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RIDING THE RAILS: HOW SECURE IS OUR PASSENGER AND TRANSIT INFRASTRUCTURE?

HEARING

BEFORE THE

COMMITTEE ON GOVERNMENTAL AFFAIRS UNITED STATES SENATE

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RIDING THE RAILS: HOW SECURE IS OUR PASSENGER AND TRANSIT INFRASTRUCTURE?

THURSDAY, DECEMBER 13, 2001

U.S. SENATE,
COMMITTEE ON GOVERNMENTAL AFFAIRS,
Washington, DC.

The Committee met, pursuant to notice, in room SD–342, Dirksen Senate Office Building, Hon. Joseph I. Lieberman, Chairman of the Committee, presiding.

Present: Senators Lieberman, Durbin, Cleland, Carper, and Voinovich.

OPENING STATEMENT OF CHAIRMAN LIEBERMAN

Chairman LIEBERMAN. Good morning, and welcome to our hearing on the question of "Riding the Rails: How Secure is our Passenger and Transit Infrastructure?" This is the latest in a series of hearings being conducted by the Governmental Affairs Committee which are intended to examine the Federal Government's ability to protect our citizens from terrorist attacks here at home.

Since September 11, the Committee has actually held almost a dozen hearings on homeland security, each time looking at a different piece of the whole picture. We have examined the security of our airports, our shipping ports, and our water ports. We have looked at how the Postal Service responded to anthrax sent through the mail. Just 2 days ago, we took a look at how we might strengthen the relationship between Federal, State, and local governments regarding homeland defense because of the important role those other levels of government have in this new responsibility.

Throughout all of this, we have tried to determine how the Federal Government can better organize itself to quickly and effectively respond to acts of terror and proactively prevent future threats. This extensive examination has enlightened us, I think, to the different needs and concerns of a variety of sectors, but it has also revealed some common threats.

Almost to a witness, the Committee has heard indications of poor coordination between different levels and layers of government, and we have heard frequent complaints about the failure to share information among layers of government.

Today we are going to explore the ability of our rail and transit systems to protect their passengers and infrastructure, and I be-

lieve from the testimony that I have seen of some of the witnesses that there are some common themes that will be raised once again.

Attention has naturally been paid to airport security by Congress, with obvious good reason, because the attacks against us on September 11 occurred through the aviation system. But there has not been comparable attention to rail security, and preventively and proactively, it seems to me we have to do exactly that. Trains and the transit system can be targets of terrorists. They travel in a predictable path at predictable times. Every year, America's public transportation infrastructure, by which I mean subway, light rail, commuter rail service, as well as bus and ferry, and inter-city rail, carries 9 billion passengers. Let me repeat that. Nine billion passengers use our transit systems as compared to 700 million air travelers annually.

So we have a lot more people in this country depending on transit systems and their security. Transit systems have in fact experienced the highest growth rate of any transportation mode over the past 5 years. So today we are going to ask what have we done and what can we do to secure them?

The enormous number of people who ride the rails begin to explain why transit systems must be better protected. The fact is that our transportation system actually plays an important role in not only moving people and goods but in the security of the Nation. After September 11, for example, Amtrak helped bring emergency supplies to New York, provided passage for families of the World Trade Center victims, and helped transport mail around the country.

Here in the Washington Metropolitan Area, half of the Metro stations serve Federal facilities, so they are important to the ongoing operation of the Federal Government; and one-third of the riders of the Metro system here in Washington are Federal employees. By moving people to and from their jobs, therefore, these transit systems keep our country going.

Passenger and transit rails are also essential components of any evacuation from a disaster site, as again was the case on September 11 in New York City, where trains unloaded passengers and then returned as close as they could to Ground Zero to move stranded people out of harm's way, and here in Washington, where the Metro carried Washington area workers away from the Pentagon and the Capitol to the safety of their homes.

Unfortunately, terror is not a new threat for transit systems. The Department of Transportation reported in 1997 that in the previous 6 years, public transportation had been the target of 20 to 35 percent of terrorist attacks worldwide. In this country, we have thus far been relatively spared and fortunate. However in this country, an unknown saboteur derailed Amtrax's Sunset Limited in Arizona in October 1995, killing one person and injuring 100. And in a very different way, the 1993 shootings aboard the Long Island Railroad also opened our eyes to transit system susceptibility to violence, because they are a gathering place for people.

The most devastating attack worldwide on transit systems, of course, was launched against Tokyo subway commuters in March 1995, when terrorists released sarin gas during the morning rush hour, killing 12 people and making thousands of others sick. The

next year, another attack on the Tokyo subway was thwarted when a package of hydrogen cyanide gas was discovered in a station restroom. Bombs have also exploded in train stations in Italy, in the Paris metro, and bombs have also, of course, sadly, been exploding on buses in Israel, including in recent days.

With this history, several transit systems have adopted plans to prevent and respond to a terrorist attack, including improving their ties with local, State, and Federal law enforcement agencies, awareness training, and revised emergency procedures. In fact, well before September 11, the Washington Metropolitan Area Transit Authority implemented a range of anti-terrorism measures, such as chemical-detecting sensors and annual terrorism training for transit police officers.

Since September 11, the Boston Transit Authority, for example, has created a four-member task force that is at work on ways to improve the ability of that transit system to protect the safety of their subway and bus riders.

But we have to ask if these fragmented efforts are enough. We have to ask what the Federal role should be in overseeing and stimulating action to protect the security of our Nation's transit systems. Transit security cannot be sidetracked while other homeland defense concerns claim our time and resources. We have to now bring as much talent and focus, as many tools and training and technology, and ultimately, as much financial support, to the challenge of providing transit security as we do for the security of other elements of our critical infrastructure. And again I say that because of the enormous number of people who use our transit systems, the fact that they travel in predictable places at predictable times, and the extent to which our country and our economy depend on the smooth functioning of our transit system.

I hope that today's hearing will help us answer some of these questions, learn what the Federal Government and others in the transit systems are doing and that, working together, with the private sector as well as governmental actors here, we can take steps to protect America's transit and rail passengers.

Senator Durbin.

OPENING STATEMENT OF SENATOR DURBIN

Senator DURBIN. Thank you, Chairman Lieberman, and thank you to the witnesses and everyone who has gathered here today.

I want to thank you for holding this hearing. It is certainly appropriate. If you had scheduled this hearing before September 11, it would have been an interesting and valid topic for us to talk about; but after September 11, it has become a very personal concern to all of us as we try to imagine the next attack and where it might occur.

I think this hearing is going to try to examine an area of American life that so many people—as Senator Lieberman said, 9 billion people a year using mass transit and over 22 million a year using Amtrak—just take for granted as part of their daily routine. I think this has become a major issue when it comes to our Nation's homeland defense, and I am glad that the Federal Transit Administrator, Jennifer Dorn, will be testifying today about how the Federal Government is working with local transit systems like the

CTA, Metro, and MetroLink in Illinois, on important security issues.

I have a special concern about Amtrak, and I have met with George Warrington and the people from Amtrak. It is an important element of transportation in my State, and I believe that Congress has been remiss in not providing resource to Amtrak to deal with security needs to the level that is necessary. I think they have a good plan to make Amtrak safer, and I think they need our help, and I don't believe we should postpone that; we should do it as quickly as possible, or frankly, run the risk of some terrible consequences.

I would ask that my whole statement be made part of the record, but I would like to address very briefly the issue of mass transit and a conversation that the Democratic Senators recently had with a guest at a luncheon. The guest was Dr. Fauci from the National Institutes of Health, and he gave us an example that has stuck with me. He came to make the acquaintance of a man who was involved in preparing the bioterrorist weapons for the Soviets during the Cold War. This man is now a friend of ours and talks quite openly about what they were doing, and one of the things that they were preparing was anthrax. They wanted to know the best way to disperse anthrax to kill as many people as possible. So they developed a mutant strain of anthrax which was not lethal but had all the other properties of the anthrax spores, and this individual said they figured the best place to disperse it would be the Moscow subway system. So they went to the ventilator at the Moscow subway system on one end and put their detection devices at the other end and fed the anthrax spores into the ventilation system of the Moscow subway. He asked the Senators present how long do you think it took for those anthrax spores to make it from one end of the Moscow subway system to the other. The answer was 2 hours—2 hours. When you consider the physics of travel in a subway and a tunnel and a train sucking air and all of its contents through the tunnel, you can understand what an inviting target subways and mass transit can be for any terrorist or bioterrorist. It was a fact that I have not forgotten, obviously, and am repeating it to you today.

I hope that as we think about our responsibility in public life here, dealing with making transit and travel safe across America, that we understand, as the President and the Attorney General have warned us time and again, that this Nation is on alert. That is why this hearing is so timely, and I hope that our resolve to deal with it will be just as timely.

[The prepared statement of Senator Durbin follows:]

PREPARED OPENING STATEMENT OF SENATOR DURBIN

Thank you, Mr. Chairman, for holding today's hearing to examine the security of America's passenger and transit rail infrastructure. Rail infrastructure and security are critical components of homeland defense as our country continues to move forward following the tragic events of September 11.

I want to welcome the Federal Transit Administrator, Jennifer Dorn, I look forward to her testimony about how the Federal Government is working with local transit systems, like CTA, Metra, and Metro Link in Illinois, on important security issues.

This morning, I'd like to focus my attention on Amtrak. My home State of Illinois benefits greatly, both directly and indirectly, from Amtrak jobs and service. An aver-

age of 48 Amtrak trains run each day from 30 Illinois communities. Ridership in the State exceeded 2.9 million during 2000. In 1999, Amtrak employed more than 2,000 Illinois residents. And Chicago's Union Station is the nation's fourth busiest with more than 2.2 million annual boardings.

America learned on September 11 the importance of passenger rail service to our nation's transportation system. Despite many years of inadequate funding and a lack of capital investment, Amtrak answered the nation's call when terrorist attacks paralyzed the aviation industry. Ridership grew by 40 percent in the first week alone for long distance trips. Even today, more than 3 months after the attacks, Amtrak ridership is up system-wide. Despite Amtrak's ability to adjust to the post-September 11 service demands, the fact remains that Amtrak is not prepared to provide the security and safety necessary to operate under the looming threat of further terrorist attacks.

As a result, the Commerce Committee has reported legislation to help Amtrak meet the financial costs of providing security to passengers. S. 1550 would provide $1.77 billion for police hiring and training, surveillance equipment, canine-assisted security units, bridge and track upgrades and station improvements. I strongly support this legislation, and am pleased to be an original cosponsor.

Just a few weeks ago, the Congress overwhelmingly passed legislation to strengthen aviation security. But September 11 also taught us that we cannot ignore rail travel, and we cannot ignore rail security. S. 1550 takes a big step forward.

The Federal Government spends $33 billion each year on highways and $12 billion on air travel. Yet train travel only receives $500 million annually. Before September 11, Amtrak was $3 billion in debt and facing a 2003 deadline to achieve financial independence. Congress has sent conflicting messages to Amtrak—we want it to operate like a business, but we demand service to our States and local communities. While the Federal investment in intercity passenger rail represents less than 1 percent of all Federal spending on transportation, I am hopeful that Congress will do more for passenger transportation and security.

In closing, our commitment to every American should be to make our national transportation system as safe as humanly possible. I hope Congress will act quickly to secure vital rail infrastructure, enhance Amtrak trains and in stations, and ensure that Amtrak is prepared to handle the increase in ridership that has occurred as a direct result of September 11 attacks.

Chairman LIEBERMAN. Thanks very much, Senator Durbin. I remember that conversation with Dr. Fauci, and it was chilling. But, I appreciate your recalling it, because it is exactly why we are holding the hearing today. There is a way in which the Committee hesitates to raise these questions. But, if we do not raise them, we are going to make ourselves vulnerable to the possibility that we may look back and ask why didn't we raise them, and why didn't we do what was necessary to protect ourselves from terrorist attacks.

So thanks very much for your opening statement, Senator Durbin, and for being here.

We are very pleased that the Hon. Jennifer Dorn, Administrator of the Federal Transit Administration, is with us today, and we look forward to your testimony now.

TESTIMONY OF HON. JENNIFER L. DORN,[1] ADMINISTRATOR, FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION

Ms. DORN. Thank you very much, Mr. Chairman, and thank you, Senator Durbin.

Mr. Chairman and Members of the Committee, thank you for providing this important opportunity to discuss safety and security in our Nation's public transit systems and, as the Chairman mentioned, the significant and high-profile attention that is being paid to the aviation area.

[1] The prepared statement of Ms. Dorn appears in the Appendix on page 50.

I want to assure you, as I believe my colleagues who will appear after me will tell you, of the incredible level of attention and cooperation that has occurred particularly since the events of September 11. We may not have reached the millennium in terms of how we can work and talk together, but even though it is not in a high-profile way—and in some ways, that is not a bad thing—I just want to let you know that from the Federal Government's perspective and I think from my partners in State, local, and private industry, we have been doing our due diligence as much as possible.

I certainly share Secretary Mineta's strong commitment that the Department has no higher priority than keeping our communities safe and moving, and the Department is taking responsible and aggressive action to do just that.

In order to respond to the new level of security threats within days of the September 11 tragedy, Secretary Mineta created the National Infrastructure Security Committee, or NISC, as we refer to it, and that mission is to execute preemptive, preventive, protective and recovery efforts for critical elements of the U.S. national transportation system, among which, of course, are many of our public transportation assets. And FTA has worked vigilantly with NISC, the States and transit agencies to identify these high-value critical assets and high-consequence transportation operations and structures in order to protect the people who are traveling, as well as their current protection strategies and any gaps which may exist.

I would just like to mention with respect to our work with the Office of Homeland Security, that kind of coordination and integration takes place on a daily basis at every level in the Department. The Secretary meets almost daily with his counterparts on homeland security as does the deputy, as do the staff level as well, and I think you will see unprecedented levels of cooperation in contrast to maybe what has happened in the past, where there is competition and turf battles. I think everybody is really focused. That does not mean that we will not face problems, but it has been inspiring to work in that kind of environment.

Secretary Mineta and I recently had the opportunity to hold a teleconference with the leaders of the Nation's 14 subway systems, and I know you will not be surprised to learn that these systems remain on high alert and are doing all that they can to deter attacks and prepare to respond. They have stepped up employee training and awareness, put more police in stations and on trains, joined local task forces to combat terrorism, and hardened vulnerable areas in their systems.

Have we done all that we possibly could do? No, but in the confines of the open system in which we operate, I think we have taken prudent measures, and we are always eager to find others.

You will also be pleased to know that the industry has expressed a strong desire to work closely with FTA and other Federal agencies and welcome a collaborative approach to security enhancement, as we do. I know that has been your emphasis, Mr. Chairman, that at all levels, we must work together and leverage one against the other to solve the problem, and I have seen that level

of cooperation to date with the public transportation system, and that has made me proud.

As we consider a variety of measures to improve security in our Nation's transportation system, I do believe that we must keep in mind two fundamental points—first, that our actions must carefully balance three things—the need for security, the need for personal mobility, and the need to maintain economic vitality. So we cannot do one without the other, and I believe that we need to keep those in mind.

The second piece that I think is important to keep in mind is that the Nation's public transportation systems are geographically dispersed within communities, that they are diverse in the way they deliver the services, and most of all, they are designed to meet the unique features and needs of the areas they serve, and that is the wonder of our locally-based public transportation system.

It is also a problem in this environment. Among my colleagues in aviation security, there is a saying recently developed that "If you have seen one airport, you have seen one airport," and that is also true of our Nation's transit systems. So that makes the problem-solving very unique.

Every transit system has different components—tunnels, bridges, open rights-of-way, and different intersections with other means of transportation, connecting with airports as some do, train stations, highways, and some of our systems are 100 years old, and coping with design features that could never have been anticipated, the criminal let alone the terrorist threats of today, and others are brand new, built using security-minded design concepts and state-of-the-art technology.

The risk mitigation strategies for such diverse systems will, of course, be different, so that one size does not fit all, and that is a danger in any administration that is federalized when we are trying to mandate things, that it has to accommodate to the uniqueness of this system.

With those points in mind, then, let me very briefly discuss the steps that FTA has taken and is taking to enhance the security of the Nation's public transportation system.

As you may be aware, FTA delivered nearly 1,000 security toolkits across the Nation to transit agencies at the beginning of October. These kits provided in one place the resource guides, the planning tools, the training opportunities, and sample public awareness publications to help agencies as they continue to enhance their security awareness and emergency response capabilities.

We gathered these from industry, from FTA, and from other agencies, that have these training courses and so on, available. We thought it was important that every transit agency had in one place the opportunities of which they could take advantage.

We are also stepping up our ongoing efforts to help transit agencies evaluate the threat and vulnerabilities to their systems in light of the new terrorist reality. Beginning December 17 and continuing over the next 90 days, FTA will deploy expert security assessment teams to the 30 largest transit agencies. I believe this is a terribly important effort both locally and nationally. The teams will use proven threat and vulnerability assessment methodologies.

We have experts from the transit arena, from the intelligence community, and from many other arenas that have security skills, and they will assess the security gaps in the agencies' high-consequence assets and make specific recommendations to reduce the risks.

I would like to note that a number of our transit agencies have already done this in a pre-September 11 environment. This is meant to be a complementary method, not a "Gotcha," but to work with them and understand how you have a system to assess the security, what are the gaps, and then move forward.

The second important piece of that security assessment is that the teams will assess the agencies' emergency response plans and the coordination of their emergency efforts with associated fire, police, and other emergency response agencies.

The next important thing we are doing is that with funding from the emergency supplemental now pending in Congress, we will be providing assistance to these transit agencies as they refine their emergency response plans in light of their system assessments. So we want to go the next step, not just to understand what may be the gaps, but also to address the plans that will help to execute against those gaps, and then assess the heightened terrorist threats. These plans serve as the blueprints for action in the wake of an attack and articulate who will take the specific steps necessary for emergency response.

Third, FTA will provide support to local transit agencies to conduct full-scale emergency drills to test those emergency response plans. In my visits with New York and Washington transit officials and many others across the country since September 11, they emphasized how important it was that they had conducted regular emergency drills, not just fire drills, to keep skills sharp, update response plans, to work together across agencies that have not typically worked together—that is, fire and emergency medical response organizations and counterparts in police, fire, etc.

Although regular drills are routinely recommended by security experts in FTA and elsewhere, there is nothing like hearing advice from people who have lived it, as we have done through the benefit of the lessons learned from New York and Washington.

Finally, we will be offering additional security training and workshops throughout the country. We intend to expand our free security and emergency response training to incorporate new security strategies and tactics and to give more local transit employees the opportunity to attend response training.

The first eight of these workshops are scheduled in early 2002 and will include transit managers, fire and police and municipal emergency operations management personnel, and I hope that we could work with this Committee on some marketing efforts to encourage that those be well-attended.

In addition to this work with local transit agencies, we have worked with the public transit industry and are devoting an additional $2 million of research funding to security-related transit research under the auspices of the Transit Cooperative Research Program. One important research project which I am certain Mr. White will address in his testimony is being undertaken regarding

synthesis of available security technology to deploy in a transit environment, Project Protect, a chemical detection device.

In summary, Mr. Chairman, FTA is confident that our major transit systems have taken appropriate measures to harden security since September 11. We must continue to be vigilant and be smarter and better about this, so we have not reached the millennium in terms of our efforts, and we recognize that.

Given the inherently open nature of our public transportation system, it is frankly more important to concentrate on the mitigation rather than the prevention. That is the reality. You cannot put a scanner at every subway stop, and you cannot inspect every package, and we recognize that. We are proud of a system that has been created over the decades which is open, accessible, and part of the community, and in order to respond to these terrorist threats, I think our emphasis really needs to be on mitigating the risks and emergency response.

Thank you very much.

Chairman LIEBERMAN. Thanks very much to you, Ms. Dorn, for an excellent statement. I particularly appreciate the proactive steps that you are taking, the teams that are going out, the plans that you are requiring.

Emergency drills are very important. We had the head of emergency management in New York here the other day, and I think they feel in New York that one of the reasons they were able to respond to the tragedy on September 11 so effectively is that they actually had exercises that did not, of course, deal with the Trade Center attack but dealt with a wide enough area that they were ready to deal with it.

Let me come to something you said at the end which is a very difficult question, and that is whether we mitigate or prevent when it comes to transit systems. And I will introduce my question by saying that a member of my family was recently on a train and was struck, because we all have in mind the increased security as we go on planes, for instance—we are checked; we go through screening devices; our baggage is now opened, and so on, and then we get on the plane. On the trains—well, you tell me, and I will ask others—it tends not to be so. So she felt insecure, even though she loves to use the trains.

I wonder about that, because our whole approach to post-September 11 has been to first try to prevent, not only by the war against terrorism to try to destroy the terrorists before they can attack us, but then also to raise our guard so that the targets will be harder, and the terrorists will go for more vulnerable targets.

Shouldn't we therefore also be concentrating on prevention when it comes to the transit systems?

Ms. DORN. Oh, absolutely. I totally agree with you that we do not and have not ignored the prevention aspect, but the types of mitigating efforts that are in other transportation systems—for example, in aviation, where there is a single point of egress and access—it is just not possible because you have so many stops and so on.

There are very important measures——

Chairman LIEBERMAN. I agree, that is a problem, and that is a difference.

Ms. DORN. And there are things nevertheless that we have learned that transit systems have taken in the wake of this tragedy, best practices that have been shared about employee training, for example, in order to give the public confidence that they are aware and know and see and are the eyes and ears as much as possible. Employee training is absolutely imperative so that they can be on the lookout for passengers that have aberrant behavior or something of that type. And they can give the confidence to the riding public.

For example, I recall a discussion with the Miami transit folks, and the day after they had an anthrax problem, they sent employees, not only the operators, but other employees, out on the trains, and they advertised it on television and said, "If you have any questions, we will all be on the train."

