating that there is an increased safety hazard because of the influx of new employees?

Mr. HAMBERGER. Well, it is my data taken from the FRA, at least the data that I have, that would indicate that there has not been a negative influence, that, in fact, in 2005, the accident rate per million train miles was lower than both in 2004 and 2003. And I think that is a direct result of the training that our members put their new employees through and the continuous training that every employee goes through.

I do also take some exception to the common notion expressed here earlier that the severity of the accidents has increased. Again, my interpretation of the data is that while the number has increased, the number of accidents, the train accident rate has declined, and that most of the increase has increased in yards, where trains are moving relatively slowly, where the damage is minor, where injury rates—and, again, in 2005 our injury rate for our employees was the lowest in history.

So I believe that most of the increase in the number of accidents has occurred in the yards, where the employee injury rate is much lower because the trains are moving at a much slower speed. So I believe that there has been a decline both in the rate and in the severity, as I look at the data.

Mr. OSBORNE. So you are saying essentially that the quality of training is compensating for the fact that we are getting a lot of new people with very little experience.

Mr. HAMBERGER. Yes, sir.

Mr. OSBORNE. OK.

And then lastly, Mr. Stem, a question. I think, again, in a prior hearing we heard testimony that it takes six or seven years for a signalman to become fully qualified, and that seems like a long time. How long does it take for other crafts in the industry to become competent and qualified?

Mr. STEM. I would say two years for a conductor and a little longer for a locomotive engineer. And that is with proper training, proper experience, and an opportunity to work with more experienced mentoring employees.

Mr. OSBORNE. And why does a signalman take so much longer than an engineer, for instance?

Mr. STEM. Signalmen have a much more complicated job than learning to work on the train; there are a lot of new relays. And I was not aware that the six years in my testimony was at issue. They have an apprenticeship program where there is training involved. Some of that is collective bargaining related, some of that is also regulation related.

Mr. OSBORNE. Thank you.

Mr. Chairman, I yield back.

Mr. LATOURETTE. I thank you very much, Congressman Osborne.

Mr. Barrow.

Mr. BARROW. Thank you, Mr. Chairman.

Mr. Boardman, I want to hone in on the subject of training for just a second. I want to tell you what my understanding of the situation is, and you tell me if my understanding is correct. My understanding is that the FRA does not promulgate any uniform minimum set of standards that someone has to meet in order to be able to have control of a train.

Instead, the FRA's jurisdiction is limited to requiring that the railroads post or file with the FRA what their training requirements are. Then the FRA's jurisdiction is limited to punishing the railroad, sanctioning them if they should violate their own standards. But this allows basically any railroad to set whatever standard for training that it wants; it is merely required to file those with the FRA. Then the FRA's jurisdiction is limited to finding out whether or not they follow their own rules.

Is that correct?

Mr. BOARDMAN. Well, we certify all engineers, and we can disapprove anything that comes in from a railroad on their standards.

Mr. BARROW. Well, let me ask my follow-up question. It is my understanding that railroads today—not all of them, and I don't think all railroads do this; I think most railroads don't. But the railroad has the discretion to file with the FRA and the FRA has the discretion to approve certification of a person as an engineer to control a train if they merely pass the test. If the test is elaborate enough, then just passing a written test can be enough to get you behind the wheels of a freight train. I understand that is the case today with some railroads. Is that true?

Mr. BOARDMAN. I don't know.

Mr. BARROW. Well, if it is true—and I understand that it is—it is amazing to me that we do not prescribe minimum standards for people who are going to have control of freight trains——

Mr. BOARDMAN. That is not true.

Mr. BARROW. Well, what is true?

Mr. BOARDMAN. Well, it is not true that they can pass a written test and then operate the train. They have to be able to control the train, they have to have been out there. That was the reason I——

Mr. BARROW. But what are the minimum standards for that? Do you have to have a year?

Mr. BOARDMAN. We will provide them.

Mr. BARROW. We have talked about how it used to be a year on top of a year, so you had to have at least two years on the job training before you could control a railroad, and now I understand that is not the case.

And I want to compare and contrast that with what we do with kids driving cars and truck drivers driving trucks. In order to get a CDL, in order to operate a truck, you have to have—you have to demonstrate—you have to satisfy lots of minimum criteria in order to be eligible to drive a truck on the highways. If you are a kid, you have to drive with the active supervision of a minimally experienced adult for at least a year before you can drive a car.

And my concern is we don't have even those kind of standards in place to try and make sure that the good railroads that are incurring the cost of that kind of minimum training aren't competing at a disadvantage against those that aren't. To me, that is unacceptable, and I want to know more on what the FRA's position is on minimum standards for not only training, but also on the job experience before someone is allowed to operate a train on the tracks in this Country. Can you get that information for me?

Mr. BOARDMAN. I understand your request. It will be complied with.

Mr. BARROW. All right. Now I want to ask—switch subjects for a second. Grade crossing collisions. I want to ask what does the FRA know about the trends that are going on with grade crossing collisions that are controlled by active warning systems? You know, an active warning system is one that tells you when a train is coming, but it also tells you when a train ain't coming. It is like a mechanical stand-in for a flagman, OK? Do you all know whether or nor the rate of collisions at active warning systems is going up or down?

Mr. BOARDMAN. Talking to staff, I find that it is going down. What I can provide for you is a report on the grade crossings.

Mr. BARROW. Something else I would like your report to address is the difference between—is the rate or the trend line for collisions at grade crossings that are governed by active warning systems——

Mr. BOARDMAN. What would you like that period for, Congressman?

Mr. BARROW. Whatever is a meaningful period of time, over the last five years or so. I want to be able to get a significant picture as to whether or not there are trends emerging here.

But also I want to know whether or not you all are aware of any differences in the rate or incidents of so-called false alarms versus delayed activation failures. You know, the two types of collisions you can have at a grade crossing that is governed by an active warning system is the false alarm; it is the little boy crying wolf and everybody can see there ain't no train coming and the cars are stacking up, and you have got people frustrated out of the obvious fact that the system is giving them a false alarm.

And they go around and, sure enough, it is at that moment that the train has been concealed by standing track, the train down on the track ends up colliding with somebody at track speed. The false alarm causes a lot of incidents. We can blame the operator of the car, you know, for not following the obviously false alarm.

But the delayed activation failure is a different creature altogether. This is one where the railroad crossing system is telling you it is safe to come across, when in fact it is not safe. It is not giving you timely warning.

Are you all aware of the role that using yard switching equipment, motion detectors that are OK for yards, for highly monitored, high regulated settings like that are being used on high-speed tracks, and how the potential for short circuiting on those things is creating a whole constellation of delayed activation failures? Are you all aware of that?

Mr. BOARDMAN. I think what I would like to do is have staff come over and interview you and make sure that we are going to give you the report that you are interested in.

Mr. BARROW. OK, I am interested in knowing about the incidents and the rate of incidents on train lines between active warning systems that are——

Mr. BOARDMAN. I understand. But if that is OK with you, would that be OK?

Mr. BARROW. Yes, sir, that would be fine.

Mr. BOARDMAN. Thank you.

Mr. BARROW. Thank you, Mr. Chairman.

Mr. LATOURETTE. I thank you, Mr. Barrow.

Before going to our guest member, we are going to go to a standing member of the Committee, Mr. Boswell.

Mr. BOSWELL. Thank you, Mr. Chairman. I think I will yield some time to Mr. Barrow. I don't believe he was quite finished.

Mr. BARROW. I thank Mr. Boswell. I am not going to trespass on anybody's time anymore, but I thank the gentleman from Iowa.

Mr. BOSWELL. Well, you had your opportunity. Then I will yield some time to the Minority Chairperson.

Ms. BROWN. Well, I would yield. We are going to have another round.

Mr. BOSWELL. OK.

Well, thank you, Mr. Chairman. I appreciate the hearing we are having today. I think it is productive, and appreciate your doing it, but to move things along, I am going to yield back my time.

Mr. LATOURETTE. I thank you very much.

Ms. Schwartz, we want to welcome you and hope that as a result of your experience today, you want to join us here on the Subcommittee in future Congresses. I now recognize you for five minutes.

Ms. SCHWARTZ. Thank you, Mr. Chairman. Thank you for being so gracious about letting me join you this morning.

I come to ask a series of specific questions about an issue that was brought to my attention by several of my constituents. Actually, it was also about rail crossings, and in particular about the use of horns, train horns, and how they affect particularly suburban areas. And my district is primarily an urban-suburban area, and this is a particular suburban area that is fairly densely populated, and it has a regional rail line that goes through and there are barriers, physical barriers and flashing lights.

But I understand that there have been some significant changes as of a year ago in the rules applied to being able to make some changes of the way train horns are used at these public crossings and the opportunity for alternative safety measures that would eliminate the need for the horns.

So I think these questions are primarily for Mr. Boardman, but I really also am concerned about several issues. I am going to ask a couple questions, and there may be others. But I did want to particularly know whether in fact, in the year's experience, how have you and the FRA worked with local communities to have them understand what alternative safety measures exist, which ones work the best, what are the costs involved in doing that so they can—do we expect every local community in this Country to be doing their own independent analysis of cost-benefit on this, or can you be helpful in making those determinations?

It seems to me that this particular community is concerned about the expense and about what ideas are practical. And they were referring to the Chicago study, where there was a major waiver for 46 percent of all these crossings are there, and yet the rest of the Country is struggling with should they try to apply for an exemption. What are their alternatives in terms of safety measures that they could implement, what are the costs involved in that, and of course, our concerns about safety and reducing accidents?

But I do have constituents who are fairly outraged about the fact that they have to deal with this on such a specific rail crossing by rail crossing. And what help can be offered by your administration in helping local communities be able to make the right kind of judgments and analysis on this?

So let me just start there, as to what kind of experience you have had in the last year, whether in fact it has improved safety when we have gone to some of these alternative safety measures and whether in fact they have been effective. And, if so, are you promoting that elsewhere in this Country so that we don't have to

start from ground zero every time a community is dealing with this issue?

Mr. BOARDMAN. Congresswoman, we have got about 200 communities that we have worked with and improved their quiet zones across the Country, and we are willing to go and work with any community. We have a calculator that we assist folks both on our Web site and will assist any community in determining what their risks are and what it would cost, and how they might move forward on reducing the risks at their crossings so they could qualify for a quiet zone.

Ms. SCHWARTZ. That has not been my office's experience. It has been really months—now, I don't know what you consider available, but it has been quite a few months for us to even schedule a meeting with your office, and the local community has had an even more difficult time. They asked us to intervene to try and get your attention on this, and that seems to me unacceptable, to just take months and month. And you have a few constituents who are making quite a bit of noise themselves, but, you know, they are really—I think it needs to be——

Mr. BOARDMAN. It is unacceptable if we are not responding to your offer.

Ms. SCHWARTZ. Right. We have just finally gotten a meeting yesterday, so maybe it had to do with this hearing. So thank you to the Chairman for having this hearing. But it shouldn't take that. It shouldn't take my saying I am going to come to a hearing to ask you a question publicly to get the administration to respond.

And, again, I think these are not easy decisions to make locally, you know, what are the expenses locally that should be incurred; what is the best technology used. I hope there are new technologies coming online to provide this kind of safety. And, again, the notion of certain kind of standards that can then be applied in a much more proactive way, rather than each and every community—again, hundreds of communities, maybe thousands of communities—across this Country having to deal with the same issue.

So I would say if you want to get back to me with this, but I would be interested to know what effect it has had on safety, whether the experience you have had with quiet zones and whether these new safety measures have been as effective, and what are you doing to more aggressively sort of promote that as an option in communities that maybe used to be much less dense, that are not actually quite dense and it is affecting far more people than the notion was. These are really very densely populated suburban, almost urban, area.

So if you could get back to me on some of that, or through the Chairman, if that is appropriate, I would be very interested in hearing more about your experience in this last year and helping our communities be able to make these decisions.

Mr. BOARDMAN. Yes, ma'am.

Ms. SCHWARTZ. And I look forward to working more specifically in the specific issue in my district, and appreciate the opportunity to raise the issue. It may be true for other members of this Committee, other members of Congress. So with that, Mr. Chairman, thank you very much for the opportunity.

Mr. LATOURETTE. I thank the gentlelady for her questions and for coming. We had a hearing, I think it was last year, on the FRA's whistle policy. And at least in the opinion of the Chair, they made it worse by, and I think I made the comment, Mr. Bachus was here at that hearing, that if I owned a railroad, I would have blown the whistle, based upon that new regulation, from one end of your town to the next because of the liability concerns that I saw on that.

But I would direct you to Congressman Kucinich in the west end of Cleveland, Ohio, who has had a great deal of experience particularly with Norfolk Southern Railroad and quiet zones. You might want to talk to Congressman Kucinich, because he is pretty up on that.

We will have just a short second round of questions just to clean up, if there are additional questions, and I will begin.

Mr. Barrow asked about active grade crossings, Administrator Boardman, and this is something that is of interest to me, so I am anxious to look at whatever data you provide, because I find now, with the soundproofing of cars—I passed somebody the other day that was talking on a cell phone, was BlackBerrying, and was smoking a cigarette in an SUV with the windows rolled up.