That sort of generation of public confidence is important not just for PR, but because we rely on public transportation, and we must continue to do that.

We have also taken steps, varying depending on the geographic area—for example, in Boston, they have made the determination that it is appropriate to have waste cans that are bomb-proof, so they have spent money on that piece. All of the transit agencies "have taken a look at have we hardened our construction sites?"

All those activities are a series of systems. No single effort can make the prevention absolutely certain, but they are terribly important. And we also have to recognize that we have to prioritize. What may be a priority in one system in order to mitigate threats may not be a priority because of the nature of that system in another area.

Chairman LIEBERMAN. I understand that it is difficult, and I am going to ask the folks on the next panel who are involved in the management of transit systems about that.

I understand, for instance, that at some train stops, there are no stations so that people can basically get out of their cars and walk in. How do you check them and their baggage, and is it possible to create a system that does that?

My bias would be just as a passenger that I would like to feel to the extent possible that people who are on the train with me have gone through some kind of security and perhaps their baggage has as well. But I am going to take that up with the next panel.

This has been such a year that I sometimes lose my sense of timing, but I think it was earlier this year that the accident occurred in the tunnel in downtown Baltimore, with a freight train carrying toxic material. And as I recall it, commuter rails and public transportation were disrupted for a period of days because of the proximity of those commuter rails to the freight rails and tunnel and obviously because of the toxicity of the clouds and smoke, let alone the fact that it was such an extraordinary event that it took quite a while to clear that tunnel.

If you are able—and I do not know whether you were involved in this at all or in the oversight of it—I wonder whether you know if there was an emergency response plan in place to deal with that, was it ineffective, and more generally, what lessons did we learn

from that event that can help us today as we deal with the more specific terrorist threat?

Ms. DORN. Yes, Mr. Chairman. I did not have specific responsibility with the FTA, but in reading the reports and discussing with my colleagues who do, it is my understanding that there was an emergency response plan in place and that there had been drills taking place, and in spite of the situation, I think it was handled as well as possible.

It does demonstrate, however, the real importance of a community having not only an emergency response plan but also a mobility plan that makes sense so that if something happens to a tunnel that is shared by freight and commuters and others, there are alternatives and you have plans in place to respond to such emergencies.

One of the issues that has been raised by the transit agency officials universally is the need to have that timely dissemination of pertinent intelligence information, and that can and should happen at the local level, but I think there are also ways to encourage that. There is a level of frustration, I think, on the part of transit agency managers that when they hear that, oh, yes, we are on alert, is there anything more specific that the intelligence community and the police community can share with them so that there are gradations of that, because this whole sustainability effort of being able to make sure—you cannot keep everyone on the highest level of alert for an extended period of time, so it does make sense to have the gradations of those. So that is something that I think we need to work together on from the Federal level to encourage the responsiveness of the intelligence community, locally, and there is no substitute for knocking on your colleagues' doors, whether it is the mayor's emergency response center, to make sure there is a coordination which is vital there.

Chairman LIEBERMAN. Thanks, Ms. Dorn. My time is just about up. Senator Voinovich.

Senator VOINOVICH. Mr. Chairman, how much time do we have?

Chairman LIEBERMAN. Eight minutes, but please make yourself at home.

Senator VOINOVICH. Thank you.

OPENING STATEMENT OF SENATOR VOINOVICH

First, Mr. Chairman, I would like to thank you for the series of hearings that you have had on the issue of security. I think all of these issues are of worthy consideration, and the hearings have generated dozens of recommendations, and I am sure we are going to be hearing some this morning about what we should be doing with transit.

One thing that I think we need to look at is the aggregate cost the government is going to face to go forward with a lot of these recommendations that we have heard about. As you well know, we have now spent all of the Social Security surplus and are now borrowing money, so we need to be working harder and smarter and doing more with less.

So I would really be interested in hearing from Ms. Dorn and the other witnesses today about where we should spend money to get the biggest return for our dollar. There are some major issues, for

example, in the City of Columbus, where they are talking about rerouting freight trains out of the city and using the tracks for light rail to help with transit but also to alleviate the concern that people have of moving hazardous waste through the neighborhoods and through the downtown area.

I was interested in your comment about intelligence, and one of the things I discussed with the Chairman yesterday was that it seems to me that we ought to look at that whole area of intelligence and whether the intelligence agencies have the personnel to get the job done and also about how they are sharing information with people across the country who might be in jeopardy and be able to prevent things if they have the right information.

I would like to remind the Committee that when former Secretary of Defense Schlesinger testified before this Committee earlier this year, he indicated that "It is the Commission's view that fixing the personnel problem is a precondition for fixing virtually everything else that needs repair in the institutional edifice of U.S. national security policy," and now we are talking about our security right here in the United States.

So I would be interested in your observations about that. But I will say this to you. I am very impressed with what you have done already. I think it is very impressive. The other thing I want to say is that I am very impressed with the fact that you are not coming in and saying, "We are from Washington, and this is what you should do" and that you have been impressed with the fact that State and local agencies have been on their toes and, as the Chairman has said, have had trial runs and so forth, and if they had not had that, we would have some more difficult problems today in the country.

I would be interested in knowing two things. What are you doing to gather best practices across the country? And, what are you doing to evaluate the cost of these various practices to see where you can get the biggest return for your buck? You have done so much work already, and you have a new security person coming on board, Mr. Magaw, who—and I talked to Secretary Mineta on Monday—by the way happens to be an Ohioan who started with the State Patrol in Ohio and then moved on to the Secret Service and headed up Executive Protection.

Chairman LIEBERMAN. That speaks well for him.

Mr. VOINOVICH. Yes, they are Ohio's finest.

Anyway, if you could respond to those two questions, and if you cannot get to both, just give me the first one.

Ms. DORN. OK. With your permission, Senator, I would like to just mention briefly what you mentioned about spending priorities. I think that is a very critical question. When we first took a look at this, and where can we most effectively get the most bang for the buck, we realized that because every system is unique, the assessment approach locally, with an expert team, is probably the best way to figure out where it is that we can get the most mitigating kinds of factors and really get returns on our investment. So that Cleveland and other of our top 30 transit agencies will be a party to this assessment in the next 90 days, and that will help us understand not only nationally but, most important, locally, where the money should be spent.

Senator VOINOVICH. Let me ask you this. When you get done with this and you have completed the evaluation, will you make all of those best practices available so that they can look at them in kind of a smorgasbord and see if there may be some ideas out there that somebody else is doing that might be neat that they could adopt?

Ms. DORN. Absolutely. In fact, the best practices piece is already aggressively underway. With our transit partners, we have done a search to figure out what are the best practices in everything from guidelines on anthrax scares to other kinds of things like packages that might be vulnerable. We have collected those and are beginning to distribute them through brochures, through publications, through the training institutes that are being held throughout the country; so we all are doing our level best. We know that we cannot invent it here, and nobody wants to reinvent it, and there have been some very creative strategies. So that is No. 1 on our list, as well as the training piece, because we think that is really important as well.

Tell me your second question again, if you would, please.

Senator VOINOVICH. In terms of priority, are you going to try to identify those things that are the least expensive and most effective?

Ms. DORN. Yes, and some of those are what you call the "soft" kinds of expenditures, in terms of capital equipment, in terms of cameras and those things can be very important and not particularly expensive, especially when you view them in lieu of having more cops on the beat. Many of the transit agencies are saying that because they do not have the funds at this point to do the capital equipment that in effect what they are doing is having more cops on the beat. That may or may not be the most effective thing, and it certainly is not sustainable at a high level.

So there are some capital investments that I believe some are making and others should.

Senator VOINOVICH. Cameras would probably give people confidence if they knew they were there. Part of your problem right now is just to get people to have confidence that they can return to their normal way of doing things.

Have you noticed across the country that there are fewer people using public transit today?

Ms. DORN. Actually, that too is a mixed report. What we have found, at least from the top 30, is that one-third have higher ridership, one-third have less ridership than September 11, and one-third are about in the middle. This is just an anecdotal series from the top 30. Only some of those that have decreased ridership have said it is a result of lack of public confidence, that it is due to other issues related to economic issues, etc.

So it is very different, and I also wish we had the luxury of time to determine how much in those areas where the ridership is decreased, like the Chairman's relative who said, "I'm not sure that I want to ride," how much of that we can ameliorate by taking certain steps to give public confidence. It is always a fine balance between how much do you want to give public confidence, and the other part is that sometimes, the passengers can be your most effective eyes and ears, particularly on commuter rail, because on

commuter rail, you have the traditional numbers and types of passengers, and they know each other, and many of the commuter railroads are beginning to do that by putting things on the seats saying, hey, please be alert, please be vigilant. Those are the kinds of best practices that we would like to share and to evaluate more systematically.

Senator VOINOVICH. My time is up.

Chairman LIEBERMAN. Do you have another question?

Senator VOINOVICH. I was just going to say that you have a new person coming on board right now, and I wondered if you had discussed at all what that role would be in regard to what you are already doing.

Ms. DORN. Absolutely. I am very pleased and proud, as you are, about Mr. Magaw taking on that responsibility. And certainly, Senator, as the Congress intended, TSA is making a very focused effort at this point on aviation. However, what is very encouraging to me in my discussions with the TSA officials is that they are cognizant that their organizational structure which is now focused on aviation must eventually be absorbed throughout the modes. So they are not doing anything in a vacuum without consciousness of that. And it is my understanding that TSA has set as a time target June 2002 when they plan to provide integrated security coverage to the U.S. transportation network, covering all modes and geographies.

So in the meantime, as we have been advised by the TSA folks, when in doubt, run your agency. And I can tell you that we are not using the rationale that, well, TSA is going to be doing this; we are vigilantly, each of the modes, and my colleagues in highways, rail, etc., are saying we are going about our business in a coordinated fashion as aggressively as possible, and when TSA is ready to take over, we hope and expect that it will be a seamless transition.

Senator VOINOVICH. That is terrific. It is wonderful to know, and the public should know that this person is coming on board, but you have not been waiting for them; you have been out there, getting the job done.

Ms. DORN. No; we cannot wait.

Senator VOINOVICH. I have to tell you that I have been very impressed with your testimony this morning.

Thank you very much.

Chairman LIEBERMAN. Thanks, Senator Voinovich. Senator Durbin.

Senator DURBIN. Administrator Dorn, thank you again for being here, and thank you for coming to Chicago recently; we were happy to be there for a great announcement on the expansion of our CTA, and your agency will play a great role in that as they have in the past.

I am trying to step back for a second and make a risk assessment when it comes to transportation, based on what we have done in Congress. Obviously, we have decided that the highest risk is associated with air travel, and we have invested great resources, we have taken on a new Federal responsibility, we are demanding of passengers more scrutiny than any other mode of travel. I think that has a lot to do with September 11 and the involvement of airplanes; it has a lot to do with the vulnerability of an aircraft as opposed to other forms of travel.

Then, when you are dealing with the next level, with passenger rail, Amtrak has decided to require valid photo IDs when a person purchases a ticket, and there are other things that we will hear about that they are doing to make their system safer.

Then, to the next level, mass transit, using the rails still but with a much larger volume, it is not realistic to use the same standards that we are using either for airlines or for Amtrak.

I am trying to ask in the most general terms a philosophical question. Is there a conversation about appropriate risk assessment and realistic security response in terms of not really closing down our open and free society, but increasing confidence in security? Is that conversation going on at a philosophical level?

Ms. DORN. Absolutely, it is. There is no question that the emphasis, as I believe is appropriate, is on the aviation system. But there is a real consciousness that the public transportation system needs to concentrate particularly on the tunnels, the high-traffic transit centers where many people gather, and those other critical assets, either because of the ridership issue or the value of them to our total transportation system.

No one has said that the risk in aviation is "x" percent, and the risk in public transportation is "y" versus Coast Guard, etc.; but the conversation is always assuming every mode has a vulnerability, and we must be as aggressive as possible.

I feel that it is too soon to determine what additional resources would be required at every level, and that is why I am pleased that we are moving forward in the assessments. We need to get a better handle on that. The discussions are taking place with OMB and within the Department, but it is not a science, it is an art in some respects.

Senator DURBIN. We are all doing our best in light of September 11, and I join with Senator Voinovich and thank you for what you have done, as well as Secretary Mineta and the President, in this area. We need to work together.

I might just alert my colleagues that one area that I have really picked up an interest in, and it does not directly apply to mass transit, but it does apply to this whole question of security, is the photo ID which is now ubiquitous, which we are all pulling out and showing at airports and many different places, which frankly is a very, very limited tool to deal with security. At best, it matches a photograph with a face and a name that may or may not be a valid name. I am hoping to have a hearing in January on expanding the standards for State driver's licenses and State ID cards so that we have some uniformity and so that mode of identification is really consistent to certain standards across America. That is just an aside that I wanted to mention.

Let me ask you just very briefly in closing what have you found to be the most cost-effective examples of enhanced security in mass transit so far?

Ms. DORN. It depends on the system, but I would say establishing relationships across the modes in terms of authorities locally, police, fire, mayor's office, and transit agencies so they are comfortable working together, they have a plan, they have resources to execute against that plan, they have practiced that. I think that is the most important and in some ways the most dif-

ficult aspect of this piece. Some of the transit managers who have done this several years ago have said to me, "Hey, the first 6 months, we all got around the table and defended our turf, and once we got to know each other and trusted each other and got down to business, we developed the partnership that is critical in order to assure as much as possible the safety of the traveling public."

So that is an investment that is a "soft" investment but is absolutely critical.

Senator DURBIN. "Soft" in terms of bringing them together, but let me give you an illustration of where expenses come in. My Governor comes to me and says, "Senator, in Illinois, we have great police departments, great fire departments, great first responders at all levels—and no communications network—none. We need $20 million as quickly as you can get it to us, because we are strapped with this recession in State revenues, so that we can establish a Statewide communications network which would serve transit and transportation and virtually all other crises that might involve our State."

So many of us are really hoping that this recognition of the best first step will be followed with the dedication of resources in simple ways to the communications system so that they can be much more effective in that effort.

Ms. DORN. I totally agree with you. In fact, that is one of the very important initial efforts of the TSA, to establish that kind of information network and system, which we would like to be able to translate across the modes. That is an important linkage that even some transit agencies do not yet have within their city, much less at various levels.

So it is an important arena, but in order to make those decisions about what kinds of investments, Federal, State, local, I think we need to have more information.

Senator DURBIN. Thank you. Thank you, Mr. Chairman.

Chairman LIEBERMAN. Thanks very much, Senator Durbin. Senator Cleland.

Senator CLELAND. Thanks very much, Mr. Chairman.

OPENING STATEMENT OF SENATOR CLELAND

May I just say as a member of the Commerce Committee that we have gotten involved in these transportation and security issues, and I have come across a quote by Anthony Kordsman, a terrorism expert at the Center for Strategic and International Studies here in Washington. He says that he strongly expects that any future terrorist attack will not employ the same tactics used on September 11. "The next time they attack," he says, "they will not be using aircraft. The likelihood is they will use a different weapon, something to break up the predictability." He went on to say, "It could be mass transit or it could be public utilities, historic sites, or the media. Tightening security in one area will tend to push terrorists in other directions, but one act of mass terrorism does not predict the next occurrence."

Mr. Chairman, mass transit was on Mr. Cordesman's list of possible targets, and why not? Almost one-third of terrorist attacks around the world target public transportation. The system is vul-

nerable with the number of transit stops and stations, the thousands of hazardous material deliveries daily, passengers' easy access to the system, the hundreds of thousands of miles of track to defend.

I would just like to say a word about Amtrak. Passenger rail has been the red-headed stepchild of the transportation family for 50 years. The U.S. Government has never done for Amtrak and commuter rail lines what it has done for airports and highways. Since Amtrak was created 30 years ago, the government has invested $35 billion in the system. Contrast that with the fact that we have invested $380 billion in our roads and $160 billion in our airports.

To compound the situation, Congress passed a law 4 years ago requiring Amtrak to be operationally sufficient by the end of next year or face liquidation. Now I read in Mr. Frazier's testimony that Amtrak since September 11 has diverted over $12 million from its operating funds to beef up its security. Amtrak has had to use money that it should be using for operating its trains for one reason and one reason only. Congress has not provided Amtrak with any security relief, even though we provided $15 billion to the airline industry and billions more to strengthen our airports and airplanes.

Granted, the Senate DOD appropriations bill earmarks $100 million for Amtrak security, but we know that Amtrak needs $3.2 billion for security.

Mr. Chairman, Amtrak is vital to America's national transportation system, vital to our economy and to our national defense. For weeks, Senator Hollings, Chairman of the Commerce Committee on which I sit, has been trying to bring the rail and port security bill to the Senate floor. Because of objections from certain members, the fate of that crucial bill is still in limbo. This is unacceptable.

For national security reasons, America needs legislation which will provide Amtrak with significant dollars—$1.8 billion—to improve security for the 60,000 passengers it transports each day.

We can and we must do better than this. So I thank you, Mr. Chairman, for holding this important hearing, and I look forward to the testimony of our witnesses.

Thank you very much.

Chairman LIEBERMAN. Thank you, Senator Cleland.

I want to ask you one or two wrap-up questions, Ms. Dorn. Your testimony has been very helpful.

Except in the case of Amtrak, it seems to me that providing rail transportation is largely a responsibility of State, local, and regional governments, and of course, the private sector. I wonder if, in light of the events of September 11, you think that relationship ought to change at all. Is there need for a larger Federal role in transportation, generally, transit, generally, and/or particularly in transit security questions?

Ms. DORN. Generally, the Federal role, as I understand it, has worked well in terms of allowing—and the belief on a bipartisan basis is that the States and localities really need to decide how their transportation systems will work and that there is a responsibility on the part of the Federal Government to assist, because public transportation and transportation in general, in order to have

a viable economy throughout the Nation, must occur. So I think that balance has worked very well.

In terms of the security role, I think our minds should be open to the possibility. It is too soon to tell whether there needs to be an additional hook from the Federal perspective, but I think we should be very cautious about it, because the tendency, then, if we do that is that we either provide the unfunded mandate that may or may not fit the need of a locality, or we just move forward in a way that is really not responsive to the uniqueness of the system.

So I think we have to be very cautious about that, but I think this administration is open-minded about what security efforts need to be taken in public transportation, and I am eager to work with the Committee in that regard.

Chairman LIEBERMAN. I thank you very much for your testimony, and I wish you well in the proactive steps that you are taking. Thank you very much.

I will now call forward the second panel, which includes Dorothy Dugger, Deputy General Manager of the San Francisco Bay Area Rapid Transit District; Ernest R. Frazier, Senior, Esquire, Chief of Police and Senior Vice President of Systems Security and Safety at Amtrak; Trixie Johnson, Research Director of the Mineta Transportation Institute; Jeffrey Warsh, Executive Director of the New Jersey Transit Corporation; and Richard White, General Manager of the Washington Metropolitan Area Transit Authority.

Thank you all very much for being here. You are really leaders of transit systems around the country, and your presence here gives us a very good opportunity to understand the security needs of America's transit systems post-September 11, so I appreciate the time and the effort that you made to be here.

We are going to begin with Mr. White. Thanks very, very much for being here. Mr. White is General Manager of the Washington Metropolitan Area Transit Authority.

TESTIMONY OF RICHARD A. WHITE,[1] GENERAL MANAGER, WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

Mr. WHITE. Good morning, Chairman Lieberman and Members of the Committee. Thank you for asking me to testify today.

I am Richard White, and I am the General Manager of the Washington Metropolitan Area Transit Authority. I want to thank the Committee for your interest in ensuring the security and protection of our Nation's rail transit systems. I also want to both thank and commend Secretary of Transportation Mineta and Federal Transit Administrator Dorn for their proactive efforts, as you have just heard, in protecting our Nation's transportation infrastructure, including our transit systems.

Mr. Chairman, my written statement which I am submitting for the record, details the unique role that WMATA performs in the National Capital Region. Three decades ago when Congress created WMATA to build and operate a rapid transit system for the Nation's Capital, it was recognized that quality rapid transit for the

[1] The prepared statement of Mr. White with attachments appears in the Appendix on page 58.

region's residents and visitors was essential to the operations of the Federal Government.

I would like to note that WMATA's original enabling legislation, the National Capital Transportation Act, originated in this Committee. Today, approximately 40 percent of the region's residents commute on transit to jobs in the heart of the region's employment center. Half of our 84 stations, as you said, Mr. Chairman, in your opening statement, serve Federal facilities, and about 36 percent of the locally-based Federal work force commute on our Metro system. As the second-largest U.S. rail system and the fifth-largest bus system, we carry more than 1.1 million daily trips. We operate a 103-mile system, 762 railcars, 1,443 buses, 7 rail maintenance facilities, 10 bus garages, and various other smaller satellite facilities throughout the region.

Being located in the National Capital Region, we recognize our special role in serving the Federal Government and the Federal City, including providing transit and enhanced security for large crowds, attending special events on the national Mall and elsewhere.

On September 11, when we were needed most by the National Capital Region, we were ready and we delivered. Essentially, we assumed a new role and became the primary mode of evacuation for our region, running back-to-back rush hour services as Federal workers and others quickly fled the city, often leaving their cars behind.

The role was further defined when we were asked by the Pentagon to open half an hour early at 5 a.m. for a 30-day period to support the Department of Defense as they heightened security clearances and encountered major traffic congestion accessing the Pentagon building.

Even before September 11, WMATA had developed and implemented a number of programs and operating procedures to deal with threats to our system in the major areas of prevention and mitigation, preparedness and response, and recovery.

We have prepared a System Safety and Security Program Plan, developed operating procedures to guide a variety of responses, established procedures for activating and utilizing our emergency operations command center using an incident command system protocol, and created redundant communication systems.

We have been conducting annual counter-terrorism and explosive incident training for police and operations personnel and had a high level of interagency coordination with the many Federal, State, and local law enforcement, fire, and emergency response agencies in the area. We have monthly meetings with our local fire and emergency rescue agencies and active daily contact with our local police departments. We sponsor an annual multi-jurisdictional drill to test training and response readiness of all of our coordinated agencies in the region. Further, we have one of our police officers assigned to the local FBI Office of Counter-Terrorism in order to have access to key intelligence information, to flag possible threats and prevent their occurrences. Access to key intelligence information, in my opinion, is perhaps the most critical thing we can do to help prevent negative occurrences. I appreciate the discussion on the issue of prevention versus response.

In the aftermath of the 1995 nerve gas attack on the Tokyo subway, we have spent considerable resources on emergency preparedness, including developing in conjunction with the Departments of Energy, Transportation, and Justice the first chemical detection system to be used in a transit environment anywhere in the world. WMATA is considered to be one of the safest transit systems in the country in large part because of design features like clear sight lines for video camera surveillance, use of noncombustible materials throughout the system and vehicles, failsafe train control systems, an extensive alarm system covering all of our station facilities, electrical power substations and ventilator shafts, right-of-way fencing and intrusion detection devices, fully-functional and monitored train radios including emergency alarms, and video cameras in all of our rail stations.

Some of the new measures taken specifically to enhance the protection of our physical infrastructure include hardening the cab door locks in all 762 of our trains, conducting daily security sweeps of all of our facilities and otherwise ensuring the tight security of the critical elements of our infrastructure such as tunnels, vent and fan shafts, emergency exits, traction power substations and communication rooms. We have provided personal protective gear for our police personnel and soon, for all of our front-line employees. We have removed trash cans and newspaper recycling bins throughout the system and intend to replace them with bomb-resistant containers. We are in the process of installing recorders for our existing rail station video cameras and are installing a fiberoptic connection to link the cameras back to our central control facility for monitoring and response.

We are in the process of developing a continuity of operations plan which includes a number of contingency plans, and we have launched an enhanced public awareness and safety campaign.

On October 12, we sent a request to the Office of Management and Budget detailing our security needs of $190 million, based on the assessments that we have made to date. A copy of this is attached to my written statement.

We have also worked with the Metropolitan Washington Council of Governments, which is our region's coordinating agency for the 17 jurisdictions of local government. Their purview covers the various aspects of public safety and emergency management, health, and various infrastructure protection components such as our transportation, water and energy, and waste and debris management systems.

In my opinion, now is the time for the Nation to consider that transit systems truly are a part of the national defense system and to contemplate the value of transit as the evacuation method of choice and possibly necessity during emergency situations. Every mode of transportation is important during emergencies, but transit is able to move people much more quickly and efficiently than congested roads and highways.

Given the fact that WMATA is located in the National Capital Region and is so integral to the workings of the Federal Government, there is even a greater need to make sure that we can meet the operational and security challenges that lie ahead.

As we saw on September 11, Metro has proven to be an indispensable asset that provides essential services to the Federal Government and its work force. In order for WMATA to fulfill this homeland defense role, we must act to enhance our security capabilities even further, as well as expanding the capacity of our infrastructure. Our rail system was built as a two-track railroad with little redundancy or ability to reroute trains in response to an emergency. We have extremely limited underground storage capacity and must often bring trains from long distances to replace a disabled train. If we need to rely on a large number of buses to transport individuals in the event of an emergency or if a portion of our rail system is incapacitated, we do not have sufficient spare buses for this service.

Transit service in New York City was able to be partially restored quickly after September 11 due to the configuration of their system. New York's multiple rail lines and connections give it the ability to reroute trains and provide service after some of its rail lines were incapacitated. To adequately prepare for emergencies, WMATA must connect its rail lines in order to provide alternative paths if a portion of the system is impacted. Both security and capacity must be enhanced at significant additional cost if we are to protect transit riders and be able to serve the region in case of an emergency evacuation.

The unparalleled, longstanding Federal-regional partnerships that created WMATA has endured, and we have become a model for the Nation, as Congress originally envisioned. We urge you to consider the vast challenges that WMATA faces as a transit system for the Nation's Capital, as well as how lessons learned in this environment can be used throughout the Nation.

We have reached out to various parts of the Federal Government seeking technical assistance and guidance and funding as we move aggressively to enhance the level of protection of riders on America's transit system. We look forward to having a dialogue with this Committee as you examine the Federal Government's role, particularly in the National Capital Region, in ensuring that the Metro system continues to be not only one of the safest transit systems in the world, but also one that is well-prepared to meet the demands of the new millennium.

Again, I want to thank the Committee and the Chairman for the opportunity to appear before you today, and I would be pleased to answer any questions after the testimony of others.

Chairman LIEBERMAN. Thanks, Mr. White. That was very interesting testimony, and I look forward to the question period.

The next witness is Jeffrey A. Warsh, Executive Director of the New Jersey Transit Corporation. Thank you for being here.

TESTIMONY OF JEFFREY A. WARSH,[1] EXECUTIVE DIRECTOR, NEW JERSEY TRANSIT CORPORATION

Mr. WARSH. Good morning, Chairman Lieberman, Senator Voinovich, and distinguished Members of the Senate Committee on Governmental Affairs.

[1] The prepared statement of Mr. Warsh appears in the Appendix on page 73.

My name is Jeff Warsh, and I am the Executive Director of New Jersey Transit Corporation, the Nation's third largest transit agency and the largest statewide transit provider in the Nation.

I want to thank this Committee for all of your efforts to address transit and rail security issues, and I would also like to thank and commend FTA Administrator Dorn, who has done a fantastic job right out of the chute, and Secretary of Transportation, whom I call "Stormin' Norman" Mineta, in this new battle on terrorism for their efforts in securing our transportation networks.

New Jersey Transit is responsible for the security of more than 223 million riders who use our system each year. Since September 11, the dynamics of keeping our passengers safe and secure have changed dramatically and we believe forever. Not only has the threat we are facing changed, but the actual nature of the commute in and around New York City has been transformed by the terrorist attacks of 3 months ago. New Jersey Transit was dramatically impacted by these events because approximately 40 percent of our New Jersey Transit riders are destined for New York City either on train or on bus.

In the immediate aftermath of the attacks on the World Trade Center, New Jersey Transit worked hand-in-glove with Amtrak to increase security, and we could not have done it without them. Amtrak halted trans-Hudson Tunnel traffic and searched and secured the Hudson River Rail tunnels before reopening them later on September 11. Select train stations were evacuated and secured before reopening. Parking lots below train tracks were cleared of all cars. Roads in close proximity to certain train stations were and still remain blocked to automobile traffic.

Amtrak placed guards proximate to the Northeast Corridor tunnels and bridges, our lifeline in New Jersey and on the entire East Coast. Amtrak and New Jersey Transit police have increased patrols with New Jersey Transit police working 12-hour shifts. We distributed a list of major facilities to local police departments to enlist their help in critical asset protection.

New Jersey Transit also implemented additional security measures. We contracted with local police departments to supplement our own force, including complying with a Coast Guard order to provide armed police for significant ferry operations that we run all along New Jersey's "gold coast" on the Hudson River across from New York City.

We saw great increases in the number of bomb threats and anthrax scares all of which proved, thank God, to be unfounded but still put massive strains on our police force.

The closure of the PATH tunnels and the imposition of a single-occupancy vehicle ban on Hudson River crossings with 5 hours' notice has meant that many former PATH and automobile commuters are now using New Jersey Transit service through Amtrak's North River tunnels.

September 11 shifted 67 percent of the jobs from Lower Manhattan's Financial District to Midtown, which is served by New York Penn Station. In addition, many commuters destined for Lower Manhattan are now taking our train service to Penn Station and transferring to the New York City subway system to Lower Manhattan.

With Amtrak's assistance, New Jersey Transit has added two trains to Manhattan and has increased the number of cars on other trains to the maximum number that the platform in New York Penn Station will allow. We have also accelerated the opening of a section of the new concourse at New York Penn Station to deal with the crunch loads on the platforms. With all these commuting changes, approximately 100,000 riders a day now take either New Jersey Transit or Amtrak trains from New Jersey to New York City every day. We have seen close to a 50 percent increase in riders on our Northeast Corridor service through the Amtrak tunnels to New York's Penn Station.

This commuting pattern shift only serves to underscore the importance of increased life safety measures in those tunnels. The Congress has expressed its concern regarding Amtrak tunnel life safety in and around New York City. The North River tunnels are approaching 100 years of age. Evacuation routes, fire retardation and ventilation systems in the tunnels must be significantly improved.

I am here today to add New Jersey's voice to the chorus. Funding for these improvements is critical. I was pleased to see $100 million appropriated in the Senate's defense appropriation bill for North River tunnel life safety issues. These improvements are more important to New Jersey Transit than to Amtrak, as 75 out of 100 trains each day that pass through the North River tunnels are New Jersey Transit trains. Amtrak needs more funding to make those improvements now more than ever.

Beyond improving life safety and security of the Hudson River rail tunnels, New Jersey Transit is concerned with the safety and security of our passengers systemwide. However, I caution this Committee respectfully not to deal with rail and transit security in the same way as airline security.

Rail and transit security should be viewed in context. A strong public transportation system is an integral part of the security of our cities because public transportation is essential to evacuating urban centers. On September 11, public transportation systems in New York, New Jersey, Washington, and throughout the country carried hundreds of thousands of passengers and walking wounded out of harm's way. At the same time, airports were shut down, highways were packed with congestion, and all Hudson River crossings were shut down. We were the only thing moving—ferry and rail—that was it. In times of crisis, our transit systems serve as our cities' best emergency escape.

Public transportation is also a target, as we have heard continually. Because it is so vital to the evacuation of cities, it must be doubly protected. But the approach to the security of trains and buses must be, by the very nature of its mode, different from those of airports and airlines. Airplanes are much more vulnerable to catastrophic loss than trains. A train cannot be used by a terrorist as a guided missile.

Access to train stations and airports is also fundamentally different. Whereas an airport can restrict passengers to a set of checkpoints where security guards have the ability to check passengers and luggage, train stations are and must be by their nature more

open and free-flowing. It is a different threat and requires a different approach to security.

New Jersey Transit is currently completing a full and complete review of its security needs. This crucial exercise began before September 11, and although that review is not complete, we can make some preliminary observations.

Our first line of defense is our people. Our conductors, our bus drivers, our station managers, and especially our transit police officers, all play critical roles in keeping our passengers secure. Greater police presence not only helps deter terrorist activities, it helps us respond to emergencies.

We already have National Guard troops at New York Penn Station to supplement police needs, but in the long term, we need more men and women on the beat. In addition, security cameras, bomb-sniffing dog teams, communication equipment, and emergency response equipment are also needed. Certain facility improvements such as permanent security barricades will also make the job of protecting transit assets easier.

Many of our personnel, both police and others, need additional training to help them better respond to threats such as biological weapons attacks.

But for all the high-tech security wizardry, I cannot stress enough the importance of the men and women of our transit police departments. A security camera is useless unless there is someone to monitor it in the control room. They have made a heroic effort, and we need to continue to support their efforts.

I realize that airline security has dominated the news, and I commend this body for your efforts to secure our skies; it is critical. But improved airline security is not enough. We should focus on transportation security as a whole. In that context, the security of transit operations should be a priority. We are an essential part of this Nation's homeland defense in that we provide the means of escape when other modes unfortunately fail.

I want to thank this Committee, this Senate, and this Congress for your efforts, and I urge you to do all you can to help New Jersey Transit and transit agencies throughout the Nation to respond to and prepare for the security needs of a new century. Thank you.

Chairman LIEBERMAN. Thank you, Mr. Warsh, for an excellent statement.

Just out of curiosity, earlier on, you made a reference about guards on bridges and tunnels; I think it was Amtrak that you were talking about, weren't you?

Mr. WARSH. Yes, Amtrak's bridges and tunnels. Although New Jersey Transit goes through Amtrak's tunnels and bridges, Amtrak takes care of that security, and they will speak for themselves.

We also have 20 or 30 rail bridges throughout the State in addition to key tunnels that lead to Hoboken Terminal and in turn lead by ferry and PATH to New York. We protect those tunnels ourselves.

Chairman LIEBERMAN. So are you putting in extra measures of protection since September 11 with regard to those?

Mr. WARSH. Absolutely. We have posts on both sides of all bridges and tunnels under our jurisdiction. We have posts on all

power substations that we have been alerted by the FBI could potentially be targets.

Chairman LIEBERMAN. "Post" meaning there is a security person there?

Mr. WARSH. A New Jersey Transit police officer, armed and ready.

Chairman LIEBERMAN. Good. Ernest Frazier is Chief of Police and Senior Vice President for System Security and Safety for Amtrak.

Chief Frazier, we are delighted to have you here. Thank you very much.

TESTIMONY OF ERNEST R. FRAZIER, SR., ESQUIRE,[1] CHIEF OF POLICE AND SENIOR VICE PRESIDENT FOR SYSTEM SECURITY AND SAFETY, AMTRAK

Mr. FRAZIER. Thank you, Mr. Chairman and distinguished Members of the Committee. Thank you for inviting me here today for this very important discussion.

As mentioned, I am the Senior Vice President of System Security and Safety for Amtrak's national network. I am also Chief of Police of the Amtrak Police Department, a nationally-accredited police force of 350 officers whose role is to protect Amtrak's customers, employees, and property. We have been the lead agency in assessing Amtrak's security procedures, both before and after the tragedy of September 11.

Amtrak has been operating on maximum alert since September 11. Within moments of the attack, we suspended all Amtrak service nationwide to allow for a top-to-bottom security sweep. All trains, tracks, bridges, tunnels, stations and other facilities, including those controlled by others, were inspected within hours, and security personnel remain stationed at all facilities 24 hours a day, 7 days a week.

Amtrak was able to resume operations within a few hours, gradually increasing the number of trains until a full operating schedule was achieved later that evening. For 3 days, when not a single commercial airliner was operating in the United States, Amtrak kept business people moving and brought stranded family members home.

In the weeks following the attack, Amtrak took a number of intermediate steps to increase our security. We implemented a new policy requiring Amtrak guests to present valid photo identification and answer security questions when purchasing tickets or checking baggage.

We have created a computer program that automatically cross-checks ticket purchases and reservations, whether they are made at a ticket counter, a QuikTrak machine, or online, against the FBI watchlist on a real-time basis.

We have suspended onboard ticket sales in the Northeast Corridor between Washington, New York, and Boston, which means that every guest who boards a Northeast Corridor train will have been reviewed for security purposes.

[1] The prepared statement of Mr. Frazier appears in the Appendix on page 79.

In addition, we have restricted access to our locomotives, conducted emergency drills to deal with a range of contingencies, conducted baggage inspections, revised our system security plan, and strengthened our partnerships with law enforcement agencies at all levels.

Looking ahead, we are committed to doing everything necessary and reasonable to improve our security further. Amtrak has created an internal task force with representatives from our police, operations, safety, and engineering departments. The strategic goals of this task force are, first of all, to prevent terrorist attacks from happening, and second, to be prepared for emergencies should they occur.

Our counter-terrorism plan is built around the three pillars of deterrence, vulnerability reduction, and emergency preparedness.

To deter attacks on our guests and reduce the vulnerability of our facilities and infrastructure, we are increasing police patrols, deploying canine teams at major stations, training and educating our 24,000 Amtrak employees to be more aware of potential threats, conducting increased train and baggage room sweeps, securing our sites through lighting increases and barrier protections, and installing security cameras, access control systems, and hazmat detection and response systems.

Moreover, since the majority of the tracks we operate on are owned and operated by the freight railroads, we are working closely with the American Association of Railroads' task forces on physical infrastructure, operational security, and information security. We are also cooperating closely with the American Public Transportation Association and with our commuter and transit agency partners.

In the event that an act of terrorism does occur, Amtrak must be ready to deploy its team of emergency responders who are continually drilled to handle crisis situations. But the real focus here is on the fire departments, police departments, and emergency management agencies of the communities where the incident takes place.

Amtrak has a program of reaching out to local emergency responders to increase their familiarity not just with Amtrak equipment but with the railroad operating environment as a whole.

Mitigating the potential ongoing effect of an incident is just as critical an element of preparedness as responding to the actual incident. Business continuity, operating continuity, rerouting of trains, providing for alternative travel arrangements, accommodating passengers and so forth, requires foresight and planning and should be a substantial part of any preparedness plan.

As the passenger rail industry has grown to emphasize intermodalism, Amtrak's operations have become even more intertwined with those of the commuter railroads, airport authorities, bus terminals, and the like. The complexity of operating a system that carried 23.5 million riders in this past fiscal year alone can be a daunting task without a well-thought-out plan.

Amtrak is continuing to assess how to keep our system running at as close to full capacity as possible while working through and recovering from any potential terrorist incident.

Mr. Chairman, in response to congressional requests, we have submitted a $3.2 billion September 11 response package that includes key elements for security and safety. An additional $1.5 billion would be devoted to bringing railroad tunnels in the New York, Washington, and Baltimore regions up to modern standards for fire and life safety protection. And $515 million is needed to accomplish the deterrence, vulnerability reduction, and emergency response efforts that I have already described.

Mr. Chairman, before closing, I would like to point out that while Amtrak has a good record on safety and security, we also face unique challenges. The foremost challenge is the relatively open and intermodal nature of our passenger rail system. For example, on an average week day, New York's Penn Station handles about 30,000 Amtrak passengers; but at least 300,000 additional passengers go through the station on the Long Island Railroad and New Jersey Transit. Thousands more use the station daily to transfer to New York City subways.

And Penn Station is not unique. For more than 20 years, transportation policy has encouraged an open, intermodal environment in virtually every train station in the country.

In the light of September 11, we at Amtrak are not about to abandon our historic commitment to an open passenger rail system. Rather, our goal is to strike the right balance between providing greater safety and security and maintaining the kind of open, intermodal design that underpins virtually every rail system in the world. I believe that the policies I have just described achieve that delicate but all-important balance.

Thank you once again, Mr. Chairman. I will be happy to answer questions.

Chairman LIEBERMAN. Thank you very much, Chief Frazier. Well done.

We are glad to welcome Dorothy Dugger. Good morning. We are pleased that you came across the country to represent the San Francisco Bay Area Rapid Transit District.

TESTIMONY OF DOROTHY W. DUGGER,[1] DEPUTY GENERAL MANAGER, SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT (BART)

Ms. DUGGER. Thank you, and good morning, Mr. Chairman and Members of the Committee.

I am Dorothy Dugger, Deputy General Manager of the San Francisco Bay Area Rapid Transit District, better known as BART.

Thank you for the focus that this hearing provides to the security issues facing our industry, and I join my colleagues on the panel in expressing our appreciation to Secretary Mineta and Administrator Dorn for the leadership they have provided, especially in these challenging times.

Let me begin with an observation that has already been made by Administrator Dorn and others but which I think is an important context for our discussion this morning. By definition, rail rapid transit systems are characterized by high and concentrated levels

[1] The prepared statement of Ms. Dugger with attachments appears in the Appendix on page 84.

of service and use supported in part by easy, convenient and open access to multiple facilities throughout our systems. Due to the very nature of the very service we provide, many of the security measures that may be available to other modes of transportation simply are not available to us.

The security challenges unique to our mode therefore underscore the need to work in partnership with Federal, State, and local agencies, and our industry colleagues to identify and share best practices and information on prevention and mitigation, expedite the development of state-of-the-art detection and monitoring equipment and technology, and of course, secure funding to implement security and capacity enhancements.

By way of brief background, BART is a 95-mile, 39-station rapid rail transit system serving four counties straddling the San Francisco Bay. Our work force includes a police department of 185 sworn officers. We function as the backbone of the regional transportation and transit system, carrying 320,000 passengers on a normal weekday.

Today during the peak commute hour, BART carries more riders across the Bay into San Francisco than the Bay Bridge carries vehicles. In other words, without BART service, we would need another deck on the Bay Bridge to deliver the morning commute.

To deliver this level of service, BART operates trains carrying 700 to 1,000 riders each every 2½ minutes through the Transbay Tube, one of the most critical assets of our system and a visible icon of the Bay area.

Emergency planning has been a hallmark at BART. As new potential threats have emerged, our planning and response protocols have evolved accordingly. A detailed emergency plan is in place which addresses responses to a variety of potential natural disasters and criminal activities. That plan is updated regularly and stresses a coordinated response by all involved personnel, our employees as well as first responders from other agencies using our incident command system.

Multi-casualty drills are held biannually to hone first response capabilities and coordination. We conduct multiple orientation tours annually to familiarize other first responders to the layout and safety features of our various station trackway and station facilities, and we hold impromptu in-house drills as well to test and train our field and central control personnel on a variety of scenarios.

Following the Tokyo subway sarin attack, we developed an emergency plan to specifically address the potential use of nuclear, biological, and chemical weapons. Our employees have benefitted from federally-sponsored training programs offered by the U.S. Army's Chemical School, the Department of Defense, and FTA First Responder Training Center, as well as other courses dealing with this specialized subject.

We have been focused on two areas when dealing with potential terrorist activity—prevention of acts on the system and mitigation of the consequences if an act does occur. Preventive steps have included target hardening and cooperative sharing of information, including intelligence information. Target hardening has included things like increased use of closed-circuit television in our system,

installation of improved intrusion alarms, and improved use of crime prevention through environmental design concepts.

We have also been involved in several regional groups which facilitate the flow of intelligence information critical in anticipating terrorist events.

In the area of mitigation, the need for immediate and appropriate first responder actions to save lives cannot be overstated. This will require early recognition, immediate action to contain the scene, and gathering the necessary resources to provide the needed aid, which will not be available from a single source.