And the way that they are soundproofing cars, and also with the aging of our population, we have people that are getting older that are driving, it seems to me that the age of just the crossbar needs to give way to things that just don't have sound, but you need to have sight. I think it needs to look like a Ferris wheel to get somebody's attention that is doing all the multitasking when they are supposed to be driving.

Is there a move or a bias within the FRA to encourage more of these active crossing standards and signalization?

Mr. BOARDMAN. If you will take this in the manner that it is meant, we could increase the number of horn decibels. No, I am kidding, really.

[Laughter.]

Mr. LATOURETTE. You already did that.

Mr. BOARDMAN. I understand, based on your previous comment.

We are working on what we might be able to do differently on not only active, but passive grade crossings in terms of what—we have experimented in what we call a sealed corridor in North Carolina. We are working in California to try to make improvements on how we might be able to show folks—and we are finding even in amazing videos that people still go around gates that are clearly four-quadrant gates that are covering the entire—both lanes of traffic, with even, in some cases, a barrier in the center. So we do have people that are distracted, substantially distracted, whether it is by their radio or their BlackBerry or whatever it is that they are using, and understand that that is a difficulty.

We are beginning a new study especially working with private grade crossings just this next year to try to make some improvements in that area, so any thoughts that members have, or others, on how we might be able to make those improvements, we can incorporate that.

Mr. LATOURETTE. I appreciate that very much. You know, when we were doing some of the whistle ban or quiet zone work in Cleve-

land, we saw some models of some of these four-quadrant gates that come up with the plastic fence—it looks like what they used to carry Shamu around from aquarium to aquarium—but, still, people will figure out a way to get through that. If they are intent on beating the train, they are going to get through no matter how much we fortify the crossing.

Mr. Stem, my last question is to you, and I just want the record to be clear, because I fully understand your position, and you and Mr. Hamberger are at odds relative to the level of training that is currently going on. The AAR presents one view; you present another. You do give a picture of the railroads hiring people off the street, basically—and I don't know if these are Mr. Barrow's words exactly—but then basically giving them a train after eight to ten weeks.

But I thought I also heard you, in your statement, and I know I read in your statement that you feel—and I don't think that I disagree with this point—that people who have been around trains in other crafts perhaps are better situated because they already have this. Is it your testimony that the major railroads in this Country are preventing someone who is employed in another craft already from getting into the program to become an engineer or to become a conductor?

Mr. STEM. No, sir.

Mr. LATOURETTE. OK.

Mr. STEM. Railroads are still attempting to utilize that experience. The problem is that they are so critically short of people and have failed to hire timely, to the point that they are now taking trainmen with three or four months service and promoting them, sending them to locomotive engineer school. And Mr. Barrow was correct, with one minor exception. There are territorial qualifications and there are on the job requirements to get a locomotive engineer certification, but today, this day, we still have three railroads in this Country that are insisting, over FRA's objections, that they can take a new employee, 21-year-old kid, send him to school and qualify him to work his first day as a remote control operator. He is not only operating a train with a form of engineer certification, but his first day on the job he has a box hung around his neck switching as a remote control operator, when he doesn't—when he barely even knows how to couple the cars together.

So there is no conflict between Mr. Hamberger's position and mine on the facility. The conflict is the curriculum.

Mr. LATOURETTE. And, Mr. Hamberger, I will ask you for your observations in a minute. That same trip when I rode the geometry car down in Florida, I also was given the ability to remote control a locomotive, and I couldn't do it on my first day on the job, but maybe others are more experienced than I am.

Mr. Hamberger, is there some comment you want to make about that observation?

Mr. HAMBERGER. Yes. I would not want the Committee to reason inductively from the comment here on RCL because, in fact, harking back to our call for consensus activity in this area under the guidance of Mr. Boardman, I believe there is a meeting on July 25th among the FRA, the major freight railroads, and the UTU to address that very specific issue of whether or not the training pro-

tocols in place right now for remote control locomotives are adequate and, if not, what additional training needs to be accomplished for that very specific issue.

I would also for the record, to answer your questions with respect to grade crossing collisions, it is my understanding that the grade crossing collision rate is down 4 percent in 2005 versus 2004, and I would be remiss if I did not thank you and Congresswoman Brown for your leadership last year in the SAFETEA-LU bill for increasing the amount of money available to communities under the Section 130 Grade Crossing Program, which has proven enormously successful as a program over the years and, thanks to your leadership, now will have more resources to put additional active warning devices and perhaps even close some of these grade crossings.

Mr. LATOURETTE. Thank you, Mr. Hamberger.

Ms. Brown.

Ms. BROWN. Mr. Chairman, I just want to note that I also drove the train, but it was a TGV from London to Paris, and one of the things about that train, the human technology, as long as you have your hands on the wheel, it is fine, but if you take it off for so many seconds, the whole train shuts down.

Mr. LATOURETTE. If the gentlelady will yield, I think the last time I rode that train—that isn't why it takes eight hours to get from London——

[Laughter.]

Mr. LATOURETTE. It was supposed to take two and it took us eight. You weren't driving, were you?

[Laughter.]

Ms. BROWN. Now, I just want you to know recently I met with the transportation people on the train, and it has really improved, the system, from the London to Paris portion, and the English part of it has improved because they have invested additional monies in rail passenger trains, something that seems to be fleeting here in this Country.

I have a question to ask each of the participants, and then I will get back to the script.

If you look around this area today, and I know I was a few minutes late, but I was late because the traffic is just it is almost shut down because of the natural disaster that has been going on, just natural rain. I keep worrying about what could happen to the system if we had some element of an enemy terrorist that had done something to the system, and what are we doing and what are we not doing to improve the freight system safety in this Country, and particularly around this area? I am very concerned about the amount of monies that we put into the system as far as safety is concerned, from the Federal level and also from the private partner level.

Mr. BOARDMAN. I hope the terrorists can't make it rain like this in all cases, because certainly it is very hard when you get the tunnels flooded or when you—even whether it is for the automobiles or whatever mode of transportation. So that was part of the difficulty here in the District. I think a large part of the traffic that we are seeing here today is both the streets that are closed and the question in people's minds about whether all the public transpor-

tation systems are operating. In the case of the VRE it is not because of some of the washouts that have occurred and difficulties that they have had. Most of the rest of the public transit system are back up and running. The Amtrak system and the Metro system seem to be back.

I think that one of the keys here, again, when you look at what our responsibility is in terms of safety and how we interact with TSA, DHS on providing security is to continue to look at what the hazards are that are out there, what kinds of things can shut down our system, that can create problems, and begin to look for mitigations and how we can best address those things, whether it is with contingency or backup plans or with other methods for response.

You can't prevent everything all the time just like you can't prevent having 10 inches of rain in a matter of a two-day period of time in Washington, D.C., which is probably close to 20 percent of the rain that it gets for the year. But the security that we need for, and I think Jim Stem would agree with this as well, is a continuing of drilling and training and recurrent training that is necessary so people know what to do in the cases that we have that difficulty.

And I think that is at least off the top of my head answer for you today, Ranking Member Brown, on how we might be able to address that.

Ms. BROWN. But from what I hear from Mr. Stem, the training and retraining he feels is not taking place.

Mr. BOARDMAN. I think specific to the procedures of security and how you would respond to these things is a little bit different than what his particular view was, but certainly is an element of what he is interested in.

Mr. HAMBERGER. Congresswoman Brown, you have been kind enough to allow us to come in and brief you on our security plan, but just for the record—and let me remind you that right after 9/11 the industry got together and put together a four-tiered alert plan based very much on intelligence, and we have someone sitting 24 hours a day, 7 days a week at the intelligence center of the—I think it is called the TSOC of the Department of Homeland Security, and we have identified our major critical assets. So we are in constant contact with the intelligence center, with the National Joint Terrorism Task Force at the FBI, with the 54 regional offices around the Country of the National Joint Terrorism Task Force of the FBI.

With respect to training, we have just submitted to FRA and TSA, about a month ago, I believe, a new training module; it is actually four videos developed by Rutgers University for all types of employees, all classes and crafts of employees specifically geared toward security.

Finally, here in the District of Columbia, you asked about, as you know, CSX has voluntarily offered to reroute hazardous materials, that is, toxic-by-inhalation hazardous materials loaded cars off the north-south route coming through the city while it works with DHS to put up a virtual fence, spending money for intrusion detection devices and actually using D.C. as a model for corridors that carry hazardous materials.

And, finally, as you will recall, I hope, from two weeks ago my testimony with respect to hazardous materials, we are moving aggressively in trying to improve the integrity of the tank car, but we do believe that it is imperative for Congress to take a look at, one, capping our liability, because we have a common carrier obligation to move these materials; and, two, encouraging in any way possible the chemical industry and their customers to develop a substitute product for the toxic-by-inhalation materials.

And the example right here in Washington, D.C. area is the Blue Plains Water Treatment Plant, which used to take a tank car full of liquid chlorine. It now gets, I believe, two truckloads of chlorine bleach in place of that. But the reduction in risk to the community is enormous. So I think, long-term, that is somewhere where some leadership is needed coming out of Congress.

Mr. STEM. Thank you, Ms. Brown, for the question, and I would like to comment that, from the position of the unions, we want to keep the conversation and discussion about on the job safety separate from security. While most of my comments were designated on training for new employees and recurrent training for existing employees about how to be safe at work, how to prevent injuries, how to prevent collisions, how to maintain situational awareness, my testimony also comments on security.

While we hear a lot of rhetoric from the industry and from TSA about worker training on security, the unions themselves have done more training on security for our members than the industry. The industry has failed in their attempt to educate workers on what they expect them to do if they encounter a terrorism event. We have operating rules on every railroad today that require employees to notify the proper authority if they see something unusual, and we have discussed that with our members, we have put that in many of our publications to encourage that, but we are very frustrated about no security training.

Ms. BROWN. Just one brief follow-up. You mentioned the switchman, and I am very familiar with that particular position because my brother is one, he has been one for 30 years. How much training did you say a switchman is supposed to have before they are operational, more than the conductor?

Mr. STEM. When your brother went to work, he was restricted for more than a year to working only as a switchman in a position with very little responsibility for people other than himself. After he had been there a year, he was then put in line for additional training as a supervisor, which is the conductor. Today, every new employee that goes to work on the railroad is a conduct the first day he works.

And on CSX we just had an event where a conductor that had been working less than 10 days could not even look at a train and tell whether or not it was clear of the main track. He actually gave up a DTC block authority that caused a collision.

So training of new employees and restricting their responsibility for a given period of time is proven traditional technique that works, and that is something that we are not doing.

Mr. Hamberger did mention that FRA has been able to get all of the parties together on July the 25th, and I can tell you that the leadership of our organization is thrilled, very enthusiastic about

that opportunity. We think FRA has expertise in training, we think FRA should have a place in this conversation, and our organization is hoping we can move that away from the collective bargaining arena and deal with training only as a safety issue.

Ms. BROWN. Just one last question, Mr. Chairman. And I have heard this from the field, and it is one of my questions.

Please discuss the railroad proposals to reduce the crews on trains from two persons to one person and what impact would this have on safety. And I would like all three of you to answer that question, because I have heard a lot of discussions about it.

Mr. BOARDMAN. Then I would like to go first, since I think it is really a discussion between those two guys.

Ms. BROWN. Yes, sir.

Mr. BOARDMAN. And the reason I say that is it is really a labor management issue. We don't have rules that deal with the number of people on the train crew.

Ms. BROWN. You don't think it is a safety issue?

Mr. BOARDMAN. It is a safety issue from the standpoint of us looking at the Product Safety Plan that was submitted. The particular reduction in crew was withdrawn from that Product Safety Plan. But the real issue here is a decision or a discussion between and among the employees and management.

We would need to understand from the industry what they would do to reduce risk and how they would manage their safety program with only one crew member, not so much from the standpoint of how many people are on the train, but, rather, particular areas of our interest of making sure that a train was operated safely.

Ms. BROWN. Mr. Hamberger?

Mr. HAMBERGER. Congresswoman Brown, let me emphasize that my response is not being given on behalf of all members of the Association of American Railroads. There is a subset of that group called the National Rail Labor Conference, which consists of five Class I railroads, who are engaged in collective handling, national handling with the unions, and so it is those five railroads who have, in the Section 6 notice pursuant to the Railway Labor Act, given notice to the operating crafts that they would like to move to a one-person crew.

It is clear from the railroad position, those five railroads, that that would be done only if, and only on those roads and only in those corridors where a train control technology has been implemented, and right now the one that is in test in Illinois—ETMS is the acronym, Electronic Train Management System—that BNSF has—Union Pacific is also going in that direction; Norfolk Southern has its own train control system that has certain additional capabilities and CSX also has its own CBTM approach, all of which have the same capability. That capability is to stop the train before it exceeds its authority. And what that means is it will stop the train before it runs the red light, and if it exceeds its speed authority, it warns the engineer and then will stop the train.

So the technology would take away the opportunity for collisions on the main line because the technology would stop the train before—so if every car or every truck had this technology, we would have no collections at the intersections because the authority of the automobile, the truck would stop at the red light.

This is also being—BNSF is going to be implementing it now on a second route in Texas, I believe it is.