As discussed, to make certain this occurs smoothly requires planning, training, and practice.

The terrorist attacks of September 11 revealed a new dimension to the potential for criminal acts of terror. Accordingly, we have initiated additional steps to further enhance the safety and security of our system, with an emphasis on high-profile key locations. We are conducting a comprehensive update of our system threat and vulnerability analysis to make sure that no area is overlooked and that limited resources are productively maximized, and we look forward to the assistance that Administrator Dorn discussed this morning.

We have increased employee visibility, especially our uniformed police presence. We have conducted sweeps of trains at selected key locations to check for suspicious packages or activities. We have removed trash receptacles at underground platforms, closed restrooms, and monitor our elevators manually.

Chairman LIEBERMAN. Excuse me. Do you mean that you select trains at random and sweep them? Is that a sweep of passengers or the train itself?

Ms. DUGGER. Just the train itself; at key locations as they enter a key tunnel or the Transbay Tube, a police officer will walk quickly through the 10-car train.

Chairman LIEBERMAN. OK. Go ahead.

Ms. DUGGER. We continue to stress that counter-terrorism is not just a responsibility of our police. Given the pattern of terrorist reconnaissance, of research and rehearsal prior to an act on many occasions, our focus is on interrupting and detecting an action planning process in progress. We have communicated with our frontline employees and our customers as well to encourage their attention and urging them to remain alert to suspicious circumstances and report those to our police.

Reflecting the expert theory cited by Senator Cleland earlier this morning, our goal is to become as unattractive a target as possible.

With respect to additional targeting hardening, we have installed intrusion alarms at limited key access points. We are testing new tunnel intrusion detection technology. Efforts to protect train control and communication systems are focused on hardening our operations control center.

In terms of the Federal Government's role in safeguarding rail transit systems, we share Mr. White's position that public fixed-guideway rapid rail transit systems need to be recognized as an important resource in our domestic national security efforts. We carry large numbers of people, provide mobility throughout large metro-

politan areas, and provide lifeline transit service, including evacuation in times of crisis.

Given the heightened security we now face, we urge continued Federal support in several critical areas of need for our systems. We urge continued funding to support counter-terrorism measures, the cost of which is simply beyond our local capabilities and limited resources. We have preliminarily identified approximately $70 million in security-related needs, which we have communicated to FTA and to our congressional representatives; I expect that number will probably grow as we complete our current threat assessment activity now under way.

These items are attached to my testimony for your information, and I will not detail them here, but most of them—and this goes, we believe, to the best, most cost-effective investment—are one-time capital expenditures designed to improve our monitoring and detection capabilities. By so doing we would not have to depend on a strategy which I think financially and physically is not sustainable over the long haul or as a routine way of doing business, which is reliance on our human resources to provide that monitoring and detection capability.

Chairman LIEBERMAN. What kinds of resources would those be?

Ms. DUGGER. Increasing the use of closed-circuit television capability throughout our system; improved connections of that information real-time back to central police monitoring facilities; electronic keying of our system which, while not as old as some of our colleagues' on the East Coast, we are now 30 years old, and a lot of technology as basic as metal keys as opposed to electronic keys can provide much higher levels of security, particularly to remote field locations of substations, train control rooms, and facilities of that sort; redundancy of our communications systems, which we believe is critical. We are also very much looking forward to the results of the demonstration that Dick White referenced earlier on the new technology that is being tested in WMATA for chemical and biological detection, which is clearly a vulnerability that those of us who operate subway and mass transit systems with high volumes of people and high volumes of service face today.

We also encourage continued Federal funding for the training programs that you have heard discussed this morning in my testimony and others. Those have been very helpful, and we have benefitted from that training.

And the continued funding that Congress has provided to date to the national labs and other research institutes supported by DOT and FTA have produced, we believe, useful collections of information, whether it be inventories of best practices or research into promising new technologies which will give us better capabilities.

We very much appreciate the opportunity to testify today, and I am happy and look forward to the questions and discussion that will follow. Thank you very much.

Chairman LIEBERMAN. Thank you very much, Ms. Dugger. I appreciate your testimony very much. The four of you have been very, very helpful.

We are now delighted to hear from someone with a somewhat different perspective on the problem, Trixie Johnson, who is Re-

search Director of what I suppose we should call "the Stormin' Norman Mineta Transportation Institute." Welcome.

TESTIMONY OF HON. TRIXIE JOHNSON,[1] RESEARCH DIRECTOR, MINETA TRANSPORTATION INSTITUTE

Ms. JOHNSON. Mr. Chairman and Members of the Committee, on behalf of the Mineta Transportation Institute and Brian Jenkins, the head of our counter-terrorism research team, I thank you for focusing on this critical topic and for this opportunity to introduce our work to you.

MTI is a university transportation center. We were created by ISTEA, and we are located at San Jose State University. We began our counter-terrorism work in 1996.

The Executive Overview that I have provided to the Committee—this book—covers the first three of our five projects.[1] Those reports are all posted on our websites. Since it was published in early October, we have also conducted a National Transportation Security Summit here in Washington, DC and have initiated a case study of surface transportation related to the September 11 New York events.

Some quick points about security and the threat to U.S. passenger rail systems.

First, the threat is real. Rail passenger systems, as you have heard, are very attractive targets and, as you have also heard, not all systems are equal. The larger urban systems are much more attractive, but copycats threaten even smaller systems.

Second, security and response absolutely require cooperation and coordination among many responsible agencies. If there is one theme of this hearing, it would appear that is the strongest.

Third, the right level of security is difficult to determine. The threat is hard to quantify. Cost-benefit analysis cannot be the sole criterion. And the threat to any one individual is minuscule, so basing it on the cost of lives saved is difficult to do. We can say the obvious—that the larger systems will cost more to secure.

Fourth, security cannot totally prevent attacks, but it can make them more difficult to execute and can reduce the impacts.

Fifth, we can learn from others. MTI's work emphasizes case studies for this reason. We then apply that knowledge in doing terrorism vulnerability assessments, not just for transit systems but for surface transportation features of all kinds.

The Tokyo sarin event in 1995, for example, demonstrated dramatically that the train and passengers can spread the agent as far as they are allowed to go. One train in that system traversed the entire system three times before the threat was assessed and the train was stopped. Thus, effective response is measured in minutes.

Detection systems, whether they be closed-circuit television or the new, up and coming chemical sensors, are important investments, and the sensors are a particularly good candidate for additional research and development.

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[1] The prepared statement of Ms. Johnson with an attachment appears in the Appendix on page 91.

[1] MTI Report 01–14 entitled "Protecting Public Surface Transportation Against Terrorism and Serious Crime: An Executive Overview," October 2001, by Brian M. Jenkins (submitted by Ms. Johnson) appears in the Appendix on page 95.

Sixth, the information about best practices must reach operators. Investing in information transfer and training is important.

Finally, I would call your attention to two lists. First, in my written testimony, you will find a list of 10 low-cost measures that every system can do. Second, in the Executive Overview, Appendix A is a best practices checklist culled from our many case studies.

That concludes my comments. I will be happy to answer any questions that you might have. And again, thank you for the opportunity to be with you today.

Chairman LIEBERMAN. Thank you; very helpful.

It strikes me that at least three of you have mentioned the sarin gas episode in Tokyo, not surprisingly. I suppose that was, for want of a fresher term, the wakeup call for transit systems, certainly for subway systems, and that a number of you responded then and began to put in place prevention plans, which probably other parts of critical infrastructure in the United States did not do as much prior to September 11.

I am curious—it is relevant but not directly, and something Mr. Warsh said leads me to ask this question. Just to go quickly down the row of the four operators, how has your passenger usage gone up or down since September 11; do you have recent numbers on that? Mr. White.

Mr. WHITE. Yes, Mr. Chairman. Our ridership is down slightly. We largely attribute that to the downturn in tourism and to the closing of Reagan National Airport.

We have the same number or even an increased number of people who use us daily for commute purposes. However, in the midday, evenings, and weekends, our ridership is down a few percent, driven entirely by the reduction in tourism. This region was severely impacted by the closing of the airport, and we are just beginning to recover now. It is the front door into the metropolitan area for many people.

Chairman LIEBERMAN. Interesting; not surprising. Mr. Warsh.

Mr. WARSH. Overall, we are down in the high single digits, 8 or 9 percent down, for the entire system. But what has occurred in our case is the worst of all combinations—we are down overall, 8 to 9 percent, which means our revenue is down, but we have seen huge influxes of commuters, particularly between Newark and New York, as a result of the changed commuting pattern that I described. When 60 percent of those jobs moved from the Financial District to Midtown, we saw a huge influx to the point where we have 28,000 people a day standing on our trains, and that number went up from 12,000 to 28,000 afterward. So we are overall down as a result of the economy and job dislocation, but where those commuters have changed to has created enormous crowding and security problems.

Chairman LIEBERMAN. So the down you think is because of the economy.

Mr. WARSH. We saw prior to September 11 that our numbers—in the last decade, we grew 40 percent on the rail side and about 25 percent on the bus side, 7 percent a year, particularly in rail—prior to September 11, we saw that number at around 1 to 1.5 percent. So we were slowing consistent with the economy slowing, but

September 11 accelerated that a little bit. It is the shift of the commuting pattern that is causing us our most serious problems.

Chairman LIEBERMAN. Chief Frazier, how about Amtrak?

Mr. FRAZIER. Mr. Chairman, of course, directly after September 11, we had a major spike in ridership particularly in the Northeast Corridor and then throughout the system. It did level off. We had a very good Thanksgiving period, and we think that ridership will continue to move forward.

I would mention that, in 1996 in Paris, there was a bombing of a train, and in that particular event, they recovered business-wise in 3 days, but it took over 3 months for the ridership to actually return to the level that it was at prior to that event.

Chairman LIEBERMAN. Thank you. Ms. Dugger.

Ms. DUGGER. We have just come off 3 years of phenomenal ridership growth, so we are working from a very high base, with about 30 percent increase in ridership over the last 3 years. We had started to see that trend down well before September, in our belief reflecting the local economy and the economic downturn that we have been experiencing in California.

We have stabilized at about October/November ridership levels, which are below last year but not noticeably distinct pre- and post-September 11.

Chairman LIEBERMAN. Thank you.

I was going to ask you as a first question whether you think there is a significant risk of terrorist attack against your systems. I presume from the opening testimony that each of you made that you do take the risk seriously.

Does anybody want to add to that?

Mr. WHITE. Most definitely, I think we recognize the risk of terrorism, for all the reasons stated by you, Administrator Dorn, and other Members of your Committee.

We recognize that we are a target, and I think, as Ms. Dugger put it, we want to make ourselves as unattractive as we can. Terrorists seek to terrorize, and they look for vulnerabilities and weaknesses. They study you and study you and study you, and when they see your weakness, they hit. If they do not see it, they will go to another target. And we are hoping that we, individually, and we, collectively as an industry, show that level of preparation so that they will be deterred. But there is no denying the fact that we recognize that staying on top of it and being prepared and showing that you are prepared is the key issue.

Chairman LIEBERMAN. Chief Frazier.

Mr. FRAZIER. Mr. Chairman, transportation, not airlines, is at risk in this country. That is a fact.

Chairman LIEBERMAN. That's right.

Mr. FRAZIER. The reality is that all modes of transportation need to be considered in our plans to try to make sure that we have coverage. Those numbers are phenomenal with respect to the people who ride on surface transportation in this country, and it is my belief that as we move forward, we need to look at the technology, the best practices, all the things that we can do, and we need to translate and look very closely at how they can be used in each of our modes of transportation across the board now in order to improve the security.

Chairman LIEBERMAN. I agree. I hope that we can act expeditiously and more generously than we have thus far this year to get you as much of that $3.2 billion as you need—which incidentally does include the work on the tunnels—is that right—leading into New York. I know that there was a DOT Inspector General report last year, I believe, which pointed to the vulnerability of those tunnels—which is quite serious—long before September 11.

I have not been over the budget in detail, and I cannot tell you that every dollar that you think you need is as much as every other dollar—but this is real national security now, and it is as important as our defense budget. So I hope we can get together across party lines and make that happen.

I was quite interested, Chief, in something you said earlier, which was that post-September 11, you shut down the Amtrak system and did a rapid check including, I believe I heard you say, of your tracks. I am curious—do you have the capacity to do that quickly, because that is one of the things that we all would worry about, of course, that the tracks are all over the place, and how do you maintain their security.

Mr. FRAZIER. Mr. Chairman, we have a plan in place and have had a plan in place for some time, based on accidents. I think the rail industry and passenger rail is very ready to deal with weather-related problems, Hurricane Floyd. Those sorts of things helped us put together contingency plans that were very effective to deal with whatever happens. The events of September 11 caused us to initiate those plans, and as a part of them, our engineering department goes immediately out, and they start inspecting. They walk rails, and we establish people at the portals, as has been mentioned by Mr. Warsh, and those programs just automatically happen.

Interestingly, this time, we are having great difficulty sustaining it. That is the problem. We are always ready to go, we are always ready to respond, and we can do that anywhere in the country. But it is difficult now to maintain, as has been mentioned, those guards and those engineering personnel out on the right-of-way every day.

Chairman LIEBERMAN. Do you mean financially?

Mr. FRAZIER. Yes, sir.

Off-corridor, of course, we depend on freight railroads in this respect, and we depend on our State and local police authorities to help us, and we have reached out to every single watch commander where there is an Amtrak train anywhere in the United States, and we have asked them to visit our stations, visit our infrastructure, and work with us daily.

Chairman LIEBERMAN. Thanks, Chief.

My time is up on this round. Senator Voinovich.

Senator VOINOVICH. First of all, it is music to my ears to hear that most of you have been very complimentary to Secretary Mineta and Ms. Dorn for the jobs that they are doing.

Second, it is comforting for me to know how much all of you have been doing prior to September 11 to prepare for some type of terrorism, emergency, or whatever.

Third, Chief Frazier, you talked about the issue of coordinating with local government people. So often, I think those of us here in Washington take for granted what is being done at the local level,

and it is nice to know that you are coordinating with the fire and the police and the EMS and the hazmat people so that you can respond quickly.

One thing that impressed me when they had the bombing at the Pentagon was that it was not the Federal Government that was on the line, it was the local police and fire that really took over and had their emergency response people there on board.

It is also nice to know that the school that is doing all the research work is named after the Secretary. It gives me some comfort to know that he certainly knows a little bit about transit, or certainly that school would not have been named after him.

So I think this document—one of the things we are concerned about is whether we have the best practices out there—I have just looked through it quickly, but it is really good stuff. I do not know whether all of you have looked at it.

Was this put together in coordination with the Department of Transportation, Ms. Johnson?

Ms. JOHNSON. Our funding comes from the Department of Transportation, and our research team, of course, does speak with various officials of the Federal Government in preparing their materials. But most of our work has been case studies at localities where events have occurred, and that is essentially a summary of the other documents in the case studies and symposia from the past.

Senator VOINOVICH. A thought that I had listening to you was that it would be interesting, Mr. Chairman, if we had a clearinghouse in the Homeland Security Office. Right now, for example, I would really like to know about the Hart Building, and the last we heard was that the technology was not working as they thought it would work. I talked to a provider yesterday, and they said they would like to provide it, but they need to do some testing.

It would be interesting to see—if we could go across the table—things that you in transit need, rail transit, buildings, you name it. I think it would be really worth our while to get into that and identify the areas where we need some real technology and what is out there and what works, so that in the event we do encounter something like we have had, we can move in right away, and it is not hit-and-miss as we have seen.

The Chairman asked a question about the role of the Federal Government. It is interesting that in Mr. White's testimony, you were talking about security and capacity. I got the impression that you do not have the flexibility that they have in New York, because they have more tracks and more trains and so forth. So to do what you are suggesting, I would think, would cost a lot of money. What should be the role of the Federal Government, and then, where do you spend the money—infrastructure, personnel? Ms. Dugger, you talked about technology, and I heard from you that you need $70 million for technology so we can get some of these things in place. How do we best utilize the dollars that we have to get the best return, understanding that there is a limited amount of money available?

Any of you may answer that.

Mr. WHITE. I will take the first crack. Clearly, technology is essential for multiple reasons, not the least of which is to help relieve

us from the need to sustain this effort for quite some time. With this continued state of high alert, it places great strain on an organization to have your employees working 6 days a week, 12 hours a day, over a very lengthy period of time. It is going to wear you out.

I think there is a strong role that the Federal Government can play in helping us all to evaluate and make some suggestions on the appropriate technologies that we can be using—intrusion alarms, CCTV, bomb-proof trash cans, and new and modern facial recognition systems that we last used in this country with the Superbowl last year. We talk about open systems and how we have large numbers of people running through our fare systems very quickly; I think it is not too far from now that this technology will evolve to provide us with the capability of being able to utilize facial recognition technologies connected to databases identifying people that we should be tracking. We would then have real-time information when people enter our systems.

We heard about with the Moscow experience and how anthrax can be spread from end to end in a remarkably short period of time. The key issue for us is chemical sensors. We are now testing these sensors in coordination with the Departments of Justice, Energy, and Transportation, and with all the major national labs, under the Department of Energy. And we have now, after 13 months, deemed the technology to be workable. It is now technologically feasible——

Senator VOINOVICH. May I just say that I visited two post offices in Ohio, and they would love to have that information. I said, "Why can't you put a gizmo in here that would sense what kinds of chemicals are here?" And what I got from them was that it is just not out there. You are telling me that there is a real breakthrough here.

Mr. WHITE. Well, it is because we were fortunate to be selected by the Departments of Defense and Energy to be the test bed of this reapplication of defense technology into the civilian sector. Everybody has been watching this. As I said in my remarks, there is nobody in the world that has it right now, and it has now proven to be workable. We are ready to operationalize this. We only have it installed in one station right now. It is a substantial investment. It is a lot of money. In our case, it is $80 million to protect our underground stations. It is a significant investment, but given the scope of such a threat to the numbers of people who are in our system—we have 80,000 people in our system in 1 hour during the morning and afternoon—imagine what could happen if, as been suggested, something can move through the system as trains moving through the system and dragging a substance along. So you need those kinds of technologies and response procedures in place. It is not too far from now that we believe the capability for biological, as well as chemical detection, will be technologically feasible. The next step is to help secure chemical, and then biological sensors. In my mind, that is probably one of the most significant investments given the risk factors that we are confronting. It is expensive, but to my mind, technology is very key.

Chairman LIEBERMAN. Mr. Warsh.

Mr. WARSH. Mr. Chairman, with respect to the overarching issue of the role of the Federal Government in mass transit in general, I frankly sing from the same page as your colleague from the great State of Georgia, Senator Cleland.

One of the major issues is that even if you look back at the most recent T–21, while mass agencies saw the pie grow to the highest level it had ever been, mass transit still slipped as a percentage of the overall pie compared to our friends on the asphalt and concrete side of the equation; we slipped.

When you talk about our problems at New Jersey Transit, and indeed all the commuter rail agencies on the East Coast in Amtrak territory, the Federal Government's starvation of Amtrak from both the capital and the operating side places huge burdens on us as a commuter rail agency. We have put countless billions of dollars into the Federal Government's asset. New Jersey Transit spends a minimum of $25 million a year, and in some cases, hundreds of millions of dollars a year putting money and investment into the Northeast Corridor, because those investments are not sufficient from the Federal Government, and they are our lifeline, not only for New Jersey Transit, but for the State and for the region.

When you do see the investments that are placed in the State of New Jersey in particular, our Hudson-Bergen light rail system which has received ISTEA grants and T–21 grants, was built and operational in 40 months, on budget, on time, and was ready on September 11. We saw an 80 percent increase on Hudson-Bergen light rail, the world's newest light rail system, just a spit of water across from the World Trade Center. We received the burn victims. We received the Wall Street refugees. We removed seats from two cars and had materials carried up and down the so-called Jersey City "gold coast," which became Ground Zero literally in a matter of minutes—and without that Federal investment and without the State match from the State of New Jersey, the waterfront would have been bedlam instead of a quickly-organized triage area.

So when you ask me what should the Federal Government's role be in mass transit, it is large, and it needs to get significantly larger, with the acknowledgement that we are not only mass transit assets, economic development assets, mobility assets, but national security assets.

With that in mind, I would think that it is necessary to expand the role of the Federal Government.

Ms. DUGGER. Hear, hear.

Mr. FRAZIER. With respect to my position as a chief as it relates to this issue, there are a couple of areas which are very important. First of all, the intelligence issues that have been addressed and are being looked at very thoroughly by Congress and by the Executive Branch are critical things. We need to know what is going on.

But another area that I have touched on briefly that I think is just important is that there is an awful lot of existing technology that is in the government now. It is in various Federal departments—it is in DOE, it is in the FBI, it is in DOD—it has different applications and has been developed for different applications. We need to look at that comprehensively, and we need to make that available. We also need to look at research and development dollars in terms of what it is that owners and operators of transportation

systems can do reasonably well to improve security from that standpoint.

I like to take a dual approach to what we are looking at. Part of the package that Amtrak has put forward is for emergency notification system improvements. That does not just help in terms of security, it helps us to run the railroad. And operators are going to be very much interested in the Federal Government working with us in light of that dual approach to things to try to identify ways for us to do business well and effectively in terms of our mission.

Finally, I think that best practices are international and national, and the collection and dissemination of that information is a third area where I would expect there would be a very important role for government to engage in.

Ms. DUGGER. Very briefly, I would just echo—I think the question was is there a Federal role in mass transit, or is that a local, regional, or State responsibility—I would concur whole-heartedly with Mr. Warsh's comments. If you look at the size of local economies served by the majority of the large rapid rail transit systems, they are an important contributor to our overall national economic health and well-being, and transit plays a critical role in sustaining the mobility and the functioning of those areas. So I concur wholeheartedly; I believe there is a strong Federal role and one that, proportionate to other modes of transportation, should continue to grow as has been the Congress' actions over the last authorization period.

We have identified an overall number, Senator, of $70 million, and I believe that number will get larger, not smaller. It does not include the application of a detection system that Mr. White has discussed today, for example; that would similarly be a big number for our system as well.

I will also say, however, that there are increments of improvement that can be made, and relatively small infusions of capital funding, with discretion to the local system to apply that most effectively, I think could make a significant improvement to our monitoring and detection capabilities.

I concur with my colleague from Amtrak; I think the reality is that we will never be 100 percent failsafe. I do not think we can spend our way to that level of protection by the very nature of our systems, and the needs are huge, but I think that we can make incremental improvements with smaller increments of funding against these total needs that we have identified.

Chairman LIEBERMAN. Ms. Johnson, do you want to add anything?

Ms. JOHNSON. They are repeating everything we have learned over several years of study.

Chairman LIEBERMAN. That is great. Thank you.

Thank you, Senator Voinovich, for good questions and very good answers. There obviously is a major Federal role here to be supportive of you. I do not think any of us are ever going to achieve in life—or in transit—perfect security, but obviously, we have to raise our guard as much as we can.

I was quite interested, Mr. White, in what you and others said about the rising role of technology in dealing with some of these

problems. In the discussion I had with Ms. Dorn on the first panel on the point of whether we should prevent or mitigate—it seems to me that you are all involved in both, quite appropriately, doing everything you can to prevent and also to mitigate. But I was quite interested in the special problems you have that aviation does not have in applying security—that it may be, for instance, in the application of a facial recognition system as that becomes technologically feasible, that you are going to be able to do a real-time check on people who at some point have to either buy a ticket or pass through a gate or something where you are going to be able to check them quite rapidly. That is going to be very important.

Senator Carper, thanks for being here.

OPENING STATEMENT OF SENATOR CARPER

Senator CARPER. Mr. Chairman, thanks very much for holding the hearing.

To our witnesses, this has been exceptionally good and very helpful testimony, and we appreciate your being here.

Who among you is from the Washington, DC area?

Mr. WHITE. I am, Senator.

Senator CARPER. And who is from New Jersey?

Mr. WARSH. That would be me, Senator.

Senator CARPER. And from California?

Ms. JOHNSON. I am from California, Senator.

Senator CARPER. Is anyone from the first State to ratify the Constitution? [Laughter.]

Mr. FRAZIER. I am, Senator. I live in Middletown, Delaware.

Senator CARPER. Middletown, Delaware, just down the road.

Chairman LIEBERMAN. Did you know that, Senator Carper?

Senator CARPER. I was tipped off, I must say.

Welcome to all of you, and Chief Frazier, we are delighted that you are here.

Reflecting back on what some of you have said in your testimony and what my colleagues have said as well, I want to start off with one of the last comments. Someone said we will never be 100 percent failsafe, and we will never be 100 percent secure. My suspicion is that most of you run operations where you have an operating deficit, and the Federal Government makes up for that operating deficit. You do not pay out of the fare box for the costs of running your operations that you incur.

How do you go about establishing priorities with the dollars that are available to enhance security? In each of your operations, how do you say, "We had one dollar, and this is where we spent it; we had another dollar, and this where we spent it"? How do you set those priorities? Mr. White.

Mr. WHITE. Yes, Senator. First, on the operating side, unfortunately, we no longer get money from the Federal Government for operating expenses, except for very limited preventive capital maintenance purposes. We do fortunately get capital investment resources from the Federal Government.

So it is difficult to prioritize our capital investment resources. Clearly, I think one of the problems that we all are now experiencing is that given the placement of this on our list of concerns, and given all the other investment requirements that we have, it

is certainly presenting some great difficulties for us as we try to decide whether we repair and replace that asset that is now 25 years old to make sure that our system remains reliable, or do we now need to start investing these same dollars that we have been receiving for these other purposes. I think the big challenge has been finding money to fit this priority within the confines of the existing program.

What we have done—and it is a bit of a fluid situation—through risk assessments that we have conducted, both ourselves and with third parties is to try to understand our areas of vulnerability areas. We have attempted to prioritize from A to Z, on a list that at this point totals about $190 million, where we would put our first dollars. We have done that by looking at our vulnerabilities and understanding where the highest impact of dollar one would go.

I would echo Ms. Dugger's comment that the extent to which we are able to benefit from supplemental investment that might come from the Federal Government, it is important to allow us discretion and not tie our hands by saying it should go for this or that particular purpose. It is very, very useful to us to have flexibility, because I do believe that we are closest to the situation and best able to understand where the priorities should be.

That is how we approach it, Senator.

Senator CARPER. Thank you. Mr. Warsh, how do you do it?

Mr. WARSH. The way we rank it—and we are not a subway system; with the exception of a small section of the Newark subway we tend to be above grounds, so that our costs to provide the best security we can provide are significantly lower than the subterranean systems, and rightfully so.

We are looking about a $30 to $40 million increase in our security needs, and the way we break that down in terms of priorities is that we need manpower. We have broader jurisdiction, the New Jersey Transit Police, than our New Jersey State Police do; they have 3,000 men and women in uniform, and we have 111. We have jurisdiction not only Statewide, but as well as in New York City and in Philadelphia, where our buses and trains also go.

So we are now at the point where we are moving to an authorized strength of 141; we are hiring 30 police officers now, and we have just received a report from the Bratton Group—the former New York City Transit Authority police chief has his own consulting firm with the Krohl folks—indicating that we would need to substantially beef up our police force beyond that, including SWAT capability, and so on.

So we are focusing on manpower in addition to the normal technological advances that we make. But I would like to make one important point. We believe that the least expensive investment we can make is to in essence deputize our passengers, to have them take control of their own lives and their own destiny, to take a look around to see if anything looks suspicious. The conductor is in charge of the train, and we go through basic education. It is not the engineer, the person who is driving the train; that conductor is in charge of that train. You find the man or the woman in the hat and tell them that something does not look right, whether it is anthrax scare or some other kind of security issue. We have en-

tered into a public relations campaign where there is literally an Uncle Sam poster saying, "You have got to remove your garbage for your own safety." It is critical, whether it is in the Mineta Institute or just common sense, when people walk down the aisle of that train or bus, if everything is clear, then you know that there is nothing suspicious; when there is a pile of innocent newspapers, is it an innocent pile of newspapers, or is there some kind of a problem beneath it? And it all starts with people simply removing garbage.

So in addition to planning and expense, we are in essence deputizing our passengers—take control of your own life, take control of your own space.

Senator CARPER. Thank you.

Chief Frazier, the question for Amtrak is especially relevant. Last Friday night, until about one o'clock Saturday morning, we were debating the Department of Defense appropriations bill, and we included in that bill moneys for homeland defense. Included there was a very modest down payment for homeland defense with respect to Amtrak; I think $100 million was included in the legislation. That compares to a request from the chairman of the authorizing committee, Senator Hollings, who had requested $3.2 billion.

At Amtrak, how do you go about deciding how to invest $100 million for greater security with a needs list that obviously goes beyond that?

Mr. FRAZIER. Senator, you are absolutely right. In fact, on October 17, at the Senate Commerce, Science, and Transportation Committee, we did receive a unanimous vote for $1.77 billion in safety and security improvements throughout Amtrak; however, to date, this measure has not seen floor consideration.

We have spent $12 million to date on security because we just simply the made the decision—the right decision as the national railroad—that we have to protect our passengers and employees. Safety and security are the No. 1 priorities of Amtrak, and they are not negotiable.

Obviously, additional dedication of our very scarce resources to security will continue to have an adverse effect on our other operations, our train operations. We are forecast at this time to spend somewhere around $50 million on security just to stay at this intermediate level where we are.

This recognizes that the U.S. Government has issued three general alerts advising law enforcement agencies to stay at their highest level. In truth, because of our business in transportation, Senator, we have not relaxed security at all since September 11, and that is where that money will come up—every time that alert goes out, we have officers who are working 12-hour shifts—and I spend a lot of time along with senior staff trying to figure out just how much they can do so we can keep up with what is going on.

So it is particularly trying and difficult when you intersperse the security issues and the significance of them to the national rail system on top of the self-sufficiency issues and the fact that we are of scant resources, as my colleague has adequately and very effectively put, at Amtrak. This is making it much, much worse every day.

How would we spend the money? There are actions and countermeasures. We would first look to deal with ratcheting up and down based on the threat level. That is why, as I mentioned earlier, the intelligence is very important to us. Based on the threat level, we may do certain things, and that is the kind of concept that we have deployed at this point. So that puts a measure—it is not just, OK, we are going to go out and put up Jersey barriers, and we are going to put all police officers on 12-hour shifts, and we are going to keep that going and keep it going. These security alerts are extremely critical to our making good, solid decisions as relates to how we spend money as we ratchet up and down in terms of our security preparedness at any given time.

I agree as well that initially, our effort needs to be to increase the number of officers who are on our platforms and on our trains. That was a new program that was initiated immediately after September 11. Amtrak police officers began riding certain trains on the Northeast Corridor. We certainly do not have enough officers, enough special agents on trains, to be able to do that everywhere, but we would certainly think that in light of the issues that relate to baggage control and in light of the screening process and the ability for a law enforcement officer to do things in conjunction with that daily, that is a way for us to make some major improvements.

We would also, and have in fact, initiated already an effort to increase our canine division. At airports throughout the United States, there are canine detection systems—a dog and a handler—that are a critical part of that function of screening passengers, and in fact, they are being depended on preliminarily in many ways while the technology and the big, new machines are being put into those airports. That needs to be transferred. We need to put more of these very flexible animals along with handlers who can detect problems in our baggage areas and of course, in the main areas of our concourses throughout our major stations.

So we are prioritizing in those areas right now. Meanwhile, we are working in fact with FAA on trace detection and experimenting with that. We have some x-ray machines, and we are experimenting with those, and we are also looking at technology, and hopefully, we will be able to learn more about that as the days go on.

Senator CARPER. I have a follow-up question, but I want to go right to Ms. Dugger and ask her to tell us again—how do you determine how to spend that next dollar for security?

Ms. DUGGER. We do things very similarly to my colleagues whom you have already heard from this morning. At this point, there are no additional dollars coming into our coffers tied specifically to security, so our first prioritization with the available dollars is do we spend them on security or do we spend them on replacing aging equipment which is also essential to providing safe and secure service to our customers day in and day out. That is the first level of balance and prioritization.

In our business, I find that it is some of each; we are not at the point where we are able to meet 100 percent of our needs in any given area, so it is a constant balancing and prioritization, as you said.

Within the security investments and the funds that are available for that, again, our basic starting point is a vulnerabilities assessment, where is our greatest vulnerability, where do we have the least resources to protect against that vulnerability. In our case, some of those locations are physical access points, to put vulnerable portions of our system underground—tunnels, Transbay Tube—where we do not have employees and customers going through those areas and being able to provide eyes and ears, as an example.

We are also looking very hard—and I have said it a couple of times this morning—at places where one-time, limited capital investments such as in closed-circuit television monitoring, can free up police officers, human resources who, in our system, like everyone else you have heard from, have been operating on 12-hour shifts, 6 days a week, and even if we could afford that—our overtime budget has doubled since September 11 for our police department—even if we could afford that financially, our people cannot sustain that as a way of doing business, and I think that what we are recognizing is that we have entered a new environment in which to do business. So that looking at sustainable, long-term, ongoing, increased levels of security and monitoring is the reality.

Those are some of the considerations that we bring to bear.

Senator CARPER. Thanks very much.

Mr. Chairman, I have more than used my time. I wanted to ask a specific question about tunnels and tunnel safety. Will we have a second round?

Chairman LIEBERMAN. Go right ahead now. It is an important question. It has been touched on a bit previously, but go right ahead. We have some time.

Senator CARPER. Thank you very much.

In the Northeast Corridor, Amtrak controls the Northeast Corridor rails from Washington to Boston, and in that area, there are tunnels under Washington, DC, there are tunnels under Baltimore and, as we know, into New York.

Could you talk with us, Chief Frazier, about who owns and operates those tunnels, a little bit about the age of those tunnels, and what security concerns you might have with those tunnels?

Mr. FRAZIER. Senator, they are Amtrak's responsibility. We are and have been for some period of time working to try to make, first of all, life safety improvements to those tunnels. This starts with the fact that they are approaching, as has been mentioned by my colleague, 100 years of age. Ventilation is an issue. Egress out of the tunnel during an emergency and getting first responders into the tunnel is an issue. It is something that we really need to fix and have needed to fix for some period of time.

The security complexity of it adds another dimension, of course. It adds a dimension that we need to do things around the portals of those tunnels to prevent the introduction of—the difference between safety and security is the commission of an intentional act. That is really the difference. The consequences are often the same. But the reality is that security costs a lot more because you are trying to thwart a thinking human being with criminal intent; you are trying to thwart that individual's effort to do something.

These tunnels represent a major issue for us. Bridges represent another major issue for us because of the ramifications. In New

York, they are underneath the water in some respects, some of those tunnels. So you just have to worry substantially about what you are doing there. CCTV, as has been mentioned previously; we have police and engineering people around-the-clock, and they have been there since September 11.

Senator CARPER. In the tunnels themselves?

Mr. FRAZIER. Yes. They have actually been on both ends of the tunnel at egress points. Since September 11, there has been 24/7 staffing in this example, in the New York and New Jersey area, by Amtrak and by NJT and by the MTA police up in New York City.

Senator CARPER. What entities use the tunnels in New York, or going into New York, what entities use the tunnels around Baltimore, and also in Washington, DC?

Mr. FRAZIER. Starting in New York, of course, Long Island Railroad and NJT, Metro North, and Amtrak are the users of those tunnel systems. In fact, there has been for some period of time a joint control and dispatch center that exists and coordinates very expansive utilization of tunnels by commuter traffic and by transit trains.

Down in Baltimore, of course, Amtrak uses those tunnels along with MARC, and we at Amtrak as well are operators of the MARC service.

And of course, in Washington, it is Amtrak that uses this First Avenue tunnel, along with the VRE Railroad, our commuter partner, a service that we also run with respect to them.

Senator CARPER. Mr. Chairman, thanks very much.

And again to our panelists—especially the one from the first State—welcome, and thank you for your testimony and for your service.

Chairman LIEBERMAN. Senator Carper has a justifiable degree of chauvinistic pride. He is a great advocate for Amtrak, too, Chief, as you know.

A final question to come back to the beginning, and I think it is a question that the average person would ask, although I think you have done very well at covering the various points of vulnerability and what you are doing about them.

Short of the kinds of technological breakthroughs that might feature facial recognition, and acknowledging that in the case of Amtrak, for instance, you are now asking for valid ID and not allowing passengers to buy a ticket on the train—by the way, I am very appreciative that you have a real-time hook-up database between law enforcement and the purchase of the ticket——

What, if anything, can we do—can you do—to check passengers and what they are carrying as they come onto your trains? Just as the passengers are and can be the greatest defenders of security on a train, obviously, other passengers—a very small minority of them—can be the source of the troubles.

Mr. White.

Mr. WHITE. Mr. Chairman, our focus is primarily on unattended packages to make sure that not only our police department but all of our front-line operations personnel are trained and retrained on what to look for.

Typically, what the pattern will be if someone is trying to do something to you with something in their package, they are going

to leave it somewhere for it to do whatever purpose they set out to do.

I think the issue is a need for heightened awareness and being on the alert for unattended packages. I think we need to distinguish between an unattended package and a suspicious package vis-a-vis privacy issues. Our focus is on making sure that all of our front-line employees, everyone from the janitor to the station agent to the police officer to the train operator, are looking for unattended packages. Also, engaging our customers, as Mr. Warsh said, engaging your customer in the process is critical.

For example, what we have seen with respect to ensuring our own heightened awareness and that of our customers—for the first 8 months of this year, we had 113 reports come in from either our own employees or outside parties about suspicious packages, bomb threats, or unknown substances; so that is one every 2 to 3 days. Since September 11, we have 567 reports, which is 6 a day.

Fortunately, none of those resulted in a consequential action. But, the fact that people had heightened awareness, both our employees and our customers, and engaged, shows that they value ensuring their own safe space, as Mr. Warsh said. I think that is very, very important, to ensure that we have our employees and our customers fully engaged and on the alert for unattended packages and suspicious activities. We need to actively engage them in reporting on those incidents so we can aggressively follow up.

Chairman LIEBERMAN. Let me ask you this question, although I have a sense of what the answer will be—and people have asked it of me—why don't we all have to go through a security check device as we enter a train—a metal detector, for instance.

Mr. WHITE. You might get different answers depending upon which of us you ask that question, from Amtrak to a commuter railroad operator. I am giving you an answer from an operator of an urban transit heavy-rail subway system. The amount of people that we are funneling through the system with train headways that are 2 to 3 minutes——

Chairman LIEBERMAN. It would really slow it up.

Mr. WHITE. We are a rapid transit system, and by definition we are rapidly moving large numbers of people through our system with tremendous service levels. To have those kinds of restrictions on access will just totally back up your system.

Chairman LIEBERMAN. Mr. Warsh.

Mr. WARSH. Well, we are a commuter rail system, so we do not have the 2-minute headways, so to speak, but during the peak of the peak, during that peak period from 6 a.m. to 10 a.m., particularly in the Northeast Corridor, whether it is a Northeast Corridor train or a North Jersey Coastline train which takes the same path, or what we call our midtown direct train, literally every 3 minutes during the peak, there is another commuter train coming through that packs 2,000 people onto that train. We flat out just do not have the ability to do that and still run a railroad.

The point was made earlier that as the airports become very hardened targets, we become much more vulnerable, and that is true. What is also occurring is that there is a change in perception; as people are experiencing this much-heightened level of security at airports and feel good about it, the same people—and we just

opened an airport connection on the Northeast Corridor—are asking, "How is it that it takes me 20 minutes to get through security to get on that airplane, and I can just walk right onto your train?"

My response is that the normal travel time from, say, High Bridge to Newark is an hour and 15 minutes; if we set up those checks, your travel time would be 14 hours.

So we are either open or we are shut. But we can make ourselves as a target harder and harder, and we are doing that, but we will never be at the point where we will be able to do checks per person; even randomly, it causes us other issues.

Chairman LIEBERMAN. That is the reality, and this is the tradeoff, so you look for other ways, obviously, to create security. Maybe at some point, technology will allow you to do it.

Have you thought on NJT about putting into practice some of the steps that Chief Frazier has mentioned about Amtrak—I do not know if it is feasible—like an ID at the point of purchase of tickets, or in connection with law enforcement?

Mr. WARSH. The vast majority of tickets purchased on New Jersey Transit, and I would say on most commuter rail lines, are monthly tickets; the vast majority of our folks are monthly. We are considering various ways in which we can determine the identity of that person, and then, we are dealing with the person regularly, month in, month out.

As far as checking photo ID to the person, then we are back to the same situation that we were before.

Chairman LIEBERMAN. Are they buying tickets at the window, or are they buying over the telephone or the internet?

Mr. WARSH. We have a program called MailTik, and about 60 percent of our commuter passengers purchase at some point in the third or fourth week of the previous month their monthly ticket. That is how it is done.

We are moving now toward e-mail, toward e-commerce, so that you will not even have to deal with a letter going back and forth, so we will have to deal with fewer letters—and you know what I am talking about—and not only does it lower our administrative costs, but it increases security for everyone involved in the transaction.

Chairman LIEBERMAN. Chief Frazier.

Mr. FRAZIER. I think it starts, Mr. Chairman, with an assessment of goals. Is the goal prevention only? Is the goal deterrence as a part of what you are doing?

At Amtrak, of course, we want to prevent bad things from happening, and we have been working very hard at that. But the next level down is deterrence, and deterrence says basically that if you can do some things some of the time to make the criminal mind not want to enter your properties to do something wrong, to engage in crime, then you have added your measure of security.

So from our level, we are looking at opportunity, in fact, to do some random checks of bags. In fact, Greyhound is doing some random checks of bags at 30 of their major facilities in the country; they are doing a wanding technique. Every Amtrak police officer for the last 2 years has had a weapons detection wand on his belt. So we have been at that sort of thing for some period of time.

I commented about the canine teams—we would hope to be able to deploy them to randomly do some checking of stations, facilities—their flexibility allows us to do that—baggage rooms.

I suspect that at the bottom of it all, even with all your techniques and your actions and countermeasures that you take to improve security, you have to recognize that you are not going to get it all. So we would hope to be able to deploy, as I have mentioned, some police officers. Unattended packages have been mentioned. We have had the same experience, and it has been awful. We are just dealing with them, and we try to deal with them whether they are hidden, whether they are obvious. Those things make a difference in the way we handle those sorts of things. And our employees have stepped up substantially, and we continue to work to train them with programs that will cause them to do inspections, cause them when something is not right in the English model—if something is not right, employees take certain steps. We are doing those sorts of things. That is the planning that goes into trying to make sure. They are kind of behind-the-scenes in some respect, but they are going on every day, and security is improving as a result of that.

Chairman LIEBERMAN. Good. Ms. Dugger, do you want to add anything?

Ms. DUGGER. I fear that by the time you get to this end of the table——

Chairman LIEBERMAN. I should have started at your end first.

Ms. DUGGER. Not at all. I think the good news is that we are all working in a similar vein and with similar access to information and strategy so that there are not big surprises when you get to the fourth property you talk to.

I guess I would add that I think any attempt, again, for rapid rail urban transit systems where we are running 2½-minute headways and handling thousands of people through our stations, it is worse than attempting to provide that kind of level of individual inspection—it goes beyond slowing things down.

I believe that our stations do not have the physical capacity——

Chairman LIEBERMAN. It would really stop the system.