The plan would be to have additional employees—I think the operating phrase right now is a utility employee—who would be available to assist in those rare occasions when there is need for assistance to the engineer. But the idea is that with this technology safety would actually be improved, not hindered.

And I would point out that Amtrak runs its long distance trains with one person in the cab, and we have done a great of research around the would where one-person cab operations are commonplace, specifically springs to mind Australia and New Zealand, where they have found that, in fact, safety has been enhanced; and they don't even have the new train control technology.

So we believe, or the five railroads believe that the new train control technology would enhance safety, not be a derogation of safety.

Mr. STEM. If I may comment, Mr. Hamberger—dodging the question. Single-person operation is not about positive train control. Positive train control was designed to deal with the loss of situational awareness by the operating crew. And my testimony went on about fatigue and training. That is really the basis of the loss of situational awareness. ETMS and every other positive train control system that is under development today was designed to complement the existing two-person operating crew.

There are some things that you cannot replace with technology. You cannot get the positive train control system to set out a defective car that has got a hot drone or make a running repair, or to go back and open a public crossing when the train that you are on has been delayed or the train in front of you has been delayed. So this debate is really about safety of the crew, it is about safety of the public.

Single-person operation and positive train control were discussed with Mr. Boardman and Secretary Mineta. Mr. Mineta took his hand and he made a wall, and his exact comment, when asked that question that you asked to Mr. Hamberger, was these two issues must be bifurcated, they must be separate; they are not the same issue. So when we are ready to talk about single-person operation, Mr. Hamberger pointed out to you that Amtrak has a single engineer in the cab. But it is not single-person operation——

Ms. BROWN. Right. And that is under certain circumstances in some certain areas. I understand that.

Mr. STEM. Well, if something happens to the train, they have two crew members that are in the train that are in constant communication with the locomotive engineer that can inspect the train, that can provide service, that can meet with the emergency responders when they need to.

What single-person operation envisions is a train hitting an automobile on a grade crossing and carrying it a mile down the track, and then making the community wait an hour or more to get someone else there to interact with the emergency responder. So when we talk about single-person operation, there is a lot more involved than just safety of the employees. Safety of the community, the traditional responsibilities of the operating crew to the community, opening grade crossings, setting out defective cars, protecting their

train, and meeting with emergency responders are just the tip of the iceberg that would be involved in that conversation.

Ms. BROWN. Thank you, Mr. Chairman. This has certainly been a stimulating conversation today, and I have some written questions that I will submit. Thank you for holding this hearing.

Mr. LATOURETTE. Well, I thank the gentlelady very much, and I think, as I indicated at the beginning of the hearing, it is the Chair's intention to have an additional hearing in July talking about the human factors aspect of this that Administrator Boardman has now indicated are 38 percent, and I hope that what we get into at that time are issues of fatigue and limbo time and some of the other things that have been brought up at this hearing.

I want to thank all of you for——

Mr. HAMBERGER. Do you have a date for that, Mr. Chairman? I would like to get my testimony in on time.

[Laughter.]

Mr. LATOURETTE. Well, I was going to say that the star today is Mr. Boardman, and Mr. Boardman, based only on your getting your statement in on time, apparently. If you seek to become the new Secretary of Transportation, you will have my support, and I am happy to promote you in that regard.

[Laughter.]

Mr. LATOURETTE. I want to thank all of you for coming.

Ms. BROWN. Promise to keep coming back visiting.

Mr. LATOURETTE. He will keep coming back.

I want to thank the members for participating, and we are adjourned. Thank you very much.

[Whereupon, at 11:40 a.m., the subcommittee was adjourned.]

Written Statement of Joseph H. Boardman,
Administrator,
Federal Railroad Administration,
U.S. Department of Transportation,
before the
Subcommittee on Railroads,
Committee on Transportation and Infrastructure,
U.S. House of Representatives

June 27, 2006

Chairman LaTourette, Ranking Member Brown, and other members of the Subcommittee, I am very pleased to be here today to testify, on behalf of the Secretary of Transportation, about the Federal Railroad Administration's (FRA) current safety regulations and rulemaking proceedings. My testimony will begin with an overview of how FRA is working daily to reduce both the number and the severity of railroad accidents. My testimony will then highlight the plan announced by the Secretary and FRA in May 2005, the National Rail Safety Action Plan, and FRA's real and substantial progress in bringing it to fruition, with special emphasis on safety rulemakings called for by the plan. Finally, I will touch on FRA's additional, new, passenger-safety rulemakings and other initiatives.

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." 49 U.S.C. 20103(a). In exercising that authority, the agency has issued a wide range of safety regulations, which cover 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, and use of train horns at grade crossings. FRA currently has active rulemaking projects on a number of important safety topics, many of which will be described later in this testimony. In addition, FRA enforces in the rail mode of transportation the Hazardous Materials Regulations, which are promulgated by DOT's Pipeline and Hazardous Materials Safety Administration (PHMSA).

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 inspect for compliance with the 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. In addition, FRA has 16 highway-rail grade crossing experts in the field. Every year FRA's inspectors conduct thousands of inspections, investigate more than 100 railroad accidents, investigate hundreds of complaints, develop recommendations for thousands of enforcement actions, and engage in a range of educational 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 tracks the railroad industry's safety performance, and the agency uses this information to guide its accident prevention efforts and to strive continually to make

better use of the wealth of available data to achieve the agency's mission. 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, FRA plays a supportive role in the Federal rail security effort.

The National Rail Safety Action Plan

As detailed in the appendix to my testimony, the railroad industry's overall safety record has improved during recent decades, and most safety trends are moving in the right direction. However, significant train accidents continue to 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) have raised public awareness and specific concerns about railroad safety issues deserving government and industry attention.

On May 16, 2005, DOT and FRA launched an aggressive and ambitious National Rail Safety Action Plan to address these safety issues with the following strategy:

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

The Action Plan includes initiatives intended to--

- Reduce train accidents caused by human factors;
- Improve track safety;
- Enhance hazardous materials safety and emergency preparedness;
- Better focus FRA resources (inspections and enforcement) on areas of greatest safety concern; and
- Improve highway-rail grade crossing safety.

The causes of train accidents are generally grouped into five categories: human factors; track and structures; equipment; signal and train control; and miscellaneous. In the five years from 2001 through 2005, the great majority of train accidents resulted from human factor causes or track causes. 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, human factors and track are the major target areas for improving the train accident rate.

Reducing Train Accidents Caused by Human Factors

Development of Rulemaking to Address Leading Causes of Human Factor Accidents

Accidents caused by human factors constitute the largest category of train accidents, accounting for 37 percent of all train accidents over the last five years. Some human factors are addressed squarely by FRA regulations. 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 substance abuse. FRA also has regulations on locomotive engineer certification, and FRA

enforces the hours of service restrictions, which are wholly governed by statute. However, FRA has been concerned that several of the leading causes of human factor accidents are not presently covered by any specific Federal rule, and they can have serious consequences. These leading causes include improperly lined track switches, leaving cars in a position that obstructs a track, and shoving rail cars without a person on the front of the move to monitor conditions ahead.

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. In February 2006, RSAC reported that good progress on a number of issues had been made; however, it was unable to reach a consensus recommendation. FRA thanked the members of RSAC for the guidance provided and has drafted a notice of proposed rulemaking targeted for publication later this year. As discussed in the RSAC, this regulation will address core railroad operating rules governing the handling of track switches, leaving cars in the clear, and "protecting the point" of shoving movements.

Meanwhile, 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, FRA took action by issuing Emergency Order No. 24 in October 2005. This emergency order itself followed FRA's issuance of Safety Advisory 2005-01 in January 2005, immediately after an accident in Graniteville, South Carolina, which resulted in nine deaths from the breach of a tank car containing chlorine. The National Transportation Safety Board (NTSB) determined the probable cause of the Graniteville accident was the failure of a Norfolk Southern Railway Company train crew to return a main line switch to its normal position. Hours later, the next train to traverse the main track was misdirected onto the wrong track, where it collided with a standing train. This emergency order mandates that railroads retrain and periodically test employees on switch operating procedures and that railroads require increased communication among crewmembers and dispatchers regarding the proper positioning and locking of this type of switch. A switch position awareness form must be maintained by each employee operating a switch to record when the switch was operated and when it was returned to the normal position (i.e., typically lined for the main track). This emergency order is expected to remain in place until a final rule addressing the major causes of human factor accidents is promulgated and becomes effective.

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 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. In other industries, such as aviation, adoption of close-call reporting systems that shield the reporting employee from discipline (and the employer from punitive regulatory sanctions) has contributed to major reductions in accidents. 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. In October 2005, a contract to evaluate the close-call data was awarded to Altarum Institute of Alexandria, Virginia. Four railroads have expressed interest in taking part in this project. Educational efforts are under way to ensure that key stakeholders (local rail management and labor) at each potential site understand the purpose of the program and what would be required of them. Specifically, participating railroads will be expected to develop

corrective actions to address the problems that may be revealed. Aggregated data from these projects may also provide guidance for program development at the national level. An Implementing MOU involving the first site is under discussion, and data collection is expected to begin in the near future.

Identification of Technology to Improve Safety in Dark (Non-signaled) Track Territory

As previously mentioned, a leading cause of human factor train accidents is track switches that are improperly lined. A track switch that is improperly lined can divert a train onto the wrong track. An improperly lined track switch located on the main line in dark (non-signaled) territory led to the Graniteville accident.

In November 2005, FRA partnered with BNSF Railway Company in a $1 million Switch Point Monitoring System pilot project. The main objective of the project is to develop a low-cost system that electronically monitors, detects, and reports a misaligned switch on the main line track located in dark territory. Switch position monitoring units are now in place at 49 switch locations on the railroad's Avard Subdivision in Oklahoma. If a switch is left other than in the normal position, the dispatcher at the railroad's operations center is alerted, and corrective action is taken to protect train movements. A final report is expected in August 2006. Along with the planned human factor rule, this new switch monitoring system may prevent future train accidents such as the one at Graniteville.

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 combine to 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 law, originally enacted in 1907 and last substantially amended in 1969, sets 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, the limitations in that law, although ordinarily observed, do not seem adequate to effectively control fatigue. Given the statutory nature of these parameters, however, FRA is not free to change them by rule.

FRA's knowledge of industry employee work patterns and the developing science of fatigue mitigation, combined with certain NTSB investigations indicating employee fatigue as a major factor, have persuaded FRA that fatigue is very likely at least a contributing factor in a significant number of train accidents and other railroad accidents caused by human factors. However, FRA's accident/incident data base rarely shows an occurrence as being the result of an employee's having fallen asleep, since making that determination after an event is very difficult. To obtain better information on the subject, FRA revised its own accident investigation procedures in 2004 so that FRA inspectors collect information on employees' sleep/rest cycles and evaluate fatigue as a factor.

As identified in the Action Plan, FRA is conducting applied research aimed at validating and calibrating a fatigue model that can be used to more precisely determine the role of fatigue in human factor-caused accidents and improve crew scheduling practices by evaluating the

potential for fatigue given actual crew management practices. When the model is properly validated, it will be made available to railroads and their employees as the foundation for developing crew scheduling practices based on the best current science. A final report is targeted for release in August 2006.

Improving Track Safety

Track-caused accidents are the second-largest category of train accidents, comprising 34 percent of all train accidents over the last five years. Some of the leading causes of track-caused accidents are very 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 very hard 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.

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. In 2006, the system is being enhanced with new developments to improve the reliability of joint bar detection and to add capabilities to include the Global Positioning System coordinates for each joint to facilitate future inspection and identification. Additionally, software is being developed and tested 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.

Requirements for Enhanced Capability and Procedures to Detect Track Defects

FRA is also addressing joint bar cracks on the regulatory front. On November 2, 2005, FRA published an interim final rule (IFR) requiring track owners to develop and implement a procedure for the detailed inspection of rail joints in continuous welded rail (CWR) track. Among other things, track owners must perform visual, on-foot, periodic inspections of joints in CWR track and keep records of these inspections. Further, track owners are required to identify joint bar cracks as well as to inspect for joint conditions that can lead to the development of these cracks. Based on the data that FRA will collect through implementation of this rule, FRA will establish a program to review data on cracks in joint bars. Finally, the IFR encourages railroads to develop and adopt automated methods to improve the inspection of rail joints in CWR track. This rulemaking is 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. Currently, FRA is reviewing public comments about this IFR in conjunction with the RSAC, and anticipates issuing a final rule later this year.

Deployment of Two Additional Automated Track Inspection Vehicles

Subtle track geometry defects, such as rails being uneven or too wide apart, are difficult to identify during a typical walking or hi-rail inspection. That is why FRA has developed automated track inspection and research vehicles to improve the ability to identify problems, and ensure they are repaired, before a train accident occurs. In May 2005, FRA added the T-18

vehicle to its fleet. Two more inspection vehicles with similar technology are currently being constructed (one that is self-propelled and one that is towed). They are expected to be delivered in September 2006 and January 2007. Once fully operational, they will allow FRA to inspect nearly 100,000 track-miles each year, three times as many as FRA currently inspects. This additional capability will permit FRA to inspect more miles of major hazardous materials and passenger routes, while also having the ability to follow up more quickly on routes where safety performance is substandard.