Ms. DUGGER. And I think people would make alternate choices and abandon the system. Eighty percent of our customers report to us that they have a perfectly acceptable alternative method available to them to make the trip that they choose to make on BART. We have a very attractive profile of customers of choice; they are typically making short trips. Our average fare is $2.20. We get the same questions, however, from the public—"Why don't I have to pass through an inspection?"—yet at the very same time, as we close restrooms to reduce the opportunity for unobserved packages being left, based on past experience, where receptacles and even bathroom paneling have been used to secrete devices that might expel their damage over a long period of time, unobserved—at the very same time that we were closing bathrooms on our system to prevent that risk and provide security for our customers, I cannot tell you the number of letters of complaint and calls and so forth that we got for reducing that level of service.

So that is one very banal example of the tensions that we hear about from our customers, who on the one hand are asking for se-

curity, on the other, not being very tolerant of the inconvenience that that entails.

Chairman LIEBERMAN. Right; and speed.

Ms. DUGGER. So in the interim, perhaps we cannot provide positive identification without new technology developments, but we can continue to try to reduce anonymity and make ourselves, again, an unattractive target. If we could guarantee or assure that every person knew that when they walked through our system, their image was going to be available to us, if not to intercept them in advance, at least to identify them, again, that is one kind of step. So, reducing the opportunities for secreting devices, hardening up our system, and increasing our capability and attentiveness to identifying materials that are suspicious or activities that are suspicious, I think is the balance given the tools we have available to us today.

Chairman LIEBERMAN. Well said. Sometime we will come back and do a hearing on how you have raised your ridership on BART 30 percent in recent years—that is another question.

Ms. DUGGER. Brilliant management.

Chairman LIEBERMAN. Obviously. [Laughter.]

That is it—no need for a hearing.

Ms. JOHNSON. Senator, I just wanted to add one point, and I guess it is a bright spot in the testimony, that if you do some of these security measures, there are some collateral benefits. Most particularly systems that installed the CCTV systems have discovered a drop in general crime and in particular vandalism and graffiti, which cost urban systems—all systems—a considerable amount of money. So there might even be a very small financial offset by reduced graffiti and vandalism.

Chairman LIEBERMAN. Well said.

It has been an excellent hearing, reassuring in many ways, also realistic in the sense that, to repeat, we are never going to achieve total security, I think, particularly if we want to move people quickly through transit systems. But there are obviously some things that can be done, which you are doing, to harden the targets, to deter those who would do the systems and the passengers on them damage.

The great hope is technology, and in addition to the specific responsibility that the Federal Government has to support you as you meet the increased cost of security, it does seem to me that there is a special role here for us to do whatever we can to accelerate the movement of technology—related to security—to maintain the convenience and speed of the systems that you are overseeing, but also to upgrade the security.

May I say that the four systems that you serve are fortunate to have you, and the institute you serve, Ms. Johnson, is fortunate to have you. You have been a very impressive and helpful group of witnesses.

The Committee will now absorb what you have said. I think we will specifically try to be helpful on the appropriations front as we go forward in this new, post-September 11 era of American history, but we are going to think about other ways in which we as an oversight committee can be supportive of the important work that you do.

I thank you very much. The hearing is adjourned. [Whereupon, at 11:45 a.m., the Committee was adjourned.]

APPENDIX

PREPARED STATEMENT OF SENATOR JIM BUNNING

Thank you, Mr. Chairman.

Every day, millions of Americans board planes and trains, travel in cars on this country's roads, across bridges and through tunnels, and some even take ferry boats to and from work.

In the past, we have taken the relative safety of these modes of transportation for granted. However, the events of September 11th illustrated just how vulnerable we are and how horrific the consequences can be when someone exploits these weaknesses.

I hope that never again will we take the security of our transportation systems for granted.

This Committee has held many hearings on improving different elements of our security. Just last week we looked at the weaknesses of our Nation's ports. We have also held hearings on airport security, along with the security of our mail system and the ability of our local governments to respond to a terrorist attack.

Today, we are looking at the safety of our passenger and transit infrastructure.

It's not hard to imagine a scenario where many people are killed or injured if a terrorist used a train or a metro system as a weapon—whether by using a bomb or using a chemical or biological weapon.

The consequences could be devastating, not only to those individuals directly affected by the attack.

But it could dramatically weaken the confidence Americans have in their government's ability to protect them as they travel around the country or even travel to their local grocery store or to work.

If we have learned anything from the attacks on New York and the Pentagon, it is that we must be prepared for anything.

Over the next couple of months, we will have to make some fundamental changes about how we think about all modes of transportation, and what we need to do to protect our citizens.

I look forward to hearing from our witnesses on this topic today, and gaining their perspective on this important issue.

Thank you.

Testimony of the Honorable Jennifer L. Dorn
Administrator
Federal Transit Administration
Before the
U.S. Senate Committee on Governmental Affairs
December 13, 2001
9:00 a.m.

Thank you, Mr. Chairman and Members of the Committee, for the opportunity to testify on behalf of the Federal Transit Administration (FTA) regarding the security of our nation's transit systems and what we are doing to help protect America's public transportation passengers, employees, and infrastructure.

Every year, America's public transportation systems carry more than 9 billion passengers and employ nearly 400,000 people. Our public transportation infrastructure – subways, light rail, buses, ferries, and commuter railroad services – is valued at hundreds of billions of dollars. Ensuring the security of the Americans who depend upon this infrastructure, as well as the security of these important assets, has always been an important duty of every transit agency. The events of September 11th have proven to all of us that this responsibility must receive careful attention and well thought out response in order to keep our communities safe and moving.

The State Department reports that in 1991, 20 percent of all violent attacks world-wide were against transportation targets; by 1998, 40 percent involved transportation targets, with a growing number directed at bus and rail systems. The recent attacks on the World Trade Center and Pentagon using hijacked airliners reminds us all that we must respond to a new terrorist reality – terrorism that is well-financed,

well-organized, and ruthless. The credible threat of increasing terrorism directed toward our nation's transportation systems requires that we take immediate prudent action to prevent, prepare for and respond to violence.

The story of how New York City's transit workers responded on September 11th – protecting transit passengers and employees and helping to evacuate the city -- is well known, and Washington D.C.'s Metro was similarly responsive and effective. Less well known is the fact that bus and rail systems throughout the nation acted promptly and effectively to evacuate downtown areas and transport thousands of passengers stranded at airports all over the country. Many transit systems instituted well-rehearsed emergency response plans – setting up command centers, calling in all personnel to duty, foregoing fare collection in order to expedite travel, and, quite literally, going the extra mile for their passengers.

At the Department of Transportation, in order to respond to the new level of threat, within days of September 11th, Secretary Mineta created the National Infrastructure Security Committee (NISC). NISC's mission is to execute pre-emptive, preventive, protective, and recovery efforts for critical elements of the U.S. national transportation system. FTA is working with NISC, the states, and transit agencies to identify high value/high consequence transportation operations and structures, as well as their current protection strategies and any gaps that may exist.

The nation's transit systems are inherently "open" environments. They are designed to move people quickly through an urban area, and, therefore, must provide quick, easy access to passengers. In addition, they are intended to make low cost transportation alternatives available to everyone, and, therefore, must have cost structures that support affordable transportation. As we work to improve transit security, we must be mindful of the need to protect our freedom of movement and to keep our public transportation systems economically sustainable. This "three-legged stool" of security, mobility, and economic vitality is one that requires careful adjustment to ensure an appropriate balance. Recognizing this, our security focus is on prioritizing security risks, managing risks to acceptable levels, and mitigating the impact of potential terrorist incidents.

Immediately after the September 11th attacks, FTA compiled and sent over 1,000 Security Toolkits to transit operators throughout the country. The toolkit information is intended to assist public transit operators as they reevaluate potential security threats, emergency response plans, employee training needs, and measures to communicate with the public about transit safety and security. The toolkits have been extremely well received, and include public transportation security resource guides, planning tools, training opportunities, and sample public awareness publications.

In addition, FTA has undertaken a five-part security initiative to help enhance the security of the nation's public transportation systems and help our public transportation agencies cope with these new threats. To support these initiatives, we have reprioritized

FTA's discretionary funding, and the President has requested funds for public transit safety and security in the emergency supplemental that is currently under consideration by Congress. The five components of FTA's security initiative are: assessment, planning, testing, training, and technology.

First, assessment. Enhancing transit security must begin with an in-depth, professional assessment of the threats to and vulnerabilities of each transit system. Beginning December 17, 2001, and continuing over the next 90 days, FTA will deploy expert security assessment teams to the 30 largest transit agencies. The teams will use proven threat and vulnerability assessment methodologies to assess the security gaps in the agencies' high consequence assets and make specific recommendations to reduce the risks to acceptable levels. In addition, the teams will assess the agencies' emergency response plans and the coordination of their emergency response efforts with associated fire, police, and other emergency response agencies.

The assessments will help public transportation agencies identify security threats and develop practical solutions to the concerns that are raised. This is not a "one size fits all" undertaking; every transit system has different components – tunnels, bridges, open rights-of-way – and different intersections with other means of transportation – connecting with airports, train stations, highways. Some of our transit systems are 100 years old and coping with design features that could never have anticipated even the criminal, let alone the terrorist, threats of today. Other systems are brand-new, built

using security-minded design concepts and state-of-the-art technology. The risk mitigation strategies for such systems will be different.

The second component of FTA's security initiative is planning. Effective response to an act of terrorism requires instantaneous and sound decision-making in a volatile, high-pressure environment. Our largest transit operations already have emergency response plans, but need to reexamine their plans in light of today's potential threats.

FTA will provide hands-on assistance to transit agencies as they develop and refine their emergency response plans in light of their security assessment findings and heightened terrorist threats. These plans serve as blueprints for action in the wake of an attack. They articulate the steps to take in order to notify authorities of the incident, evacuate passengers, protect personnel and equipment, activate a unified command and communications system among transit, police, fire and emergency medical units, and restore the system to normal. In the wake of a terrorist attack or even a natural disaster, we cannot afford to lose precious moments simply trying to figure out what to do; plans must be in place.

The third component involves testing. In the "lessons learned" from the tragic events of September 11th, New York and Washington transit officials have emphasized how important it was that they had conducted regular emergency drills. In addition to having an emergency response plan in place, they recommend that every transit agency

conduct regular emergency drills -- not just fire drills -- to keep skills sharp, update response plans, and build personal relationships with counterparts in the police, fire and emergency medical response organizations. FTA will be working with local transit agencies to conduct full-scale emergency drills to test their plans and equipment.

Fourth, we will be offering additional security training and workshops. It is imperative that we have a transit workforce that understands security issues and is fully prepared to respond should an emergency occur. We have expanded our free security and emergency response training to incorporate new security strategies and tactics, and, in order to give more local transit employees the opportunity to attend, we will be offering regional security workshops. The first eight workshops are scheduled in early 2002, and will include transit managers, fire and police, and municipal emergency operations management personnel.

The final component of our security initiative involves technology and research. First, $2 million of FY 2002 research funding will be used to fund security-related transit research under the auspices of the Transit Cooperative Research Program of the National Academies of Sciences. In addition, FTA has reprioritized its FY 2002 budget to devote funds to improve the Transit Safety and Security Reporting Module of the National Transit Database; to identify technological options for a nationwide Transit Emergency Notification system; and to implement the recently developed Bus Safety Program. We have also requested additional funds in the emergency supplemental to identify promising Defense Department and other federal agency technologies that could be adapted for use

by transit agencies to enhance security, lower security costs, and reduce the impact of heightened security measures on human resource requirements.

As you may be aware, the Project PROTECT chemical detection system, which is being prototyped in the Washington D.C. subway system, is an example of the kind of technology that may be adapted for use in transit security. In order to assist all systems in the near term, however, FTA is developing and will soon issue guidelines for the handling of chemical and biological incidents in a subway environment.

Public transportation agencies around the nation have stepped up security efforts in the wake of September 11th. Many have increased the number of security personnel in stations and on transit vehicles, purchased protective equipment for transit personnel who will be the first to respond in an emergency, removing trash receptacles where explosives could be hidden, and reminding the public how they can help. FTA is pleased to be a part of the American Public Transportation Association's (APTA) security task force, and to have the opportunity to work with APTA and its members to enhance the security of our nation's public transportation systems.

As you know, FTA is fundamentally a grant-making agency. We manage $8 billion in grants for programs ranging from the purchase of buses to the construction of new light rail and subway systems. We also provide training and technical assistance to local transit agencies. We are neither an operational agency, nor a traditional regulatory agency.

I have been extremely impressed by the level of collaboration and cooperation among transit agencies and with the FTA on matters of safety and security. Yet one of the greatest challenges that we all face is ensuring that the safety and security of our transit systems remains a high priority in years to come. The sustainability of any requirements, programs and funding we put in place today must be considered as we move forward – particularly in light of other costs that loom on the horizon. Although a number of brand new systems are being built throughout the nation, we also have many aging systems that need rehabilitation and redesign. And figuring out a way to accomplish all that needs to be done will be a challenge for every level of government.

I want to thank the committee for conducting this hearing. I am eager to work with you to keep our communities safe and moving – because United We Ride.

Thank you.

STATEMENT OF RICHARD A. WHITE
GENERAL MANAGER
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

Chairman Lieberman and Members of the Committee, good morning, and thank you for asking me to testify on transit infrastructure protection. I am Richard White, and I am proud to serve as General Manager of the Washington Metropolitan Area Transit Authority (WMATA).

WMATA's Unique Role in the National Capital Region

By way of background, WMATA was created in 1967 through enactment of legislation by the U.S. Congress, and by the Commonwealth of Virginia, the State of Maryland, and the District of Columbia. In fact, WMATA's original enabling legislation, The National Capital Transportation Act, and all subsequent amendments to that law, originated in this Committee. Construction of the 103-mile Metrorail System was funded as a separate authorization measure, subject to annual appropriations from the General Fund. This approach, which Congress used only for Metrorail construction funding within the transit industry, recognized the unique relationship of the WMATA system to the efficient operations of the federal government.

The Metro System was designed primarily to serve the employees of the federal government, the citizens of our region and the entire nation who come to Washington to do business with the federal government, and the millions of people who visit the National Capital Region from throughout the world.

Today, approximately 40 percent of the region's residents who commute to jobs in the National Capital Core Area use transit. This service removes 325,000 vehicles from the road and eliminates the need for 1,400 highway lane miles. Half of Metrorail stations serve federal facilities, and about 36 percent of the locally based federal workforce use the Metro system to commute to work. We carry more than 1.1 million daily trips on our rail and bus system, so the important work of the region can continue under all circumstances.

Being located in the National Capital Region, we recognize our special role in serving the federal government and the federal city. We perform that role everyday whether it is helping to transport a major portion of the locally based federal workforce to their job sites or providing transit and enhanced security for large crowds attending a presidential inauguration or a special event or rally on the National Mall.

Even before September 11th, WMATA had a number of plans and procedures in place to address prevention and mitigation of service disruptions, preparedness and emergency response, and service recovery. We had prepared System Safety and System Security Program Plans; had developed operating procedures and plans to guide a variety of operational response situations; had established procedures and practices for activating our Emergency Operations Command Center (EOC); and had created redundant communications systems. In addition, we have been conducting annual counter-terrorism and explosive incident training for police and operations personnel, as well as providing a high level of interagency coordination and training programs and exercises with the many federal, state and local law enforcement and fire and emergency rescue agencies in the metropolitan area.

The safety and security preparations that we had in place prior to September 11th served us well on that tragic day. As an organization, we have spent a considerable amount of time and resources on emergency preparedness, particularly in the aftermath of the 1995 nerve gas attack on the Tokyo Subway. On September 11th, we moved into a heightened

state of alert immediately after the World Trade Center bombing in New York City, and converted to our emergency operations procedures immediately following the Pentagon incident. We became a primary mode of evacuation, in effect running back-to-back rush hour service, as workers and others quickly fled the city, often leaving their cars behind.

Although WMATA handled its mission well on that day, we now face altered expectations from our customers, many of whom work for the federal government. The most significant issue facing WMATA is adapting to the post- September 11 reality that our freedom of mobility has been challenged. Security is paramount in the minds of our riders. WMATA is considered one of the safest transit systems in the country, but since September 11, we have explored areas where we can strengthen and enhance our existing security measures, including our ability to rapidly evacuate the city, should that become necessary.

Request for Security Funding

We recently have conducted an updated comprehensive risk assessment of our revenue and non-revenue facilities and equipment. On October 12th we sent a request to the Office of Management and Budget Director Daniels detailing our a request of $190 million in

security funding requirements based on the security assessments that have been made to date. I am submitting for the record a copy of our request to OMB Director Daniels.

Emergency Planning in the National Capital Region

We are working closely with the Metropolitan Washington Council of Governments (MWCOG), as a key member of a transportation committee, to ensure that our Metro system is recognized as a vital component of this region's homeland defense and emergency response strategy. The important work of that transportation committee is now bringing together all the region's transportation implementation agencies (DCDOT, VDOT, MDOT) and the region's 11 transit providers to open the lines of communication and coordination in an emergency situation, and to develop a plan or "play book" for any number of situations that may arise in the future. This effort, however, cannot stand on its own. As part of a broader effort, the MWCOG has created a Task Force on Homeland Security and Emergency Preparedness for the purpose of establishing a truly regional emergency response plan that includes public safety and emergency management, health, water and energy infrastructure, waste and debris management,

communications, and transportation components. This Task Force has developed many preliminary reports, with recommendations, to improve security of our residents and visitors and better protect our region's critical infrastructure. It expects to have a Regional Incident Communications System in place by early next calendar year, and to have a fully developed regional emergency response plan in place by Spring, 2002. We hope that it will prove to be a model plan for other cities to follow.

WMATA's Role in National Capital Region Security

Mr. Chairman and members of the Committee, I believe that WMATA will play an even greater role in our national defense and homeland security in the months and years ahead. Now is the time for the nation to consider that transit systems truly are a part of the national defense system, and to contemplate the value of transit as the evacuation method of choice, and possibly necessity, during emergency situations.

Every mode of transportation is important during emergencies, but transit is able to move people much more quickly and efficiently than congested roads and highways can. The nation needs to view our transit systems in this national defense context in order to properly

recognize the new reality. Given the fact that WMATA is located in the National Capital Region and is so integral to the workings of the federal government, there is an even greater need to make sure that the Metro System can meet the operational and security challenges of the post-September 11th world.

While we are moving as rapidly as possible, within our funding resources, to enhance safety and security in the Metro System, we must also acknowledge that we barely have sufficient capacity to serve the ridership growth we have been experiencing in recent years. Although we have seen a recent dip in ridership since September 11th, we are reasonably confident that this is a temporary phenomenon and expect our ridership to rebound to its previous levels.

There are many transportation related decisions under discussion in the metropolitan Washington region, including further restricting parking and closing streets in the vicinity of federal buildings. It is inevitable that the outcome of these decisions will mean an even greater role for WMATA in serving the mobility needs of federal workers, and certainly in the event of an emergency.

In order for WMATA to fulfill this new urban defense role, we must act to enhance the security and capacity of our infrastructure, including our stations, vehicles, structures, facilities, signaling and communications systems. Our rail system, now 25 years old, was built as a two track railroad with little redundancy or ability to re-route trains in response to an emergency. We have extremely limited underground storage capacity, and often must bring trains from long distances to replace a disabled train.

With respect to bus operations, this region has approximately the same number of buses today that it had fifteen years ago, before the recent significant population and employment growth in this area. As a result, if we needed to rely on a large number of buses to transport individuals in the event of an emergency, or if a portion of our rail system is incapacitated, we do not have sufficient spare buses for this service.

Transit service in New York City was able to be partially restored after September 11th due to the configuration of their system. New York's multiple rail lines, with connections between lines, gave it the ability to re-route trains and to continue to provide service after some of its rail lines were destroyed. To adequately prepare for emergency

situations, WMATA must connect its rail lines in order to provide alternative paths if a portion of the system is incapacitated. We must have more flexibility and redundancy if we are to be fully prepared to respond to all situations. Both security and capacity of our infrastructure and equipment must be enhanced at significant additional cost, if we are to protect transit riders and be able to serve this region in case of an emergency evacuation.

Over three decades ago, the Congress, the Eisenhower Administration, and local leaders recognized the unique federal-regional partnership that was necessary in the National Capital Region to create a transit system worthy of the nation's capital. That unparalleled partnership has endured and WMATA has become a model for the nation, as Congress originally envisioned. Today, other transit systems look to us for guidance on operating, construction, safety , security and other matters. We urge you to consider the vast challenges WMATA faces as the transit system for the nation's capital, as well as how lessons learned in this environment can be transferred and used throughout the nation.

Conclusion

Mr. Chairman, thank you for holding a hearing on this important subject. The issues raised today are difficult and, unfortunately, often expensive to address. On behalf of the WMATA Board of Directors, employees and our customers, we applaud your leadership in examining the issue of transit infrastructure protection. We have reached out to various parts of the federal government including the Office of Homeland Security, the Office of Management and Budget, and several Cabinet agencies, including the Department of Transportation, seeking funding, technical assistance and guidance as we move aggressively to enhance the level of protection of riders on America's Transit System. We look forward to having a dialogue with this Committee as you examine the federal government's role, particularly in the Nation Capital Region, in ensuring that the Metro System continues to be not only one of the safest transit systems in the world, but also one that is well prepared to meet the demands of the new millennium, especially in the event of an emergency. I would be pleased to answer your questions.