Improving Hazardous Materials Safety and Emergency Response Capability

The railroad industry's record on transporting hazardous materials is very good. The industry transports nearly two million shipments of hazardous materials annually, ordinarily without incident. However, the Graniteville accident in 2005, which alone involved nine deaths as the result of a chlorine release, demonstrates the potential for serious consequences from 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 will be fully prepared to minimize the loss of life and damage when an accident or release does occur.

Ensuring Emergency Responders Have Access to Key Information About Hazardous Materials Transported by Rail

Emergency responders presently have access to a wide variety of information regarding hazardous materials transported by rail. Railroads and hazardous materials 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 Association of American Railroads (AAR) amended its Recommended Operating Practices for Transportation of Hazardous Materials (Circular No. OT-55-H) to expressly provide that local emergency responders, upon written request, will be provided with a ranked listing of the top 25 hazardous materials transported by rail through their community. This is an important step to allow emergency responders to plan, and better focus their training, for the type of rail-related hazardous materials incident that they could potentially encounter.

In July 2005, again with FRA encouragement, CSX Transportation, Inc. (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 hazardous materials on the train 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 hazardous material 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 hazardous materials being carried and their exact position in the train consist. FRA is also working through the AAR to encourage the other major railroads to participate in a similar project.

Improving Tank Car Integrity through Research and Development

Prior to the August 2005 enactment of Section 9005 of SAFETEA-LU, FRA had initiated tank car structural integrity research stemming from the circumstances of the 2002 Minot, North Dakota, derailment, which resulted in one death from the release of anhydrous ammonia from a punctured tank car. FRA, in collaboration with the railroad industry through the AAR Tank Car Committee, is conducting research involving three major activities: (1) modeling of dynamic forces acting on tank cars in accidents and assessing the subsequent damage; (2) material testing to determine fracture behavior of tank car steels; and (3) risk ranking to prioritize the tank cars that are perceived to be most vulnerable to catastrophic failure. DOT's Volpe National Transportation Systems Center is doing the modeling work now, and FRA will dovetail this ongoing research with the requirements of Section 9005. The research was originally scheduled to be finished in 2008, and FRA has provided an additional $400,000 to move the target completion date forward to August 2007. This research will help provide the critical information necessary to guide an FRA rulemaking, also mandated by Section 9005, that will address the design of pressurized tank cars.

The first project, modeling of dynamic forces in train accidents, is ongoing and will assess items including train makeup, train speed, configuration of rail car pileup, the effect of having different types of impacting objects (i.e., couplers and wheels) strike different parts of various tank car models, and the effect of various levels of pressurization, among other elements. It is expected to be completed in August 2007.

The second project, material testing for dynamic fracture toughness, is testing the amount of stress required to propagate an existing flaw on the tank car steel and evaluating the ability of the steel to resist fracture. Researchers are testing 34 steel samples from tank cars, which have been sorted according to the decade in which they were manufactured (e.g., 1960s, 1970s, and 1980s). In February 2006, actual testing of the samples began at the Southwest Research Institute laboratories located in San Antonio, Texas. Testing is expected to be completed in August 2006.

The third project, ranking the vulnerability of hazardous materials tank cars to catastrophic failure, represents the end purpose of this research. Risk is a complex concept, and the methods used to rank the factors that affect risk vary in complexity. Preliminary low-level analyses are ongoing. Higher-level analysis can be conducted after the research on dynamic forces and testing for fracture toughness have been completed. The final hazardous materials tank car risk analysis is expected to be completed by September 2007.

In addition, FRA intends to evaluate an explosive-resistant coating that is being used to enhance the armor protection of military vehicles in Iraq for potential use on tank cars to reduce the likelihood of puncture. The material also has a self-sealing property that could be useful to seal a hole in a tank car and mitigate the severity of incidents.

Strengthening FRA's Safety Compliance Program

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. In essence, it makes use of existing inspection and accident data in such a way as to identify potential safety "hot spots" so they can be corrected before a serious accident occurs.

In April 2005, Operating Practices, Track, and Motive Power and Equipment became the first FRA safety disciplines to use the NIP since, combined, the corresponding accident causes (human factors, track, and motive power and equipment) account for about 84 percent of all train accidents. This was followed by the Signal and Train Control and Hazardous Materials 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.

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.

Issuance of Safety Advisory 2005-03

In May 2005, FRA issued Safety Advisory 2005-03, which describes the 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 also offers 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.

In addition, FRA will work with the grade crossing safety community to determine appropriate responses to pedestrian fatalities at grade crossings. Earlier this year, 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 year, 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 resource material available.

Assisting the State of Louisiana in Developing its Grade Crossing Safety Action Plan

In June 2004, Secretary Mineta 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. In March 2005, FRA began working with the State of Louisiana in developing its own action plan for grade crossing safety. Louisiana has consistently been among the top five States in the Nation in the number of grade crossing accidents and deaths. The action plan focuses on reducing collisions between trains and motor vehicles at grade crossings where multiple collisions have occurred. After a delay resulting from last year's hurricane season, the State approved the action plan in April 2006.

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 important progress during

the past year on the safety of railroad passengers. Let me summarize some of the agency's recent passenger rail safety initiatives.

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 address these collision 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, etc. FRA strongly believes that the performance of a Collision Hazard Analysis will strengthen the system safety process on commuter railroads that grew out of the combined experience of the agency and the commuter railroads under Emergency Order No. 20.

Recently, FRA and DOT's Volpe National Transportation Systems Center partnered with the American Public Transportation Association (APTA) in an important pilot project regarding Collision Hazard Analysis. APTA worked in cooperation with FRA and the Volpe Center to train and serve as mentor to the team at Tri-Rail, the South Florida Regional Transportation Authority's commuter service, which volunteered to be the first commuter railroad to conduct this analysis. The pilot project with Tri-Rail provided an important opportunity to test FRA's Collision Hazard Analysis guide, which was published in draft form in December 2005.

The Tri-Rail project proved successful and serves as a model for all other commuter operators to follow to further improve upon their system safety programs. In fact, FRA just started working with Virginia Railway Express to perform such an analysis on its property. FRA strongly advocates that all commuter operators undertake a Collision Hazard Analysis, including New Start rail projects.

Report to Congress on Push-Pull Operations of Rail Passenger Trains

FRA is completing the congressionally mandated Report on the Safety of Push-Pull Passenger Rail Operations and anticipates releasing it in the near future. The report will provide a more comprehensive analysis of push-pull safety data and expand upon the critical passenger rail safety issues highlighted in the preliminary report that FRA issued last year.

Passenger Safety Rulemakings

FRA is hard at work on several rulemakings specifically designed to improve rail passenger safety. First, FRA intends to issue a notice of proposed rulemaking for new passenger rail safety standards to improve evacuation of passengers from trains, provide additional ways for rescuers to access the passenger car in case of an emergency, and enhance on-board emergency communication systems. This is the result of consensus recommendations from the RSAC. Second, FRA is working on a separate rulemaking through the RSAC on whether to incorporate certain APTA standards into FRA's regulations. The standards deal with emergency lighting, the marking of low-location exit paths, and emergency signage. Third, FRA is also preparing a proposed rule to implement the RSAC's recommendations on the end strength of cab cars.

Passenger Safety Research and Development

Crash Energy Management Systems

In March 2006, FRA successfully conducted the final in a series of full-scale passenger train crash tests at FRA's Transportation Technology Center in Pueblo, Colorado, to test new

crash energy management technology, a technology that FRA has been advancing for many years. In the final test, a passenger train that had been equipped with crush zones helped absorb the force of a crash, to better protect the spaces in the train occupied by passengers and train crewmembers. Other devices tested included newly designed couplers, which are built to retract and absorb energy in a collision, to help keep trains upright and on the tracks. Also tested were new passenger seats with special padding and new tables with crushable edges, to help prevent and mitigate passenger injuries. Using this integrated crash energy management technology is expected to save lives by more than doubling the speed at which all passengers are expected to survive a train crash.

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 will enhance the ability of researchers to test strategies for evacuating passenger rail cars and evaluate the performance of emergency systems in the cars, such as emergency lighting, doors, and windows. In addition, emergency responders nationwide now have a unique training tool to practice effective passenger rescue techniques safely in various derailment scenarios. The Rollover Rig was developed by FRA at a cost of $450,000. The commuter rail car used by the simulator was donated by New Jersey Transit Rail Operations, and the Washington Metropolitan Area Transit Authority has agreed to house, operate, and maintain the simulator at its emergency-response training facility in Landover, Maryland.

Conclusion

FRA's approach to enhancing the safety of rail transportation is multi-faceted. In combination, the strategies for comprehensive safety assurance and hazard mitigation that I have discussed today are providing FRA with an effective and cost-based decision-making process to collect information that FRA believes will make rail operations safer for the public and the rail transportation industry. I look forward to discussing with the Subcommittee strategies and priorities for making our Nation's railroad system even safer.

APPENDIX

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 2005. (The low point of rail safety in recent decades was 1978, and 2005 is the last complete year for which data--though preliminary--are available.) Between 1978 and 2005, the total number of rail-related accidents and incidents has fallen from 90,653 to 13,751, an all-time low representing a decline of 85 percent. Between 1978 and 2005, total rail-related fatalities have declined from 1,646 to 895, the third-lowest number on record and a reduction of 46 percent. From 1978 to 2005, total employee cases (fatal and nonfatal) have dropped from 65,193 to 5,582, the record low; this represents a decline of 91 percent. In the same period, total employee deaths have fallen from 122 in 1978 to 25 in 2005, a decrease of 80 percent.

Contributing to this generally improving safety record has been a 71-percent decline in train accidents since 1978 (a total of 3,152 train accidents in 2005, compared to 10,991 in 1978), even though rail traffic has increased. (Total train-miles were up by 5 percent from 1978 to 2005.) In addition, the year 2005 saw only 36 train accidents, out of the 3,152 reported, in which a hazardous material was released, with a total of only 49 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 approximately 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 the year 1978, more than 10.7 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 in 2005 there were more than 522 million. Twelve rail passengers were killed in train collisions and derailments in 2005, including ten that died in the Glendale tragedy. 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 93 percent of the 895 total rail-related deaths in 2005. In recent years, rail trespasser deaths have replaced grade

crossing fatalities as the largest category of rail-related deaths, and last year was no exception. In 2005, 476 persons died while on railroad property without authorization, and 356 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 4.04 and 4.36, respectively) compared to that in 2002 (3.76), although it dropped in 2005 (to 3.99). As stated in the main testimony, 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.

STATEMENT OF
THE HONORABLE CORRINE BROWN
SUBCOMMITTEE ON RAILROADS
HEARING ON
"CURRENT FRA RAIL SAFETY INITIATIVES"
JUNE 27, 2006

Thank you, Chairman LaTourette.

Before I begin, I want to express my disappointment in the fact that the witnesses invited to testify before this Subcommittee continually submit their statements for our review well past the requested deadline. The invitation letters clearly state that they are due at least two or three days prior to the hearing, but we continue to receive testimony in the evenings before hearings. And this is just not enough time for the staff to thoroughly review their testimony and prepare the Members. I

know the Federal Railroad Administration (FRA) is doing what it can to get its statements cleared from the Office of Management and Budget in a timely manner, but when it comes to the private sector witnesses, there is no excuse. I hope the Chairman will address this matter.

In terms of this hearing, the FRA says that human factors and track defects account for over 70 percent of all rail accidents. Indeed, the National Transportation Safety Board (NTSB) determined that the probable cause for the 2005 derailment of a Norfolk Southern train in Graniteville, South Carolina was the failure of the crew to return a main line switch to the

normal position. A misaligned switch also resulted in the collision of two Union Pacific trains in Shepherd, Texas in 2005. And the derailment of a Canadian Pacific train in 2002 was the result of track defects – cracked joint bars and broken rail.

Prior to this hearing, I reviewed the Department of Transportation's data on rail safety. It shows that human factors and track defects have been the main causes of accidents since 1975. It concerns me that it took 30 years for FRA to hone-in on these two areas, but I am pleased to see that the agency – under the

leadership of Administrator Boardman – has begun to take action.

In May 2005, the FRA unveiled its Rail Safety Action Plan. I am interested in getting a status report on the action items contained in the Plan, as well as an update on FRA's efforts to mitigate fatigue.

I am also interested in FRA's new National Inspection Program, which wasn't fully implemented until this past March. DOT's data shows that – over the last few years – the number of inspections conducted by the FRA has declined by 6.3 percent, which is a serious

concern. I therefore plan to join Congressman Oberstar in sending a letter to the DOT Inspector General within the next few months to ask him to conduct a full audit of the adequacy of FRA's Rail Safety Action Plan and the National Inspection Plan.

Thank you again Mr. Chairman. I look forward to hearing from the witnesses, and yield back the balance of my time.

Statement by Congressman Jerry F. Costello
Committee on Transportation and Infrastructure
Subcommittee on Railroads
Hearing on Current Federal Railroad Administration Safety Initiatives
June 27, 2006

Thank you, Mr. Chairman, for calling this important hearing on current issues and problems relating to recent safety initiatives at the Federal Railroad Administration (FRA). I would like to welcome today's witnesses.

Railroad safety has improved significantly in the past 20 years. However, I have seen in Illinois, especially in my congressional district, the severe consequences of inadequate rail safety standards. We must continue to push for new rail precautions and enforce higher safety standards to protect passengers and communities that host rail traffic.

Technological improvements, such as positive train control (PTC), are expected to make significant changes in rail safety. I am pleased the Positive Train Control technology is currently being testing in my home state of Illinois and is being sponsored by the Illinois Department of Transportation, the FRA and the freight railroads acting through the Association of American Railroads (AAR). PTC is critical to increasing safety, improving track capacity and greater operational efficiency.

Aside from hearing our witnesses' comments on the PTC in Illinois, I am also interested in learning more about the FRA's new safety initiatives, both as to levels of safety achieved, and as to the practicality of them. Finally, I am interested in any trends or problems identified in specific accidents investigated by FRA and the National Transportation Safety Board.

I look forward to the testimony of today's witnesses and learning more about these improvements and programs.

COMMITTEE ON TRANSPORTATION & INFRASTRUCTURE
Subcommittee on Railroads

"Current Federal Railroad Administration Safety Initiatives"

June 27, 2006
10:00 a.m.
Room 2167, Rayburn House Office Building

Opening Statement of Congressman Elijah E. Cummings

Mr. Chairman:

Thank you for calling today's hearing to enable us to examine current trends in railroad safety.

Statistics published by the Association of American Railroads (AAR) show that during 2004, there were 556 railroads operating more than 201,000 miles of track and employing nearly 216,000 workers. Coal continued to be by far the largest cargo, accounting for nearly 43% of the total tons of cargo originated on railroads. The AAR also

reports that railroads carry approximately 1.8 million carloads of hazardous materials each year.

I am very encouraged that the total number of accidents and incidents of all kinds per year on the rail network has fallen dramatically over the past decade from nearly 17,700 in 1996 to just under 13,800 in 2005. However, there are other safety indictors that have not shown that kind of improvement.

For example, during the 1996 to 2005 period, the total number of train accidents has been steadily increasing. Further, after falling between 2000 and 2002, the number of collisions has subsequently increased, rising from 192 collisions in 2002 to 261 collisions in 2005.

Human factors and track defects remain the two largest causes of train accidents – however, the rate of human factors in train accidents has risen steeply from 783 accidents attributed to human factors in 1996 to more than 1,200 attributed to human factors in 2005. In fact, in 2005, human factors were the primary causes of accidents among all four major Class I railroads. I look forward to hearing from today's witnesses regarding what can be done to reduce the human factors that are contributing to train accidents.

Looking beyond safety trends to the everyday operation of the rail network, there are many instances on our rail network in which safety and security interests intersect – but perhaps nowhere more so than in rail yards. Rail yards are now widely used as sites of "storage in transit," and

frequently, the only thing separating a community from a parked train hauling hazardous materials is a flimsy chain link fence.

It was announced last year that the federal government will implement a pilot program to enhance security on approximately 7 miles of track around Washington, DC at a cost of about $9 million. This was, I believe, an implicit admission that perimeter security along that stretch of track in our nation's capital was not as strong as it could be. If such improvements were needed in DC, I am concerned by what perimeter security improvements may be needed in areas that are less visible and less sensitive – and I am deeply concerned about the safety risks that arise when such security needs go unmet.

Finally, as the representative of a city that experienced a terrible fire in a railroad tunnel in 2001 when a tank car was punctured in a derailment and its flammable contents ignited, I believe we must similarly pay attention to the intersection of safety and security in and on the tunnels and bridges along our rail network.

To that end, I have joined Chairman Young and Ranking Member Oberstar in asking the Government Accountability Office to examine the efforts made to date by the Departments of Homeland Security and Transportation to assess the unique vulnerability of these pieces of infrastructure.

I look forward to hearing from today's witnesses and yield back the balance of my time.

STATEMENT OF

EDWARD R. HAMBERGER

PRESIDENT & CHIEF EXECUTIVE OFFICER

ASSOCIATION OF AMERICAN RAILROADS

BEFORE THE

U.S. HOUSE OF REPRESENTATIVES

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE

SUBCOMMITTEE ON RAILROADS

HEARING ON CURRENT

FEDERAL RAILROAD ADMINISTRATION

SAFETY INITIATIVES

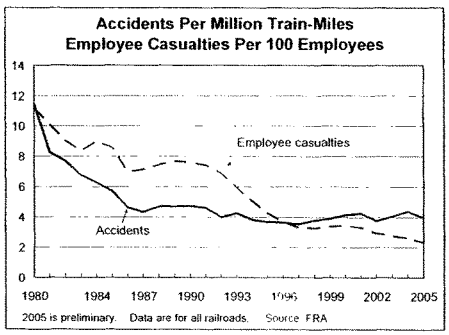
JUNE 27, 2006

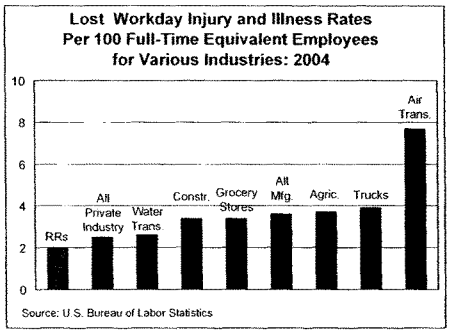
Introduction

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

First and foremost, it is important to stress that nothing is more important to railroads than the safety of their employees, their customers, and the communities they serve. Through massive investments in safety-enhancing infrastructure and technology; employee training; cooperative efforts with labor, suppliers, customers, communities, and the FRA; cutting-edge research and development; and steadfast commitment to applicable laws and regulations, railroads are at the forefront of advancing safety.

The overall railroad industry safety record is excellent, reflecting the extraordinary importance railroads place on safety. Since 1980, railroads reduced their overall train accident rate by 65 percent and their rate of employee casualties by 79 percent. In 2005, in fact, the employee casualty rate was the lowest in history. Railroads 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. U.S. railroads also have employee injury rates well below those of most major European railroads. And when they do happen, railroad injuries are no more severe than injuries in U.S. industry as a whole.





Railroads are also far safer than trucks. Rail freight transportation incurs less than one-fifth the fatalities that intercity motor carriers do per billion ton-miles of freight moved.

In May 2005, the FRA released its "Action Plan for Addressing Critical Railroad Safety Issues" (Action Plan). The Action Plan includes initiatives in six areas: human factor-caused train accidents; fatigue; track safety; hazardous materials safety; the use of accident and inspection data to gauge compliance with FRA regulations; and highway-rail grade crossing safety. Each of these areas is addressed below.

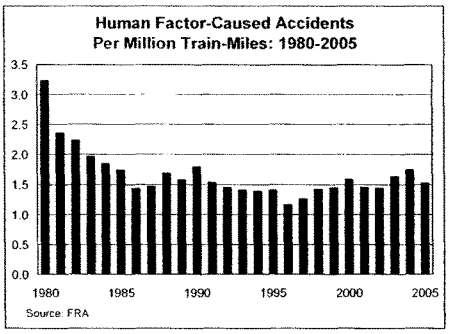
Human Factors

According to FRA data, human factors (*i.e.*, human errors) constitute the largest category of train accidents, accounting for 38 percent of all train accidents from 2001-2005.

Given the extent and complexity of rail operations — the railroad "factory floor" is outdoors and more than 140,000 miles long — some rail accidents are bound to occur. And while railroads respect and applaud the professionalism and attention to safety that rail employees bring every day to their jobs, employees will sometimes make mistakes. However, railroads share FRA's goal of finding ways to make those mistakes as rare as possible.

The Action Plan states that human factor-caused accidents are increasing. While the absolute number of accidents classified as caused by human factors has risen over the past decade, the rate per million train-miles has stayed relatively constant, and in 2005 was 53 percent lower than it was in 1980. In addition, most of the increase in human factor-caused accidents over the past decade has been low-speed yard accidents, which incur substantially

lower damage and casualties. In fact, the rate of human factors-caused accidents involving freight trains on main and siding track in 2005 was 75 percent below its 1980 level, 46 percent below its level in 1990, and only 16 percent above its all-time low in 1999.



Nevertheless, railroads agree that they, rail labor, and the FRA must continue to try to reduce the frequency of human factor-caused accidents.

According to the Action Plan, the three leading causes of human factor-caused accidents that are not covered by existing FRA regulations tend to be switching related — *i.e.*, track switches that are improperly "lined," or set; shoving cars without a person at the front to monitor conditions ahead; and leaving rail cars in a position that obstructs a track.

Although each of these mistakes is covered by individual railroads' operating rules (and thus are cause for disciplinary action if violated), the FRA believes that federal operating rules should address them. Consequently, the FRA asked the Rail Safety Advisory Committee[1] (RSAC) to convene a task force to address switches, shoving cars, and leaving cars in a position that obstructs a track. The AAR agreed to the formation of the task force. As an interim measure, on October 19, 2005, the FRA promulgated Emergency Order No. 24 (EO-24), which addressed procedures for ensuring that switches are properly lined.

[1] RSAC is an advisory committee established in 1996 to address the need for a more collaborative approach to FRA safety regulation. It is composed of representatives from all facets of the rail industry and is chaired by the FRA Associate Administrator for Safety.

After reaching agreement on most issues, the RSAC task force concluded its work in February 2006. The task force's work should provide the FRA with a solid foundation for the next major step in the process — drafting a proposed rule — which the rail industry expects to be released in the next few months.

Among other issues, the RSAC task force addressed the following:

- Employee training
- Ensuring that railroad officers who are responsible for assessing the qualifications of railroad employees are sufficiently trained
- Periodic railroad reviews of accidents and incidents to ensure testing programs are addressing the appropriate subjects
- Requiring rail employees to determine visually that the track is clear when conducting shoving or pushing movements (with certain limited exceptions)
- Prohibiting leaving equipment in a position that obstructs connecting track (again with certain limited exceptions)
- Requiring switches to be left in their proper position when not in use
- Requiring derails[2] to be locked in the derailing position
- Prohibiting trains from moving onto track until switches and derails are in the proper position
- Communications regarding hand-operated switches in non-signaled territory
- Job briefings concerning the operation of hand-operated switches for employees in non-signaled territory

The Action Plan also discussed the implementation of a pilot program to collect data on "close calls" — *i.e.*, unsafe events that do not result in a reportable accident, but had the potential to. The existing accident reporting system does not capture data on close calls. Theoretically, if such information were collected, railroads might be able to use it to identify safety hazards and reduce future incidents. Similar systems are used in aviation and on some overseas railroads. According to the FRA, in other industries the implementation of a close-

[2] A derail is a track safety device that guides a freight car off the rails at a selected spot. It is commonly used on spurs or sidings to prevent freight cars from extending onto a main line.

call reporting system that shields reporting employees from discipline, and their employers from punitive sanctions levied by the regulator, has led to significant reductions in accidents.

The AAR and rail labor are working with the FRA to develop a model close-call program suitable for voluntary adoption by individual railroads. As part of this initiative, Union Pacific is expected to begin the first pilot of a close-call reporting system at one of its terminals in the near future.

Train Control Technology

Several major railroads are now developing and testing train control systems that can prevent accidents by automatically stopping or slowing trains before they encounter a dangerous situation. Through predictive enforcement, train control technologies, in certain circumstances, could significantly reduce the incidence of human error-caused train accidents, 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). 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.

Several major railroads are engaged in various projects to test elements of this new technology. For example, one railroad has done extensive and successful pilot testing in

Illinois and is about to expand its version of train control (Electronic Train Management System – ETMS) on a second rail corridor between Texas and Kansas. The railroad is awaiting final approval from the FRA on the technology in order to fully implement it.

Implementing train control technology will require massive capital investments in wireless networks; sophisticated location determination systems; highly reliable software; and digital processors on board locomotives, in dispatching offices and, for some systems, along tracks. Most major railroads intend to install train control systems and use any related productivity gains to help offset their cost.

Fatigue

Railroads and employees are continuing their long-standing and varied efforts to gain a better understanding of fatigue-related issues and find effective, innovative solutions. Scientific research to date suggests that flexibility to tailor fatigue management efforts to address local circumstances is key to the success of these programs. Significant variations associated with local operations (*e.g.*, types of trains, traffic balance, and geography), local labor agreements, and other factors require customized measures. Consequently, a one-size-fits-all government approach is unlikely to succeed as well as cooperative efforts tailored to individual railroads.

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

Consequently, since 1992, the AAR, the Brotherhood of Locomotive Engineers, and the United Transportation Union have addressed fatigue through the Work/Rest Task Force. The Task Force members share information about fatigue countermeasures. Periodically, the

Task Force publishes a compendium of railroad initiatives. A revised compendium is currently being prepared.

Recognizing that some employees with sleep disorders may be reluctant to come forward for treatment for fear of their livelihood, last year railroads and labor produced and circulated a statement saying that a sleep disorder will be addressed no differently than any other medical condition that might affect job performance — namely, individual evaluation by medical professionals for diagnosis and treatment.