October 12, 2001

The Honorable Mitchell E. Daniels, Jr.
Director
Office of Management and Budget
Washington D.C. 20503

Dear Director Daniels:

The tragic and reprehensible actions of September 11 have affected all aspects of our national life. Daily and routine events like business trips, vacation travel and commuting have been changed forever. The employees of the Washington Metropolitan Transit Authority (WMATA) are proud that we handled our mission well on that sad and memorable day. However, we now face altered expectations from our federal customer base, especially in view of the fact that half of our Metrorail Stations serve federal facilities, and that approximately 40 percent of the locally based federal workforce use the Metro system to commute to their jobs. Safety and security are of great concern to each of our more than one million daily Metrorail and Metrobus riders, and it is our obligation to ensure that the WMATA rail and bus systems provide them safe transportation, so the work of the national capital region can continue.

To meet this obligation, I write with a sense of urgency to alert you to WMATA's security funding requirements, as the Administration and the Congress consider critical investments that must be made to enhance our nation's security. Recently, in congressional testimony, I preliminarily identified $20 million of immediate security enhancements that WMATA would like to undertake, detailed in Enclosure 1. Since this preliminary assessment, WMATA has completed a comprehensive review of our system safety and security requirements, and have augmented our requirements, as warranted in this new era of heightened security. We are now requesting an additional $170 million, as described in Enclosure 2. I have sent an identical letter to U. S. Department of Transportation Secretary Norman Mineta and the congressional committees of jurisdiction.

Our total $190 million request includes items designed to heighten the level of security in our Metrorail and Metrobus System. I have also sent separate letters to you, Secretaries Mineta and Abraham, and Attorney General Ashcroft concerning the need to upgrade our ability to respond to chemical/biological threats.

Washington
Metropolitan Area
Transit Authority

600 First Street, NW
Washington, D.C. 20001
202/962-1234

By Metrorail:
Judiciary Square-Red Line
Gallery Place-Chinatown
Red, Green and
Yellow Lines

A District of Columbia
Maryland and Virginia
Transit Partnership

In addition to the enclosed security enhancement request, we respectfully recommend that the Administration and the Congress consider the critical transportation role WMATA plays in an emergency situation. Transporting the federal workforce in this region is central to WMATA's mission, and it is imperative that the Administration, the Congress and decision makers representing the National Capital Region recognize that Metro is the primary evacuation mode for this region. We stand ready to perform this fundamental public service. However, we must also face the reality that our Metrorail System has barely sufficient capacity to serve the recent surge in ridership we have been experiencing. In the last two years, ridership on Metrorail has grown by 14 percent, or 73,000 additional trips a day. Lately, we have been the fastest growing transit system in the nation.

There are many transportation-related decisions that are currently under discussion in the metropolitan Washington region, including closing many streets in the vicinity of federal buildings, further restricting parking at federal buildings, and encouraging flexible work hours for federal employees. It is inevitable that the outcome of these decisions will mean a greater role for WMATA in serving the mobility needs of federal workers everyday, and certainly in the event of an emergency.

During these challenging times, we at WMATA greatly appreciate your consideration of these security requests. Although WMATA is considered one of the safest transit operations in the country, these funds will enhance our ability to protect the National Capital Region's travelers from harm. We look forward to your serious and timely review of these requests, and a continuing dialogue about the future role WMATA will play in the mobility of the National Capital Region.

Sincerely,

Richard A. White
General Manager

Enclosures

cc: WMATA Board of Directors
Members, area congressional delegation
Chief Elected Officials, National Capital Region

Enclosure 1

Proposals to Protect/Enhance
WMATA Property and Operations

Detection and Protection	Cost (Millions)
Electronic Employee ID targets and vehicular gates installed at all Metro facilities at security entrance post and other pedestrian entry points into facilities	$1.8
Completion of Metrorail Fiber Optic Network vital for the video recording devices	$2.2
Programable Intrusion Equipment to alert police of the exact location of any unauthorized intrusion into the subway system	$8.9
Metrorail yard and shop facilities Closed Circuit TV and motion detector alarms on perimeter fencing and rail yard	$1.7
Metrorail Intrusion Detection Warning System on perimeter fencing at eight facilities	$5.5
TOTAL:	$20.1

Enclosure 2

Security Enhancements	Cost (Millions)
High visibility uniformed patrols at seven vulnerable Metrorail stations during revenue hours for 120 days and eight additional K-9 teams and vehicles to detect explosives	$2
Backup Operations Control Center and backup Command Center	$40
Purchase Personal Protective Equipment (suit, gloves, masks) for 5,000 employees; training; and satellite telephones for key personnel	$5
Digital Cameras installed on all Metrobuses	$20
Facilities modifications for bomb resistance including bomb resistant containers at all stations	$7
Automatic Vehicle Location (AVL) System for Metrobus	$15
Expand chemical emergency sensor program	$81*
TOTAL:	$170

* Program being conducted through partnership between WMATA and the US Departments of Energy, Justice, and Transportation

Washington
Metropolitan Area
Transit Authority

600 Fifth Street, NW
Washington, D.C. 20001
202/962-1234

By Metrorail:
Judiciary Square-Red Line
Gallery Place-Chinatown
Red, Green and
Yellow Lines

A District of Columbia,
Maryland and Virginia
Transit Partnership

October 12, 2001

The Honorable Mitchell E. Daniels
Director
Office of Management and Budget
Washington D.C. 20503

Dear Director Daniels:

The events of September 11 have affected all aspects of our national life. Daily and routine events like business trips, vacation travel and commuting have been changed forever. Although the Washington Metropolitan Area Transit Authority (WMATA) handled its mission well on that tragic day, we now face altered expectations from our customers including thousands of federal employees. Safety and security are of concern to each of our over one million daily riders, and it is our obligation to ensure that the WMATA operations provide them safe passage, so the work of the National Capital Region can continue.

Since 1999, WMATA has partnered with the U.S. Department of Justice (DOJ), the U.S. Department of Energy (DOE) and the U.S. Department of Transportation (DOT) in an ongoing program for chemical and biological protection — Program for Response Options and Technology Enhancements for Chemical/Biological Terrorism (PROTECT). The objective of this multi-year test is the deployment of advanced detection technology and the development of emergency management and response protocols for subway systems. WMATA is receiving technical guidance for this program from a scientific consortium of Argonne, Sandia, and Lawrence-Livermore National Laboratories. The detection technology installed in the WMATA system is designed to protect customers, first-line emergency responders and employees. To date, an initial set of sensors has been installed on a small section of the Metrorail system. The installation is a working model of applied protective technology and results will be shared with other transit systems both nationally and internationally. The technology has met expectations, the protocols are nearing completion and on-site response drills will be conducted later this year.

The Honorable Mitchell E. Daniels
Page 2

WMATA is operating at a heightened level of security, has put in place security enhancements and is requesting funding for a number of conventional protection initiatives that will provide greater security for the region. Over and above more conventional methods, expanding the installation of the PROTECT technology within the WMATA rail system would greatly enhance our ability to protect the National Capital Region's travelers from intentional harm. Given that WMATA is the primary evacuation mode for the region, it is vital to provide this additional level of protection. We are advised by our private and public sector partners that the cost to complete the installation of this protective technology and to expand the necessary emergency management information system is $81 million. We are hereby requesting this funding be included in the appropriate spending package. I have sent identical letters to Secretaries Norman Mineta and Spencer Abraham, as well as Attorney General John Ashcroft. We are looking to the congressional committees of jurisdiction for support, as well.

During these challenging times, our objective remains to provide the region's workforce with secure public transportation. Should you have any questions or need additional information, please do not hesitate to call me at 202-962-1000.

Sincerely,

Richard A. White
General Manager

cc: WMATA Board of Directors
Members, area congressional delegation

BEFORE THE UNITED STATES

SENATE

COMMITTEE ON GOVERNMENTAL AFFAIRS

RIDING THE RAILS

How Secure is our Passenger and Transit Infrastructure?

TESTIMONY OF

JEFFREY A. WARSH

EXECUTIVE DIRECTOR

NJ TRANSIT

THURSDAY, DECEMBER 13, 2001
AT
9:00 A.M. ROOM 342
OF THE
DIRKSEN SENATE OFFICE BUILDING

Good Morning, Mr. Chairman, Ranking Member and distinguished members of the Senate Committee on Governmental Affairs. My name is Jeff Warsh. I am the Executive Director of New Jersey Transit, the nation's third largest transit agency and the largest statewide transit provider. I want to thank this committee for all your efforts to address transit and rail security issues. I also want to thank and commend Federal Transit Administrator Dorn and Secretary of Transportation Mineta for their efforts in securing our transportation networks.

NJ TRANSIT is responsible for the security of more than 223 million riders who use our system each year. Since September 11th, the dynamics of keeping our passengers safe and secure have changed dramatically. Not only has the threat we are facing changed, the actual nature of the commute in and around New York City had been transformed by the terrorist attacks of three months ago. NJ TRANSIT was dramatically impacted by these events because approximately 40% of our NJ TRANSIT riders are destined for New York City.

In the immediate aftermath of the attacks on the World Trade Center, NJ TRANSIT worked hand-in-glove with Amtrak to increase security. Amtrak halted trans-Hudson Tunnel rail traffic and searched and secured the Hudson River Rail tunnels before reopening them later on the 11th. Select train stations were evacuated and secured before reopening. Parking lots below train tracks were cleared of cars. Roads in close proximity to certain train stations were, and still remain, blocked to automobile traffic. Amtrak placed guards proximate to the Northeast Corridor tunnels and bridges. Amtrak and NJ TRANSIT police have increased patrols with NJ TRANSIT police working 12-hour shifts. NJ TRANSIT distributed a list of major facilities to local police departments to enlist their help in critical asset protection.

NJ TRANSIT also implemented additional security measures. We contracted with local police departments to supplement our own force. We saw great increases in the number of bomb threats and anthrax scares, all of which proved to be unfounded, but still put strains on our police force.

The closure of the PATH tunnels and the imposition of a single-occupancy vehicle ban on Hudson River crossings has meant that many former PATH and automobile commuters are now using NJ TRANSIT service through Amtrak's North River Tunnels. September 11th shifted 60% of the jobs from lower Manhattan to Midtown, which is served by New York Penn Station. In addition, many commuters destined for lower Manhattan are now taking our train service to Penn Station and transferring to the New York City Subway system to lower Manhattan. With Amtrak's assistance, NJ TRANSIT has added two trains to Manhattan and has increased the number of cars on other trains to the maximum number that the platform in New York Penn Station will allow. We have also accelerated the opening of a section of a new concourse at New York Penn Station to deal with the crush loads on the platforms. With all of these commuting changes, approximately 100,000 riders now take either NJ TRANSIT or Amtrak trains from New Jersey to New York City every day. We have seen close to a 50% increase in riders on our Northeast Corridor service though the Amtrak tunnels to New York's Penn Station.

This commuting pattern shift only serves to underscore the importance of increased life safety measures in those tunnels. The Congress has expressed its concern regarding Amtrak tunnel life safety in and around New York City. The North River Tunnels are approaching 100 years of age. Evacuation routes, fire retardation and ventilation systems in the tunnels must be significantly improved. I am here today to add New Jersey's voice to the chorus. Funding for these improvements is critical. I was pleased to see $100 million appropriated in the Senate's Defense Appropriation bill for North River Tunnel life safety issues. These improvements are more important to NJ TRANSIT than to

Amtrak as 75 out of every 100 trains that pass through the North River Tunnels are NJ TRANSIT trains. Amtrak needs more funding to make those improvements now more than ever.

Beyond improving life safety and security of the Hudson River rail tunnels, NJ TRANSIT is concerned with the safety and security of our passengers system-wide. However, I caution this committee not to deal with rail and transit security in the same way as airline security. Rail and transit security should be viewed in context. A strong public transportation system is an integral part of the security of our cities because public transportation is essential to evacuating urban centers. On September 11th, public transportation systems in New York, New Jersey, Washington and throughout the country carried hundreds of thousands of passengers and walking wounded out of harm's way. At the same time, airports were shut down and highways were packed with congestion. In times of crisis, our transit systems serve as our cities' best emergency escape.

Public transportation is also a target. And because it is so vital to the evacuation of cities, it should be doubly protected. But the approach to security of trains and buses should be very different from those of airports and airlines. There is a huge difference between airport security and security on our rail lines. Airplanes are much more vulnerable to catastrophic loss than trains. A train cannot be used by a terrorist as a guided missile. Access to train stations and airports is also fundamentally different. Whereas an airport can restrict passengers to a set of checkpoints where security guards have the ability to check passengers and luggage, train stations are by their nature more open and free flowing. It is a different threat and requires a different approach to security.

NJ TRANSIT is currently completing a full and complete review of its security needs. This critical exercise began prior to September 11th and although that review is not

complete, we can make some preliminary observations. Our first line of defense is our people. Our conductors, bus drivers, station managers and especially our transit police officers all play critical roles in keeping our passengers secure. Greater police presence not only helps deter terrorist activities, it helps us respond to emergencies. We already have National Guard troops at New York Penn Station to supplement police needs. But in the long term, we need more men and women on the beat. In addition, security cameras, bomb-sniffing dog teams, communication equipment and emergency response equipment are also needed. Certain facility improvements such as permanent security barricades will also make the job of protecting transit assets easier. Many of our personnel, both police and others, need additional training to help them better respond to threats such as biological weapons attacks. But for all the high-tech security wizardry, I cannot stress enough the importance of the men and women of our transit police departments. A security camera is useless unless there is someone to monitor it in the control room. They have made a heroic effort and we need to continue to support their efforts and increase their ranks.

There is another important reason to fully support transit and railroad police departments. Because of the nature of our transit infrastructure, transit and railroad police departments rely on the cooperation of local and state police departments. The better we train, equip and field our transit and railroad police departments, the better local police departments can help us protect the security of the public. We already have coordination mechanisms in place among police agencies. Even before September 11th, we were conducting emergency response drills. The transit industry as a whole has been more conscious of the terrorist threat because we were a target before September 11th. What we need now is to reinforce the police agencies that represent the backbone of the coordinated response effort for transit emergencies, our transit and railroad police departments.

One place we can do better in coordinating among agencies is intelligence. We can only be effective if we have an idea of what's coming. We need to better coordinate our intelligence information sharing among state, local and federal agencies.

I realize that airline security has dominated the news and I commend this body for its efforts to secure our skies. But improved airline security is not enough. We should focus on transportation security as whole. In that context, the security of transit operations should take priority. We are an essential part of this nation's homeland security in that we provide the means of escape when other modes fail. I want to thank this committee, this Senate and this Congress for your efforts and I urge you to do all you can to help NJ TRANSIT and transit agencies throughout the nation to respond to and prepare for the security needs of our industry.

STATEMENT
of
ERNEST R. FRAZIER, SR., ESQUIRE

CHIEF OF POLICE & VICE PRESIDENT FOR SYSTEM SECURITY AND SAFETY AMTRAK

Mr. Chairman and distinguished members of the Committee, thank you for the invitation to join you here today for this very important discussion.

I am the Senior Vice President of System Security and Safety for Amtrak's national network. I am also Chief of the Amtrak Police Department -- a nationally accredited police force of 350 officers whose role is to protect Amtrak's customers, employees and property. We have taken the lead in assessing Amtrak's security procedures both before and after the tragedy of September 11.

It is not a cliché to say that the world around us changed in an instant on September 11. Today I want to describe our response to the terrorist attacks that claimed some 4,000 American lives. I've divided my presentation into three parts: Our immediate response to the attack, our intermediate response, and our long-range plan.

Amtrak has been operating on maximum alert since September 11. Within moments of the attacks, we suspended all Amtrak service nationwide to allow for a top-to-bottom security sweep. All trains, tracks, bridges, tunnels, stations and other facilities – including those controlled by others – were inspected within hours, and security personnel remain stationed at all facilities 24 hours a day, 7 days a week.

Amtrak was able to resume operations within a few hours – gradually increasing the number of trains until a full operating schedule was achieved later that evening. For three days, when not a single commercial airliner was operating in the United States, Amtrak kept business people moving and brought stranded family members home.

In the weeks following the attack, Amtrak took a number of intermediate steps to increase our security:

- We implemented a new policy requiring Amtrak guests to present valid photo IDs and answer security questions when purchasing tickets or checking baggage.

- We have created a computer program that automatically cross-checks ticket purchases and reservations – whether they are made at a ticket counter, a QuikTrak machine or online -- against the FBI watchlist on a real-time basis.

- We have suspended on-board ticket sales in the Northeast Corridor between Washington, New York and Boston -- which means that every guest that boards a Northeast Corridor train will have been reviewed for security purposes.

- In addition, we have restricted access to our locomotives, conducted emergency drills to deal with a range of contingencies, conducted baggage inspections, revised our System Security Plan and strengthened our partnerships with law enforcement agencies at all levels.

Looking ahead, we are committed to doing everything necessary and reasonable to improve our security further. Amtrak has created an internal task force with representatives from our police, operations, safety and engineering departments. The strategic goals of this task force are, first of all, to prevent terrorist attacks from happening, and second, to be prepared for emergencies should they occur. Our counter-terrorism plan is built around the three pillars of Deterrence, Vulnerability Reduction, and Emergency Preparedness.

To deter attacks on our guests, and reduce the vulnerability of our facilities and infrastructure, we are increasing our police patrols, deploying K-9 teams at major stations, training and educating our 24,000 Amtrak employees to be more aware of potential threats, conducting increased train and baggage room sweeps, securing our sites through lighting and barrier protections, and installing security cameras, access control systems, and hazmat detection and response systems. Moreover, it is important to remember that of the 22,000 miles of track over which Amtrak operates, we only own 685 miles. The remaining tracks we operate on are owned by the freight railroads, and we are working closely with the Association of American Railroads' task forces on physical infrastructure, operational security and information security. We are also cooperating closely with the American Public Transportation Association, and with our commuter and transit agency partners.

In the event that an act of terrorism does occur, Amtrak must be ready to deploy its team of emergency responders, who are continually drilled to handle crisis situations. But the real focus here is the fire department, police department and emergency management agencies of the community where the incident takes place. Amtrak has a program of reaching out to local emergency responders to increase their familiarity not just with Amtrak equipment, but with the railroad operating environment as a whole. Responding to an emergency situation should not have to entail guess work about the environment you are in, and responders should not be exposing themselves to any type of additional risk by virtue of being on the railroad.

Mitigating the potential ongoing effect of an incident is just as critical an element of preparedness as responding to the actual incident. Business continuity – rerouting trains, providing for alternative travel arrangements, accommodating passengers and so forth – requires foresight and planning, and should be a substantial part of any preparedness plan. As the passenger rail industry has grown to emphasize intermodalism, Amtrak's operations have become even more intertwined with those of the commuter railroads, airport authorities, bus terminals and the like. The complexity of operating a system that carried 23.5 million riders this past Fiscal Year alone, while simultaneously responding to a crisis, can be a daunting task without a well thought out plan. Amtrak is constantly assessing how to keep our system running at as close to full capacity as possible while working through and recovering from potential terrorist incidents.

Mr. Chairman, since September 11, Amtrak has spent an additional $12 million on security, over and above our projected levels. Since Congress has not provided us with any security relief, we have had to draw on our operating funds. Maintaining this rate of spending – which is essentially an unfunded mandate – means that Amtrak will have over $50 million in additional expenses annually. Moreover, by their very nature, these expenses are somewhat unpredictable, since we must respond with the appropriate counter-measures based on the current level of threat assessment – yet we cannot forecast levels of threat accurately in the midst of a war.

Precisely because we truly are at war, it is important that we enhance security for ALL modes of transportation along parallel tracks. You cannot address the security needs of the airlines in isolation, because by doing so you only make it more likely that some other transportation mode – such as

rail -- will be targeted. Addressing airline needs alone does not necessarily increase our vulnerability, but it most surely does highlight rail as a target.

Mr. Chairman, in response to Congressional requests, we have submitted a $3.2 billion September 11 Response Package, which was broad and practical in its assessment. The $3.2 billion breaks down into a few key elements:

- $949 million is needed to enhance, and in some places rebuild, the infrastructure of the Northeast Corridor. Americans simply will not be relying on the air shuttles the way they used to. If our economy is going to get started again, we'll need faster and more reliable trains and facilities. The $949 million will be used to increase reliability up to 20% and reduce travel times between Washington and Boston.

- But we see this need for increased capacity across the rest of the country as well, which is why another $600 million is needed to do things as basic as buy new equipment and upgrade existing inventory.

- An additional $1.5 billion would be devoted to bringing railroad tunnels in the New York, Washington and Baltimore regions up to modern standards for fire- and life-safety protection.

- And $515 million is needed to accomplish the deterrence, vulnerability reduction and emergency response efforts that I have already described.

Mr. Chairman, it is imperative that Congress act swiftly on funding rail security.

Mr. Chairman, before closing I would like to point out that while Amtrak has a good record on safety and security, we also face unique challenges. The foremost challenge is the relatively open and intermodal nature of our passenger rail system. For example, on an average weekday, New York's Penn Station handles about 30,000 Amtrak passengers a day. But at least 300,000 additional passengers go through the station on the Long Island Railroad and New Jersey Transit. Thousands more use the station to transfer to New York City subways.

And Penn Station is not unique. For more than 20 years, transportation policy has encouraged an open, intermodal environment in virtually every train station in the country.

In the light of September 11th, we at Amtrak are not about to abandon our historic commitment to an open passenger rail system. Rather, our goal is to strike the right balance between providing greater safety and security, on the one hand, and maintaining the kind of open, intermodal design that underpins virtually every rail system in the world, on the other. I believe that the policies I have just described achieve that delicate but all-important balance.

Thank you once again, Mr. Chairman, for inviting me to testify here today. I will be happy to answer your questions.

STATEMENT OF DOROTHY W. DUGGER
DEPUTY GENERAL MANAGER
SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Good morning Mr. Chairman and members of the Committee. My name is Dorothy Dugger and I am Deputy General Manager of the San Francisco Bay Area Rapid Transit District, also known as "BART." I appreciate the opportunity to discuss our efforts to provide safe and secure public transportation for residents of and visitors to the San Francisco Bay Area in this dramatically altered environment and the federal role in helping safeguard fixed guideway public transit systems.