Different railroads employ different fatigue countermeasures, or the same countermeasures in different ways, based on what they've found to be most effective. A list of countermeasures — at least some of which can be found on every major railroad — includes:

- Changes in work schedules (*e.g.*, assigned work and rest days)
- Developing scheduling alternatives in cooperation with labor
- 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)
- Sleep disorder screening
- Enhanced emphasis on returning crews home rather than lodging them away from home
- Standards for lodging at away-from-home facilities
- Running more scheduled trains and groups of trains
- Providing more predictable calling windows and minimal times between shifts
- Proactive notification (cell phone, pager, PDA)

Many railroads also offer fatigue education programs for employees and their families, including individualized coaching to assist employees in improving their sleep habits. The importance of education in this area cannot be overstated, since the value of fatigue-related initiatives is highly dependent upon the actions of employees while off duty. An educational website designed solely for railroads and railroad employees is under development by the AAR in partnership with the American Short Line and Regional Railroad Association and the

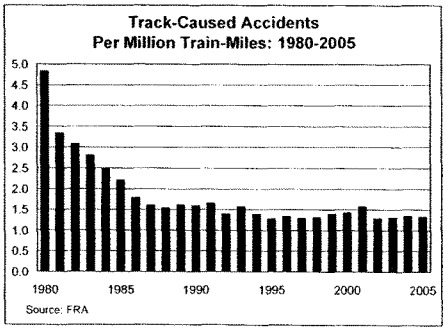
American Public Transportation Association, and is expected to be available later this year. Content will be supervised by an internationally-recognized panel of experts and will include information on good sleep practices, sleep disorders, and fatigue countermeasures, as well as other resources.

The FRA also is addressing work/rest issues. For example, it is attempting to develop a fatigue model that could be used to improve crew scheduling. Railroads are cooperating in this project by supplying work-schedule data for their employees. If successful, the model might be used to develop improved scheduling practices based on aggregate data. The FRA is also investigating, with railroad cooperation, the use of wristwatch-like devices known as "actigraphs" to help measure the effect of schedules and educational efforts on sleep patterns.

Track Safety

The condition of track is a key component of railroad safety. A principal reason why the railroads' safety record has improved dramatically since 1980 is the significant reduction in track-caused accidents, which are down 72 percent on a train-mile basis since 1980.

However, track problems remain a leading cause of accidents (34 percent of the 2001-2005 total), and the rail industry is committed to reducing their occurrence.



One area being addressed by the FRA is broken joint bars. Work by an RSAC task force on joint bars in continuous welded rail (CWR) has just come to a consensus on inspection criteria. The regulations will address the frequency with which CWR joints are inspected (which will depend on track class, the annual tonnage of

traffic, and whether there is passenger traffic) and the recording of defects. In addition, AAR will collect data for the FRA that the U.S. Department of Transportation's (DOT) Volpe Center can use as part of its efforts to analyze joint bar failures.

At a very basic level, railroading today is similar to railroading long ago: it still consists of steel wheels traveling on steel rails, with one or more locomotives pulling a string of cars. This surface similarity, however, masks a widespread application of modern technology and a huge variety of ongoing initiatives to research, test, and apply advanced technologies to promote a safer railroad environment.

Much of this new 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 finest railroad research facility in the world. Its 48 miles of test tracks, highly sophisticated testing equipment, metallurgy labs, simulators, and other diagnostic tools are used to test track structure and vehicle performance, evaluate component reliability, and more. The facility is owned by the FRA, but has been operated by TTCI — which is responsible for all of its operating costs and some capital costs — since 1984. The rail industry is pleased that members of this committee have twice had the opportunity to see TTCI firsthand.

Many of these technological advances — some of which are in widespread use and some of which are still under development — are part of the rail industry's Advanced Technology Safety Initiative (ATSI). ATSI is a maintenance system designed to detect and report potential safety problems and poorly performing equipment *before* problems occur. Many advances are also related to the industry's Technology-Driven Train Inspection (TDTI) program, which focuses on developing high technology train inspection capabilities.

Just a few of the many technological advances important to track and equipment safety are described below:

Track and Infrastructure

- *Advanced track geometry cars*, which combine sophisticated electronic and optical instruments, are used routinely to inspect track conditions, including alignment, gauge, and curvature. TTCI is developing an on-board computer system that provides a more analytically-advanced capability of assessing track geometry by predicting the response of freight cars to deviations in track geometry. This information will better enable railroads to determine track maintenance needs and help improve the safety of day-to-day rail operations.
- *Improved metallurgy* and *premium fastening systems* have enhanced the stability of track geometry, reducing the risk of track failure leading to derailments.
- Research is continuing in the development of *designs, materials, and maintenance techniques* for improving the performance of specialized track components used in heavy haul railroading — for example, "frogs" and "diamonds" (track structures used where two rail lines intersect that permit wheels to cross the intersecting rail) and where sections of rail meet.
- *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 can 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; the system will be demonstrated in actual revenue service later this year.
- *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.
- Improved *track lubrication* techniques, including the use of environmentally-friendly soybean-based lubricants, are being introduced to reduce fuel costs and extend rail life.
- 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, and more.

Freight Car and Locomotive Wheels

- *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 being developed use *machine vision* to perform higher-accuracy inspections through the use of digitized images, which are then analyzed using computer algorithms. Tests at TTCI last year revealed that it is possible to inspect wheels of moving trains using *ultrasonic probes* and detection algorithms. 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 reveal 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 soon. 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-alloyed metals* that resist damage and withstand higher service loads are being developed.

Locomotives and Freight Cars

- Advanced *fault detection systems* monitor critical functions on locomotives. State-of-the-art locomotives today can have 20 or more sophisticated microprocessors that monitor and control various subsystems, constantly measuring and checking up to several thousand characteristics of the locomotive and its operation.
- Major U.S. railroads are deploying *remote control locomotive technology* (RCL) to improve rail safety. In use for many years on Canadian and smaller U.S. railroads, 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.
- 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*.[3]
- *Tank car enhancements* have helped railroads reduce the overall rail hazardous materials accident rate by 89 percent since 1980 and by 40 percent since 1990.

[3] In terms of rail cars, "truck" refers to the complete four-wheel assembly that supports the freight 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.

Computers and Communication Systems

- Railroads are constantly expanding their use of state-of-the-art global positioning systems, wireless technologies, and other *communications advances* in a wide variety of rail applications.

  For example, the Integrated Railway Remote Information Service (InteRRIS), which is under development at TTCI, is an Internet-based data collection system with broad potential applicability. 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. This will allow equipment which is approaching an unsafe condition to be removed from service and repaired before an accident occurs.

  This technology (and others) have been incorporated in the industry's Advanced Technology Safety Initiative mentioned earlier. ATSI has already improved safety. Preliminary data indicate that the rate of main track broken rail and broken wheel accidents per million freight train-miles in the 18 months following the October 2004 implementation of ATSI was 15 percent below that of the 18-month period beginning two years prior to implementation. That's equivalent to a reduction of 46 potentially serious main track accidents nationwide over the more recent 18-month period.

- Advanced *computer modeling software* is being used in a huge variety of rail applications, from automating rail grinding schedules and demand forecasting to construction sequencing and operations simulation.

TTCI also supports three affiliated laboratory programs at Virginia Tech, Texas A&M University, and the University of Illinois. Through these programs, the rail industry monitors technological developments outside the railroad industry, evaluates their suitability to railroads, and supports them towards implementation. TTCI also participates in extensive partnership programs in global railway research to identify and evaluate technologies outside the domestic railway industry.

Hazardous Materials and Emergency Response

On June 13, 2006, I testified before this committee on the transportation of hazardous materials (hazmat) by rail. I will just summarize that testimony here.

The current environment for the rail transportation of highly-hazardous materials, especially "toxic inhalation hazards (TIH)," is untenable. The federal government today, through railroads' common carrier obligation, requires railroads to transport these shipments, whether they want to carry them or not. Every time a railroad moves one of these shipments, though, it faces potentially ruinous liability. The insurance industry is unwilling to insure railroads against the multi-billion-dollar risks associated with highly-hazardous shipments.

Railroads face these huge risks for a tiny fraction of their business — shipments of TIH, for example, constitute only about 0.3 percent of all rail carloads (and contribute some 50 percent to the overall cost of railroad insurance). Accidents involving highly-hazardous materials on railroads are exceedingly rare. Still, history demonstrates that railroads can suffer multi-billion-dollar judgments, even for accidents where no one gets hurt and the railroads do nothing wrong.

If policymakers are to require railroads to transport highly-hazardous materials, they must limit railroads' liability in the event of an accident. If railroads' risks are not limited, railroads will be forced to seek an elimination of their common carrier obligation to carry this traffic, or to challenge its applicability with regard to TIH and other highly-hazardous materials.

In the meantime, railroads support prompt, bold actions by all stakeholders to further reduce the risks associated with the manufacture, transport, and use of highly-hazardous materials. Risk-reducing actions that should be pursued include accelerating the development and use of inherently-safer products and technologies as substitutes for highly-hazardous materials; developing and introducing safer tank cars; examining whether and how railroads can use coordinated routing arrangements to safely reduce hazmat transportation; and examining whether hazmat consumers can use "market swaps" to source hazmat from closer suppliers.

Railroads are committed to working with the FRA and others to enhance hazmat safety.

The FRA Compliance Program

According to the FRA Action Plan, the DOT Office of Inspector General "has recommended that FRA submit...a comprehensive plan for implementing a program that makes meaningful use of available data to focus inspection activities, assess whether traditional enforcement techniques should be substituted for a partnership approach, and determine appropriate fines where warranted."

In response, the FRA is continuing the development of a new national inspection plan process. As I noted at the beginning of this testimony, railroads believe that steadfast commitment to applicable laws and regulations is a critical part of rail safety efforts. Thus, AAR's members are committed to safe operations, including compliance with FRA regulations.

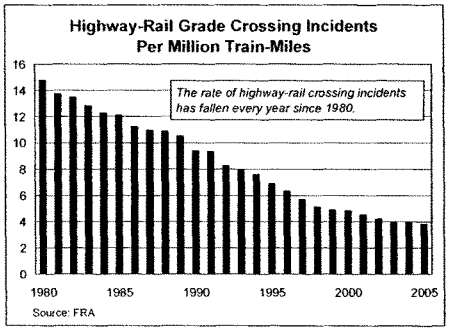
It is necessary and appropriate for the FRA to focus its efforts on the biggest safety problems, and if better examination of data will lead to better priorities, railroads support that examination. I caution, however, that railroads already have strong incentives to improve safety and reduce the costs of injuries and accidents. They and their employees are in the best position to know how to do this. Thus, cooperative efforts based on performance standards are far more likely to actually improve safety than a top-down, overly prescriptive approach.

Highway-Rail Grade Crossings

On July 21, 2005, I testified before this committee on grade crossing safety. In that testimony, I noted that collisions at grade crossings, along with incidents involving trespassers on railroad rights-of-way, are critical safety problems. In 2005, these two categories accounted for 93 percent of rail-related fatalities. Although these incidents usually arise from factors that are largely outside of railroad control, 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. The rate of grade-crossing collisions fell 74 percent from 1980 through 2005, while the number of grade-crossing fatalities has fallen 57 percent over the same period. In fact, the rate of highway-rail grade crossing incidents has fallen every year since 1980.



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. Details on these and other ways railroads are pursuing grade crossing safety are in my July 2005 testimony.

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, of course, will continue these programs.

To help further improve grade crossing safety, railroads urge the FRA to initiate active enforcement programs with local police agencies. For example, the FRA may wish to 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.

The Highway Safety Act of 1973 created and funded a national highway safety program, commonly referred to as the Section 130 program, specifically dedicated to crossing safety. 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 Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users, which Congress passed in the summer of 2005, increased to at least $220 million per year (from approximately $155 million per year) the federal funding directed to the Section 130 program. The rail industry commends and thanks the members of this committee and others in Congress for their support of this critical program.

Conclusion

Thank you for the opportunity to present the railroads' perspective with respect to FRA safety initiatives. The railroad industry looks forward to working with Congress, the FRA, its customers, its employees, and others to ensure that rail safety continues to improve.

STATEMENT OF
THE HONORABLE JAMES L. OBERSTAR
SUBCOMMITTEE ON RAILROADS
HEARING ON
"CURRENT FRA RAIL SAFETY INITIATIVES"
JUNE 27, 2006

Prior to this hearing, I spent some time reviewing the Department of Transportation's (DOT) data on rail safety. At the last few hearings, some witnesses stated that the increase in train traffic and the decrease in accident rates – the frequency of accidents – is evidence that rail safety is improving. I believe that statement is misleading. A closer look at DOT's data shows that over the past decade train collisions and derailments have increased by 28 percent (from 2,443 in 1996 to 3,124 in 2005). Yard accidents have increased by 33 percent (1,299 in 1996 to 1,724 in 2006), and grade crossing accidents have remained somewhat stagnant.

The Federal Railroad Administration (FRA) finds that human factors and track defects are the causes of most of accidents. Indeed, DOT's data shows that human factors and track defects have been the main causes of accidents since 1976.

FRA is in the process of developing a regulation to address top human factor causes, such as misaligned switches, shoving cars without a person on the front of the move to monitor conditions ahead, leaving cars in a position that obstructs a track, and failure to secure handbrakes – all of which are currently addressed through railroad operating rules rather than Federal regulations.

I hope this rulemaking is not focused on just enhancing the railroads' operating rules, but rather implementing NTSB's recent recommendations, such as requiring the railroads to install automatically activated devices which clearly convey the status of the switch in daylight and in the dark.

With respect to fatigue, the number of train miles traveled has increased over the past decade – from 671 million miles in 1996 to 791 million miles in 2005 – while the railroad workforce has declined, leaving it up to the remaining crew members and inexperienced new hires to work longer and harder on less rest.

I understand that FRA has accelerated its ongoing research aimed at validating and calibrating a fatigue model that can be used by the railroads to more precisely determine the role of fatigue in human factor accidents and improve crew-scheduling practices. In the National Rail Safety Action Plan, FRA says that when the model is properly validated, it will be made available to railroads and their employees as a foundation for developing crew scheduling practices based on the best current science.

I believe FRA needs to move beyond conducting studies, developing new technologies, and making information "available" to railroads in hopes that they will implement FRA's recommendations. FRA needs to take action now to address fatigue, and Congress needs to pass legislation to strengthen our hours of service laws – something I have tried to do in the last several Congresses.

Finally, I would be remiss if I did not mention the issue of cross-border railroading. In 2004, I along with many of my colleagues on the Transportation and Infrastructure Committee sent a letter to FRA in opposition to Union Pacific's petition for a waiver from certain Federal safety requirements so that trains may operate from Mexico into the United States without further inspections at the border. FRA's Railroad Safety Board denied that petition and determined that Union Pacific failed to demonstrate that it was consistent with safety. I suspect that once Union

Pacific addresses FRA's concerns, another waiver petition will be filed. I would like to know what the FRA is doing to address the safety of cross-border railroading, what progress the Mexican government has made in harmonizing their rail safety laws and regulations with ours, and how that compares with the efforts of the Canadian government.

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

House Transportation and Infrastructure Committee

Railroads Subcommittee

Testimony of

United Transportation Union

James Stem

June 27, 2006

Chairman LaTourette, Ranking Member Ms. Brown, and Members of the Committee, on behalf of the men and women that are operating the trains moving on our nation's railroads today, I want to thank you for giving us the opportunity to testify on our priorities for rail safety.

My name is James Stem. I serve in the capacity of Alternate National Legislative Director for the United Transportation Union with our office located here in Washington. I also have the assignment of coordinating our participation with the FRA Rail Safety Advisory Committee (RSAC) at the direction of UTU International President Paul Thompson.

We are FRA's partners working together to improve safety in our rail industry. We are thankful for the positive relationship that has been developed with Administrator Joe Boardman, Associate Administrator of Safety Jo Strang and their staff.

The most appropriate solutions to identified rail safety concerns are consensus results produced with FRA, labor, and rail management's active participation. With the FRA guidance, the RSAC process brings all the stake holders together to address specific concerns and to improve safety through practical application of the resolution.

UTU fully supports this FRA initiative and recognizes the fact that this process contributes to improved safety.

The Introduction of Secretary Mineta's FRA Action Plan states:

"The railroad industry's overall safety record has improved over the last decade and most safety trends are moving in the right direction. However, significant train accidents continue to occur, and the train accident rate has not shown substantive improvement in recent years. Moreover, recent train accidents have highlighted specific issues that need prompt government and industry attention..."[1]

While the numbers of "fender-benders"and minor incidents have decreased, the numbers of train collisions, train derailments, and major events in the rail industry have increased in number and frequency (FRA 11 year Accident Injury Summary).

FRA data reveals that over a three-year period ending in December 2005, train collisions increased by more than 42 percent and employee fatalities were up by 17 percent.

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[1] US DOT Federal Railroad Administration Action Plan for Addressing Critical Railroad Safety Issues, May 16, 2005

Moreover, the Washington Post reported a terrorist attack on rail cars carrying chlorine gas "could kill or injure tens of thousands." The New York Times reported railroads "transport more than 1.7 million shipments of hazmat every year, including 100,000 tank cars filled with toxic gases like chlorine and anhydrous ammonia." A White House homeland security adviser said, "Chemical transport is clearly the greatest vulnerability in the country today." Clearly, railroad safety is an urgent matter affecting public safety and national security.

Training

It is obvious to us this trend in declining rail safety is directly related to a failure in the current training programs and the rampant fatigue problems throughout the industry.

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 was 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.

The UTU is of the strong opinion that 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 one 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 two 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.

Our 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 five years. Unless we can quickly eliminate training as the major safety issue, we can only expect this negative trend in safety analysis to accelerate.

Fatigue

Unless a human being knows in advance what time they must report to work, they can not arrange to be rested and fit for duty. The railroad industry functions on a 24/7 schedule with continuous operations from coast to coast. This is not an excuse for the current position of the railroads holding that their employees do not deserve and are not entitled to advance knowledge of the time they must appear for their next assignment. Every railroad terminal has an information line commonly referred to as a "lineup" that is intended to advise crews that are subject to call 24/7 regarding their status. Every railroad has "problems" with the accuracy of these "lineups". The employees must have early and reliable information indicating when they will be required to report for duty

Even though it is the same company officers, using the same company computers and programming that forecast the numbers of trains to be operated, the projected time on duty information available to railroad operating employees and reality are seldom even close. The data produced by these computers is frequently inaccurate by several hours. These are the same computers that the railroads are telling you will be used to operate 2 mile long freight trains with only one person on the train.

UTU has voluntarily participated in many different forums on Fatigue, Work Rest issues, and pilot projects designed to help stabilize the work schedules for operating crews. There are a few successful Work Rest projects continuing across the country, but these represent no more than 2% of the affected employees. Railroads have adopted unilateral Availability Policies that set arbitrary guidelines for employee work schedules. One railroad Availability Policy states that employees will be available for service 85% of their time. The average American worker that is expected to work 40 hours each week is available for service about 24% of their time. The railroads expect their employees to be available for work more than 3 times the national average.

The Federal Hours of Service Act states that rail employees involved with train operations and signal appliances can only work 12 consecutive hours on duty. In our rail industry today 20 consecutive hours between reporting for duty and being relieved is not unusual, with 14-16 hours on duty common place.

The rail industry is the only place in the United States where 12 hours on duty means 12 hours plus any additional time the railroad finds to be convenient. A court case pursued by the rail industry created a new definition of the time an employee can legally remain on duty, called "Limbo Time". The Supreme Court stated that Limbo Time was neither time on duty nor time off duty. The practical application of that Railroad victory in the Supreme Court means that the Hours of Service Law today is applied so that you stop the train at the expiration of your 12 hours, and then sit on the locomotive until it is convenient for the railroad to send someone out to bring you to a terminal. The employees sitting on the locomotive continue under pay, they are expected to protect the train against vandals or unauthorized movement, and are prohibited from leaving the train in almost every instance by the Operating Rules of the company.

When we hear the railroads discuss Fatigue, it becomes obvious that the top Executives of the industry actually know more than labor about the effects of fatigue on safety. On many occasions when confronted with direct questions about the safety concerns of fatigue, these executives have placed their hands over their mouths and exclaimed: "I am shocked to learn that there is gambling in this place!"

Before the Limbo Time ruling was implemented industry wide, 12 hours on duty actually meant 12 hours on duty for the operating crews. Rail management made the necessary arrangements to timely relieve the crews as required by the Hours of Service law and their operations were much more fluid because of those decisions.

When the Hours of Service Act was implemented for signal employees in 1976, it too was a 12 hour law. There is a provision in the Act to work signal employees up to an additional four hours "..when an 'actual emergency' exists and the work of the employee is related to the emergency." Railroads have slowly, but surely, expanded the criteria for an "actual emergency" so that almost all signal work is classified as an emergency. Signal employees routinely work 16 hour days. The 12 hour law has in effect mutated into a 16 hour law. This was never the intent nor should it be the application of the law.

To credit FRA, a Collision Analysis Working Group (CAWG) was created to analyze more than 50 main line train collisions, identify commonalities, and recommend changes to prevent future collisions. Rail management, the UTU, the Brotherhood of Locomotive Engineers and Trainmen (BLET), and the FRA were all equal partners in this exercise. This analysis obviously

showed a direct link to fatigue as a contributing factor in many of these collisions and the corresponding loss of situational awareness by the crews. The industry participated in the analysis as an equal partner. The industry also participated in drafting and approved the final language contained in the report as an equal partner, and afterwards demanded that their officers' names be stricken from the final report when senior management learned the involvement of fatigue was mentioned in connection with these collisions. I am thankful that FRA had the courage to remove the railroad officers' names from the report and published this significant work.

Fatigue in the industry has become a major safety concern because of the critical shortage of personnel in every department caused by intentional and ill founded hiring practices that were promulgated over labor's objections, together with implementation of the limbo time ruling. Cumulative Fatigue and the safety sensitive nature of the duties performed by railroad workers is an issue that might require Congressional intervention to resolve.

Track Safety

Human factors are also involved in the equation of track safety. The frequency of inspections, the techniques used in the inspections, and the training of the track inspectors are all critical elements of track safety.

The recent realization that insulated joints and conventional joints contained in Continuously Welded Rail territory were not being properly inspected and the inspection techniques used to examine joint bars for cracks are examples of this problem.

There are many new technologies that just cannot replace the eyes and experience of a qualified track safety inspector.

Another significant issue affecting track safety is the lack of appropriate manpower to keep the nation's rail infrastructure properly inspected and maintained. The Brotherhood of Maintenance of Way Employees Division (BMWED) of the Teamster's Rail Conference has lost significant numbers over the past several decades due to retirements, injury, and attrition. BMWED members are working shorthanded and their complaints about insufficient manpower continue to fall on deaf ears. As a result, the

nation's rail infrastructure is being maintained in a reactive, rather than a proactive mode.

Track caused derailments account for approximately 1/3 of all rail accidents, and this trend will continue to increase until manpower in the maintenance of way department is brought into line with the track miles they are expected to inspect and repair. Railroad safety is largely dependent on proper track maintenance and today's high volume, heavy tonnage trains require increased, rather than decreased, track maintenance. Thus, rail safety requires sufficient manpower in maintenance or way track forces to properly and proactively address current track deficiencies in our nation's rail infrastructure.

Hazardous Material Safety

In the past six years, the rail industry has suffered many catastrophic events involving hazardous materials. Not a single event occurred because of a failure of the tank car. Every catastrophic event occurred because of rail operational safety issues: train collisions, and track caused derailments.

It is good public policy to use the safest form of transportation to move our most dangerous cargos. Rail is the safest way to transport these products that our manufacturing processes, our needs for clean water, and our chosen way of life require.

While it is perfectly logical to want to strengthen the vessel containing the hazardous products, the safety of rail employees and the communities that we serve will be much better served by focusing our energies and our resources on correcting the causes of these latest events. Training of operating employees, fatigue of the operating crews, frequency of track inspections, requiring inspection of all track components, insuring that hazardous materials are properly positioned in the train, and providing accurate train consist information for the operating crews and dispatchers are the items that will offer improvements in the hazmat transportation.

The industry is required by law to have an accurate train consist to share with Emergency Responders in case of a derailment or other emergency. Automation has failed miserably in the rail industry with respect to the generation of accurate train consists. Every railroad operating in our country today has a problem with accurate train consist reports. We

appreciate that FRA is aggressively addressing this issue, however, the problem is ongoing and the situation is serious.

One railroad, probably the worst culprit in the accurate train consist debacle, actually removed the total axle count indication from their wayside defect detectors. Operating crews used this information as a method to check their train consist document for accuracy. Instead of solving the problem with the automated train consist information systems, this railroad elected to try to hide the truth from their crews and Emergency Responders. FRA intervened and this railroad indicated they would not continue to remove the axle counters from the defect detectors. Reports from the field, however, do not indicate that this feature has been restored on previously deactivated equipment.

Close Calls Pilot Project

The UTU, BLET, the Brotherhood of Railroad Signalmen (BRS), the rail carriers, the NTSB and the Bureau of Transportation Statistics (BTS) all participated in an FRA sponsored Close Calls working group to find new techniques and generate safety data that we do not have today. The experiences of the aviation industry and the rail industry in the United Kingdom served as a basis for this endeavor. This Close Calls steering committee now is in process of implementing the first pilot project in the rail industry on Union Pacific.

This concept asks each individual employee to self report events that do not result in a reportable accident, but could have major safety ramifications. The employee is exempt from discipline and retaliation by the company, and the system is strictly confidential.

UTU is proud to be a part of this program. We expect this Close Calls project to produce excellent results and to make a significant contribution to improved safety.

Single Person Operation

The rail industry is demanding from their employees and the Federal Railroad Administration the authority to operate trains with only one person on the locomotive. When this demand was first made during the current round of national negotiations, the industry first provided assurances and indicated that the safety of the operation could be

authorized with one person because of a pending development in Positive Train Control (PTC) systems.

When research revealed that system wide implementation of any PTC system was many years and many billions of dollars away, the carriers continued with their demands. One railroad even attempted to receive back door approval for such controversial operations by filing a Product Safety Plan with FRA that promoted single person operation with a waiver request for a second tier non-vital PTC overlay system.

Single person operation of freight trains involves a completely different analysis of the rail safety equation and a complete reassessment of the overall safety of operations that extends far beyond consideration of this specific issue. The responsibilities of the railroad to operate safely over public crossings, to inspect the moving train at every opportunity, to open public crossings quickly when stopped, and to interact with emergency responders are issues that are not addressed by any PTC system, and were not designed to do so.

A study of the data available on the FRA website indicates there were a total of more than 11,600 grade crossing collisions between 2002 and November 2005.[2] Single person operation also ignores more than 3,500 trespasser incidents from 2002 – November, 2005. Clearly, with more than 15,000 documented incidents occurring during the last four years an immediate response from the second operating crew member is essential to protect the safety of the public. Also, based on industry estimates 100 trespasser fatalities each year are ruled as suicides and would not be reflected in the FRA data.

Historically, each train has been considered as a self-contained operating unit that had the capability of moving safely in and out of terminals and sidings, and moving on main track utilizing a variety of train control systems and methodologies. Each train was able to set out defective cars en-route, to provide self inspection and repair for dragging equipment, shifted lading, hot journals, broken coupling devices, sticking brakes, and importantly, the ability to expeditiously open public grade crossings when necessary. Today, each operating crew is trained, equipped, and expected to make simple repairs and take other actions that ensure the safety of their train and the public. Each operating crew is also trained and equipped to interact with local emergency responders following a derailment, a grade crossing collision, a trespasser injury or fatality, and

[2] 3077 (2002), 2975 (2003), 3067 (2004) and 2641 (January – November 2005)

the myriad of operational events that occur daily in over-the-road railroad train operations.

The railroad carriers who desire the authority to operate trains with a single individual are ignoring their responsibility for the safety of their employees, the local communities that they travel through, the local emergency responders, and the general public. PTC systems are not designed to reduce the numbers of hot journals on freight trains. PTC has no effect on reducing the numbers of grade crossing collisions or the striking of trespassers. PTC has no effect on burst air hoses, broken coupling devices, or shifted lading. PTC systems were not designed to interact with emergency responders following a derailment or a collision, or to open a public grade crossing to allow emergency vehicles and the general public to cross.

The current method of operation today addresses these identified safety requirements by having a qualified, trained employee at hand to provide immediate response to critical safety needs.

With single person operation, if one train sustains any operational failure (grade crossing collision, derailment, hot journal, broken coupling device, etc), then every other train on that route will be unable to open a grade crossing and will be able to make only limited reverse movements. The safety of the entire rail operation is compromised by the creation of this new concept of train movements that are not independent functioning units.

I am confident that most of the members of this Committee have been briefed on Single Person Operation by AAR and its railroad government affairs officers. UTU and other unions have also expressed our safety concerns about this attempt to compromise rail safety. We will keep you up to date on future developments with this controversial issue.

It is my understanding that the FRA has not determined that the safety of operations will not suffer as a result of the carriers' proposed rule changes and will continue to require reliance on traditional operation for safety reasons.

Whistleblower Protections

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 at the

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 intimidation 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.

Worker Security Training

Despite the claims of some in the industry, workers are not receiving meaningful security training. Workers still do not know what constitutes a security risk, though they are told to be "vigilant." They do not know how to respond when they see someone or something suspicious and they certainly do not know what to do if something actually happens. The Volpe Center recently concluded that "probably the most significant factor in determining whether a transportation employee makes a helpful or harmful decision during an emergency is training. Trained and alert transportation professionals can make the difference between success and disaster." Unfortunately, employers, under profit and operational pressures, too often short-change this critical security component. We have come to the conclusion that the only way workers are going to get the security training they need is for the federal government to come in and tell the carriers that they must offer this training because it is far too important to ignore. Rail carriers will claim that since training is already being done, government should allow industry to proceed on its own. Many front-line workers, however, dispute the industry's claims and we should not allow this fiction to perpetuate any longer.

I will be glad to try to offer an honest answer to any questions. We appreciate the opportunity to appear here today.

FRA 11 year Safety Statistics Attached

ACCIDENT/INCIDENT, INSPECTION, HIGHWAY-RAIL CROSSINGS HISTORICAL SUMMARY FOR JANUARY-JUNE, Part I

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
---GRAND TOTAL---											
Railroads Reporting	669	684	672	667	668	661	680	684	696	688	690
Accidents/incidents	9,727	8,921	8,361	7,996	8,411	8,256	8,259	7,080	6,922	7,163	6,303
Rate 1/	16.41	15.11	14.16	13.41	13.94	13.55	13.84	11.97	11.67	11.76	10.06
Deaths	553	511	512	482	457	440	467	469	408	434	457
..Percent Crossing Incidents	54.4	45.0	43.0	47.1	39.8	48.2	46.0	34.5	39.0	45.4	38.1
..Percent Trespassing	40.1	44.8	50.8	49.4	54.5	47.0	51.2	58.2	56.1	49.8	53.4
..Percent Crossing + trespassing	94.6	89.8	93.8	96.5	94.3	95.2	97.2	92.8	95.1	95.2	91.5
..Percent Train Accidents	1.1	3.9	1.6	0.4	0.4	1.1	0.4	2.3	0.5	1.8	4.6
..Percent Other Events	4.3	6.3	4.7	3.1	5.3	3.6	2.4	4.9	4.4	3.0	3.9
Nonfatal conditions	7,218	6,347	5,875	5,536	5,848	5,720	5,677	6,324	4,452	4,525	4,183
..Percent RR employees	74.6	72.9	69.5	72.8	72.5	72.7	70.0	53.0	68.4	66.6	60.2
---INSPECTIONS---											
Railroads Inspected	600	575	571	566	606	628	654	707	684	703	716
Federal Inspectors	310	314	311	312	303	301	328	334	361	365	373
State Inspectors	117	120	116	119	130	138	148	149	146	146	139
Inspections Forms Prepared	26,588	23,257	22,541	23,162	25,059	25,537	27,091	31,463	32,121	30,590	30,213
Units Inspected (Millions)	1.6578	1.5154	1.4413	1.3130	1.4471	1.4671	1.5050	1.7675	1.7537	1.6427	1.5709
Defects Recorded	146,208	116,380	122,966	112,677	134,181	138,654	160,765	168,056	166,736	154,643	151,353
---Inspector's Reports---											
Track	7,053	5,909	5,704	6,274	6,093	5,874	6,026	6,667	7,980	8,075	7,950
Operating Practices	6,082	5,078	4,942	5,384	6,450	5,891	6,451	7,905	7,270	6,830	6,578
Signal & Train control	2,761	2,602	2,537	2,499	2,572	2,994	3,251	3,771	3,852	3,660	4,011
Hazmat	2,594	2,613	2,541	2,682	2,651	2,594	2,846	3,178	3,541	3,166	2,791
Motive Power & Equipment	7,890	6,782	6,582	6,038	7,083	7,930	8,295	9,622	9,101	8,558	8,174
Others	208	273	235	285	210	254	222	320	377	301	709
-- TRAIN ACCIDENTS-----											
Rate 2/	3.60	3.86	3.55	3.77	4.01	4.11	4.33	3.66	4.05	4.39	3.86
Total number	1,207	1,295	1,209	1,275	1,396	1,483	1,543	1,327	1,482	1,667	1,499
Deaths	6	20	8	2	2	5	2	11	2	8	21
Injuries	167	180	59	55	45	124	182	1,751	75	132	445
Collisions	116	92	98	81	97	118	109	85	93	118	129
Derailments	831	982	873	917	967	1,040	1,156	966	1,060	1,198	1,099
On main line	455	510	455	466	431	488	526	427	492	527	492
On yard track	625	651	614	663	760	814	816	723	818	938	817
Yard track rate 3/	13.75	14.77	14.18	15.82	17.65	18.14	18.71	17.51	20.12	22.29	18.95
Other track rate 4/	2.01	2.21	2.00	2.07	2.09	2.12	2.33	1.88	2.04	2.16	1.97
Track caused	415	509	432	433	494	517	578	450	471	505	520
Track caused rate	1.24	1.52	1.27	1.28	1.42	1.43	1.62	1.24	1.29	1.33	1.34
Human factor caused	476	375	438	471	520	563	516	512	596	652	549
Equipment caused	133	175	139	154	166	179	213	170	181	225	175
Signal caused	12	28	19	17	24	40	23	24	28	34	30
Equip Dmg (millions $)	70.523	93.389	68.882	71.116	75.484	79.059	87.254	91.718	103.05	115.15	106.62
Track Dmg (millions $)	29.210	29.722	30.778	36.898	44.621	46.307	55.122	50.775	49.551	48.645	54.824
Hazmat											
Consists releasing	13	20	23	25	16	17	14	13	14	15	18
Cars releasing	27	51	29	39	24	39	25	31	22	28	25
People evacuated	1,285	6,293	2,626	610	516	1,835	51	1,264	1,250	2,527	5,870
---HIGHWAY-RAIL--------											
Rate 5/	6.79	6.28	5.68	5.14	4.96	4.60	4.63	4.14	3.76	3.95	3.50
Incidents	2,275	2,109	1,935	1,735	1,726	1,659	1,647	1,499	1,378	1,499	1,362
Deaths	301	230	220	227	182	212	215	162	159	197	174
Injuries	925	813	779	672	697	615	567	496	478	518	446
Total At Grade Crossings	270,042	266,784	262,657	260,373	258,283	254,817	251,647	249,396	246,429	244,398	243,570
Incidents Per Xings x 1,000	8.42	7.91	7.37	6.66	6.68	6.51	6.54	6.01	5.59	6.13	5.59
Public Crossings	163,641	162,138	159,946	158,069	157,015	154,833	153,219	152,118	149,534	147,808	147,212
---OTHER INCIDENTS-----											
Incidents 6/	6,245	5,517	5,217	4,986	5,289	5,114	5,069	4,254	4,062	3,997	3,442
Deaths	246	261	284	253	273	223	250	296	247	229	262
Injuries	6,126	5,354	5,037	4,809	5,106	4,981	4,928	4,077	3,899	3,875	3,292

*1. Total accident/incident rate of all reported events * 1,000,000 /(train miles + hours)*
*2. Total train accidents * 1,000,000 / total train miles*
*3. Accidents on yard track * 1,000,000 / yard switching train miles*
*4. Accidents on other than yard track * 1,000,0000 / (total train miles - yard switching)*
*5. Total incidents * 1,000,000 / total train miles*
6. Other events that cause death, injury to any person; or illness to a railroad employee

ACCIDENT/INCIDENT HISTORICAL SUMMARY FOR JANUARY-JUNE, Part II

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
...EMPLOYEE COUNTS.....											
All accidents/incidents											
Rate 1/	4.19	3.64	3.28	3.13	3.33	3.36	3.31	2.93	2.69	2.64	2.13
Deaths	18	19	18	13	15	11	8	13	10	12	11
Nonfatal conditions	5,387	4,627	4,082	4,028	4,240	4,160	3,972	3,351	3,045	3,012	2,520
Cases with days absent	3,602	3,116	2,697	2,611	2,867	2,856	2,789	2,388	2,171	2,088	1,738
Percent of total	66.64	67.07	65.78	64.61	67.38	68.47	70.08	70.99	71.06	69.05	68.67
Sprains/strains	2,619	2,274	1,973	1,906	2,140	2,159	2,074	1,703	1,538	1,419	1,184
Percent of nonfatal	48.6	49.1	48.3	47.3	50.5	51.9	52.2	50.8	50.5	47.1	47.0
Occupational illnesses	113	78	54	73	63	63	71	61	63	118	77
...PASSENGERS ON TRAINS											
Rate 2/	4.67	4.14	4.83	3.93	4.01	4.01	5.30	6.48	4.35	4.67	3.74
Deaths	0	10	4	3	11	2	1	7	3	1	12
Injuries	310	255	311	270	274	303	399	482	328	355	274
In Train Accs/Highway-Rail											
Deaths	0	9	0	2	11	0	1	7	1	1	10
Rate	0.00	0.14	0.00	0.03	0.15	0.00	0.01	0.09	0.01	0.01	0.13
Injuries	92	93	27	20	34	57	103	218	63	48	81
...TRESPASSER COUNTS...											
Rate 3/	1.38	1.36	1.59	1.35	1.39	1.11	1.25	1.32	1.15	1.10	1.13
Deaths	222	229	260	238	249	207	239	273	229	216	244
Injuries	240	228	283	218	234	193	205	206	192	200	195
---OPERATIONS(millions)											
Total train miles 4/	334.87	335.56	340.61	337.78	347.85	360.93	356.02	362.10	366.07	379.48	388.79
Yard switching miles 5/	45.452	44.063	43.287	41.919	43.066	44.863	43.624	41.289	40.655	42.080	43.122
Employee hours 6/	258.02	254.93	249.79	258.30	255.56	248.16	240.64	229.59	227.05	229.41	237.99
Passengers carried 7/	192.16	195.29	198.54	212.32	[illegible]	244.16	258.03	250.21	242.26	263.13	267.30