Mr. Chairman, your letter of invitation requests information on BART's efforts to ensure the security and protection of both passengers and rail infrastructure, and asks for input on what the federal government's role should be in these efforts. To begin with, it may be helpful to understand the physical geography of the BART system and some of the inherent difficulties we see associated with tightening security for rapid rail systems. By definition, rail rapid transit systems are characterized by high and concentrated levels of service and use supported, in part, by easy, convenient and open access to multiple facilities throughout a region. In other words, many of the security measures that may be available to other modes of transportation are impractical in the high volume, multi-access point environment of a rapid transit system.

This puts our industry in somewhat of a unique position and reinforces the need to continue to work in partnership with federal agencies to identify and share best practices, share intelligence information, expedite the development of state-of-the-art equipment and technologies, especially with regard to detection of both physical intrusions and nuclear, biological and chemical material releases and, of course, to secure the funds to implement security enhancements.

BART is a four-county, rapid rail transit system with 39 stations located on both sides of San Francisco Bay. We carry approximately 320,000 weekday passengers to work, school, medical appointments and cultural and sporting events. We employ roughly 3,500 people, including a fully staffed police department of 185 sworn officers and 75 civilian employees. Our system includes 95 miles of double track, nearly equally divided between aerial, subway and at-grade level trackways. Next year, thanks in part to federal New Starts funding support, construction of our San Francisco International Airport Extension Project will be complete, which will add another 8.7 miles and four stations to the core system.

One of the most critical assets of the BART system and visible icons of the Bay Area is the Transbay Tube, a four-mile, underwater tunnel that connects the East Bay's major residential and urban communities with San Francisco's primary financial and commercial centers. Following the 1989 Loma Prieta Earthquake, when the damaged Bay Bridge was closed for nearly a month, BART service via the Transbay Tube provided the only practical link between the East Bay and San Francisco. Today, during the peak commute hour, BART carries more Transbay riders than the Bay Bridge carries vehicles. In other words, without BART and its Transbay Tube, another entirely new deck of the Bay Bridge would be needed to handle today's commute traffic. To deliver this level of service, BART operates trains from four different East Bay lines every 2.5

minutes through the Transbay Tube. Each of these trains carries between 700 and 1,000 riders.

Two other critical areas of the BART system worth noting are the three-mile long Berkeley Hills Tunnel and the Oakland Wye, which is a an underground area where all train lines intersect. The Wye is accessed by three different portals and is crucial to the operation of all trains in the system.

Emergency planning, training and drills are all crucial components of BART's efforts to ensure the safety and security of our passengers, employees, infrastructure and system operations. Protocols for effective communication and crisis management among BART personnel and other first responders from surrounding jurisdictions are fundamental to our safety efforts. An immediate, coordinated response among first responders will save lives and protect property. BART has worked to make certain that this would occur, recognizing that a highly pressurized, volatile situation requires quick thinking, sound decision-making and immediate action to notify appropriate authorities, contain the scene, protect people and equipment and activate a unified command and communications system among first responders.

BART has been involved in emergency planning since revenue service began in 1971. As times have changed and new potential threats have emerged, our planning and response protocols have evolved accordingly. To begin with, we have a detailed Emergency Plan in place, which addresses responses to a variety of potential natural disasters (earthquakes, fires, floods, high winds) and criminal activities (e.g., explosions, bomb threats, hostage taking). The Plan is updated regularly and emphasizes coordination among District employees and other first responders, using the Incident Command System (ICS) protocol.

Emergency training of Plan procedures ranges from in-depth multi-casualty drills with multiple first response agencies to resource training and frequent system "orientation" tours for fire department personnel. Drills are often practiced at tunnels or other system locations vulnerable to more serious consequences in the event of a fire or explosion.

BART holds bi-annual multi-casualty drills involving BART Police, station agents, train operators and operations central control personnel to hone first response capabilities in the event of a bomb threat, nuclear incident, deployment of a biological agent or other terrorist activity. Depending on the nature of the simulated event, these elaborate drills require BART and local law enforcement, fire department and emergency medical and public health personnel to coordinate evacuations, treat injuries, fight fires, set up emergency command and communications posts, mitigate damage to infrastructure and restore order. The most recent multi-casualty drill tested emergency response capabilities to a simulated bomb detonation in the Transbay Tube.

This year, we held three fire drills in the Berkeley Hills Tunnel. And, we have on the order of 60 – 80 orientation tours annually to familiarize fire fighters with third rail safety and emergency shut-off procedures along with the layout and safety features of various

stations, trackway areas and train cars. Finally, BART periodically holds impromptu, in-house drills on each rail line to test transportation field and operations central control personnel on a variety of scenarios.

Following the Tokyo subway sarin attack in 1995, the District updated the Emergency Plan to address the potential use of nuclear, biological and chemical (NBC) weapons. An NBC Response Plan was developed, which, like the Emergency Plan, follows the same format of training and drilling employees with response protocols and coordination with other first responders.

Along with these emergency preparedness plans and drills, BART personnel have been trained at the U.S. Army's chemical school, through the Department of Defense Domestic Preparedness Program and the Federal Transit Administration First Responder Training Center, among other courses.

We routinely hold or participate in "table top" exercises with other first responders from surrounding jurisdictions to share information, raise awareness of emergency response protocols, improve coordination and identify areas that need improvement. Some of these exercises have been sponsored by the federal government; others by the State Office of Emergency Services or by local agencies.

With regard to preparing for potential terrorist activity, BART has focused on prevention of terrorist acts on our system and mitigation of the consequences in the event that an act does occur. Preventative measures include "target hardening" to make key rail infrastructure facilities and stations less attractive potential targets and intelligence-related information sharing with other organizations.

Among the "target hardening" strategies that BART had already identified prior to the September terrorist attacks is the installation of closed-circuit television (CCTV) systems at every underground station platform. These live video feeds come directly back to the BART Police Command Center and Operations Control Center and serve as an important tool for detection and diagnosis of an incident in progress. Cameras have been installed on trains as a deterrent to crime and a follow-up investigative tool. The presence of the surveillance equipment may also help to diminish the potential for acts of terrorism.

Another "target hardening" strategy is improved use of "crime prevention through environmental design" whereby all of the physical traits of an area from landscaping to lighting to building materials are oriented toward crime prevention. BART has also been involved in several regional groups, which share intelligence information that may be helpful in anticipating terrorist attacks.

In terms of mitigation measures if an incident does occur, as discussed, BART has put substantial effort into planning, training and simulating first response actions in close cooperation and coordination with other local jurisdictions' emergency response teams. We also actively participate in a working group known as the Bay Area Anti-Terrorism Task Force.

Despite all of these prevention and mitigation efforts being in place, the terrorist attacks of September 11 revealed a new dimension to the potential for criminal acts of terror. As a result, BART has taken a number of steps to further enhance the safety and security of our system. Additional security needs have been identified and BART has retained a consultant with nationally recognized expertise in transportation and anti-terrorism to assist us with a comprehensive update of our system threat and vulnerability analysis. This analysis is designed to make sure that no area is overlooked and that limited resources are productively maximized.

Immediately following the September attacks, BART instigated a two-pronged approach to enhance security system wide using stepped-up policing strategies and increased "target hardening" at the most critical points on the system. We stationed BART personnel at key system access points, increased employee visibility system wide, especially uniformed BART Police presence; conducted "sweeps" of trains at selected locations to check for suspicious packages or suspicious activities, removed trash receptacles at underground platforms, closed restrooms and manually controlled selected elevators. We disseminated information to employees and customers and encouraged people to remain alert to unusual or suspicious circumstances and to report such activities to BART Police. BART Police officers worked 12-hour days, 6-day shifts to keep up with these increased staffing needs.

With respect to additional "target hardening," we have installed intrusion alarms at ventilation buildings and are evaluating tunnel intrusion detection technology. We are approximately four months away from testing two different technologies for tunnel intrusion detection using motion detectors and alarm systems. Efforts to protect train control and communication systems are focused on hardening the BART Operations Control Center located in our main administrative building. Protecting wayside signaling and communication equipment is more challenging given the amount and nature of the territory involved. Our strategy here is focusing on better securing of critical field equipment and developing rapid recovery strategies in the event that this equipment is disabled.

We are also focusing on improving awareness among our employees and customers. Counter terrorism is not just the responsibility of our police officers. Borrowing some ideas from our colleagues in London and New York we are engaged in a comprehensive effort to educate/remind front-line employees of the critical role they can play in identifying and reporting unusual or suspicious activity or events. Given the pattern of terrorist reconnaissance, research and rehearsal of attacks in advance, our focus is on interrupting or detecting a planned action and making our system as unattractive a target as possible.

As you may know, the Federal Transit Administration is undertaking an immediate assessment of individual transit properties' security needs. In response to the FTA, BART has developed a list of equipment needs and physical improvements to existing facilities that are designed to ensure the continued safe operation of the system.

We have identified approximately $68 million in security-related needs, which are itemized and attached to this testimony. Most of these investments are one-time only capital expenditures designed to improve monitoring and detection capabilities and upgrade other physical security features using state-of-the-art technologies and material resources. Thus far, in the absence of such resources and equipment, BART personnel have been relied upon to perform extra security functions. This becomes problematic because over-reliance on human resources is not physically or financially sustainable over the long haul.

The first priority is protection of the underwater Transbay Tube and other critical BART corridors such as the Berkeley Hills Tunnel and the Oakland Wye. For these most vulnerable segments of the BART system, the installation of CCTV and intrusion alarms have been identified as a priority need. In addition, physical security improvements are necessary at BART's main administrative headquarters building, where the Operations Control Center and the police dispatch center are housed.

The security of the BART Operations Control Center is paramount to all of our operations and development of redundant capabilities for these vital control and communication systems would provide essential backup capability in the event that this facility is incapacitated. Physical barricades placed at strategic locations around our headquarters are another security measure that would protect against an attack using vehicle born explosives. In other areas, we need to install updated security "keyless" entry devices at BART administrative offices, stations and maintenance facilities.

To summarize, BART security efforts have focused on three main areas: continued emphasis on emergency preparedness, training and drills in close coordination with other first responders; "target hardening" at pivotal locations on the system, and improved vigilance among our 3,500-strong workforce.

With regard to the federal government's role in safeguarding rail transit systems, BART shares WMATA's position that public, fixed guideway rapid rail transit systems need to be recognized as an important resource in our domestic national security efforts. Rail transit systems carry vast numbers of people, provide mobility throughout large metropolitan areas and provide lifeline transportation service in times of crisis, as was recently demonstrated in New York and Washington, D.C. and following the 1989 earthquake in San Francisco. Rail transit systems are highly valuable public infrastructure assets that would be extraordinarily expensive to replace. These are easily accessible, public facilities that in some areas serve as highly visible, recognizable icons that could be viewed as potential targets.

Given the heightened security we now face, BART recommends federal support for three critical areas of need for fixed guideway rail transit systems. First, we urge Congress to provide funding support for counter-terrorism measures such as new technologies and equipment. The costs of these new unforeseen needs are simply beyond the capabilities of the limited resources available to us. We also encourage continued federal funding for security-related training programs such as the DOD first responder training program

offered under the Nunn, Lugar, Domenici legislation. BART personnel have benefited directly from this outstanding program and we thank you very much for having enacted it. Finally, we strongly encourage Congress to continue Department of Energy funding through the national laboratories for new technologies that can detect chemical and biological agents on fixed guideway transit systems. There are detection systems already under development and, the sooner these are tested and implemented nationwide, the better.

Again, Mr. Chairman and members of the Committee, thank you very much for the opportunity to testify today. I would be happy to respond to any questions you may have.

# # #

Attachment 1

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT
Proposals to Increase Security

DETECTION AND PROTECTION	COST (Millions)
Installation of Closed Circuit Television (CCTV) and intrusion alarms at entrances to the District's most vulnerable tunnels and underground areas.	$1.4
Enhance physical security of offices, stations, and maintenance facilities by upgrading all locks to electronic lock technology.	$5
Improve physical security at Districts main administrative office building which houses the operations control center and police dispatch center.	$.2
Install CCTV at all station entry points.	$3
Install intrusion alarms at all personnel access points to underground portions of the system.	$.5
Install CCTV, hardened perimeters, and improved entry controls at all maintenance/storage yards.	$2
Improve intrusion protection system on all above ground right-of-ways, including an enhanced barrier system and/or electronic alarms.	$12
TOTAL:	**$24.1**

Attachment 2

SECURITY ENHANCEMENTS	COST (Millions)
Purchase mobile command post vehicle.	$.5
Develop redundancy capability for BART's communication and train control system.	$5
Purchase personal protective equipment, i.e., escape masks suitable to use in chemical vapor environments.	$.4
Establish an alternative Emergency Operations Center (EOC) with the capability to also function as a fully operational operations control center.	$30
TOTAL	**$35.9**

Attachment 3

OPERATIONAL AND STAFFING STRATEGIES	COST/per year (Millions)
Additional police officer staffing to allow sweeps of all trains entering the Transbay Tube.	$3.6
In the absence of alarms and physical protection at vulnerable portals and other access points, additional personnel to staff these locations.	$2.8
Additional personnel for full-time monitoring of CCTV cameras.	$1.7
TOTAL:	**$8.1**

Testimony of Trixie Johnson
Research Director, Mineta Transportation Institute
Committee on Government Affairs
"Riding the Rails: How Secure Is Our Passenger and Transit Infrastructure?"

December 13, 2001

The Mineta Transportation Institute Studies: Protecting Surface Transportation from Terrorism and Serious Crime

The Mineta Transportation Institute (MTI), a University Transportation Center, was created by ISTEA in 1991 and began a series of counter-terrorism studies in 1996, led by Brian Jenkins. A former director of the Rand Corporation's research on terrorism and a consultant to a number of government agencies and corporations, Mr. Jenkins is one of the world's foremost authorities on international terrorism. He regrets that he is unable to appear before the Committee this morning.

MTI has conducted two national symposia and has completed two major research reports on the topic. We have initiated a case study of surface transportation issues related to the 9/11 attack in New York. The Committee is provided the Executive Overview[1] of the prior projects, which is the basis for this testimony. All four publications are available on the MTI website at http://transweb.sjsu.edu/pubs.htm. At the request of APTA and AASHTO and cosponsors US DOT RSPA and Caltrans, MTI presented the "National Transportation Security Summit" in Washington D.C. on October 30, 2001. The heads of state departments of transportation, leading transit, transportation labor, and federal officials attended this secured briefing, receiving information that could not be made available in print. Additionally, the Summit highlighted several federal security and response training programs.

Nature of the Threat

The threat is real. Terrorists (and deranged individuals) view passenger rail systems as killing fields. They offer:

- A system that is difficult to secure. (High volume, multiple access points with no obvious inspection checkpoints, absolute need for convenience, no advance purchase of tickets by name, cheap fares).
- An opportunity to publicize a cause and to terrorize civilian populations.
- The potential for major service and economic disruption and costly loss of infrastructure.
- An ideal environment for the use of chemical or biological weapons.

Not all systems are equal. Major urban systems, those with higher passenger loads, are more attractive targets. However, major events inspire copycats, putting smaller systems at risk.

Most terrorists operate close to their place of residence. For example, Islamic extremist residents of New York City planned suicide bombings in the subway in 1997. Two gasoline bombs detonated in the New York subway in December 1994 were the work of a local man acting on his own.

Shared Protection and Incident Response Responsibility

Protection of the nation's rail systems depends on many enforcement agencies. Dedicated police and security forces provide primary coverage, but systems necessarily depend on federal, state, county, municipal and other law enforcement agencies. Response requires a multiplicity of organizations beyond system personnel. Coordination and cooperation are essential elements of both.

The "Right" Level of Security

The "right" level of security is difficult to determine. Terrorist threats are not easily quantified. Cost-benefit analysis is an inadequate sole criterion. Measuring lives saved is a strong argument, but individual risk is miniscule. The size of a system determines the security costs, not the capabilities of potential attackers.

Security cannot entirely prevent terrorist attacks. However, security measures can make terrorist operations more difficult, increase the likelihood of detection, minimize casualties and disruptions, reduce panic, and reassure alarmed passengers.

Learn from the Experience of Others

Systems around the world have faced threats and developed security responses. Their "best practices" should be examined and considered by system operators. MTI research provides detailed case studies and recommendations.

MTI's new Terrorism Vulnerability Assessment service allows for confidential consultation. MTI's core research team, led by Brian Jenkins, is conducting independent evaluation of security and response status for bridges, tunnels, transit agencies, and others.

Selected Lessons Learned

The Tokyo sarin event: The train and passengers can inadvertently carry chemical weapons released in a subway, and the chemical spreads rapidly along the line as far as the train is allowed to go. One contaminated train ran through the system three times before it was stopped. Every minute between the release and the response increases the exposure.

Shutting down trains requires good diagnostics. Operators must be able to detect a hit and to assess the event. CCTV is useful. Basic sensors are becoming available. D. C. METRO has initiated an experimental sensor program.

Design to minimize destruction and casualties. Physical destruction from a bomb is only one cause of loss. Fire and smoke must also be considered. Air systems are critical areas for preventive design.

Do background checks on system staff. This in an obvious, but overlooked, requirement.

Some prevention activities will be costly, but are affordable on a cost-per-user basis. For example, an estimated $1 billion would cover the cost of chemical sensors for the 12 largest transit systems in the United States. That is an investment of a fraction of a cent per ride for one year.

Continue to conduct case studies and learn the lessons they offer. MTI's case study of 9/11 is underway.

Disseminate the research and the lessons learned. Operators can be reached through conferences, publications, individual vulnerability assessments, and training programs.

Security measures have collateral benefits. Measures implemented to reduce the threat of terrorism also reduce ordinary crime from graffiti to pickpockets.

Ten Low Cost Measures That Every System Can Do

1. Conduct a vulnerability assessment and review the threat potential with local and federal authorities.
2. Review and rehearse immediate response and evacuation procedures for obvious threats (bombs, suspicious packages and sudden outbreaks of illness).
3. Make staff and security measures more visible.
4. Increase the frequency of security patrol.
5. Ensure the adequacy and awareness of crisis management plans.
6. Enlist the public in surveillance, and assure that the staff is ready to respond.
7. Instill a security mindset throughout the entire staff.
8. Review security plans for actual implementation status, readiness of equipment, and accuracy of all contact information.
9. Keep the premises spotless.
10. Reduce the obvious hiding places, such as trashcans (which should be emptied frequently and placed correctly or eliminated).

Act Now

The vulnerability of our passenger and transit rail systems to potential terrorist attack is not a new phenomenon. Awareness of the threat and public support for the required efforts is new. Operators, regulators, and legislators at all levels of government must do what can be done to protect the nation's passenger and transit rail systems.

On behalf of Brian Jenkins and the MTI Counter Terrorism research team , I appreciate this opportunity to address the Committee. The Institute is happy to assist you in any way.

Endnote:

[1] Jenkins, Brian. *Protecting Public Surface Transportation Against Terrorism and Serious Crime: An Executive Overview.* San Jose, California: Mineta Transportation Institute, 2001.

Appendix:

The following section summarizes the extensive MTI counter-terrorism research and information transfer efforts, beginning in 1996:

- "Terrorism in Surface Transportation: A National Symposium", March 1996. Details proceedings of a national symposium on terrorism. Transcribes presentations by speakers from the following groups: New York Transit Authority on lessons learned from terrorist attacks, the FBI on local authorities working with the agency, Amtrak on predicting derailments, and American Medical Response West, Inc. on emergency terrorism response systems. Also includes panel discussions and background appendices. MTI Research Associate Brian Jenkins was the team leader.

- "Protecting Surface Transportation Systems and Patrons from Terrorist Activities: Case Studies of Best Security Practices and a Chronology of Attacks", December 1997. Includes cases from the Paris subway system, Amtrak, the New York City Transit Authority, and the Metropolitan Atlanta Rapid Transit Authority. Also examines security design/planning, response, and recovery. Chronology of attacks from 1920-97. RA Brian Jenkins was the research team leader.

- "Protecting Surface Transportation Systems and Patrons from Terrorist Activities: Continuation of Case Studies of Best Security Practices and Updated Chronology of Attacks", October 2001. Updates chronology of attacks through 2000. Adds 4 case studies, including U.K. IRA attacks and the 1995 Sarin attack in Tokyo. Defines best practices, including pre-incident preparedness (from closed circuit TV to trash containers) and response and recovery (from crisis management plans to integrated inter-agency exercises). RA Brian Jenkins was the team leader with co-authors Dr. Larry Gerston (Political Scientist) and Dr. Frances Edwards-Winslow (disaster response expert).

- " Protecting Public Surface Transportation Against Terrorism and Serious Crime: An Executive Overview", October 2001. Summarizes and reviews the prior three terrorism publications and includes a Terrorism Vulnerability Assessment Checklist. Presented at the 10/30/01 "National Transportation Security Summit" co-sponsored by the US and California DOTs, AASHTO and APTA and presented by MTI in Washington, D. C. on 11/30/01.

- "Lessons of 9/11/01 - Case Study". The MTI Counter Terrorism Research Team has begun the complex study of the various surface transportation programs preparations for and responses to the 9/11 attacks to add to the best practices case studies previously conducted by MTI.

- Terrorism Vulnerability Assessment Peer Reviews. The MTI Counter Terrorism Research Team has developed a Terrorism Vulnerability Assessment Check List based upon the lessons learned from the best practices found during the numerous case studies. The Team is conducting vulnerability assessments for bridges, tunnels, transit agencies, inter-modal stations, and other surface transportation facilities throughout North America using the check list and their unique experience as a guide.

MTI Report 01-14

M T I

Norman Y. Mineta
International Institute for
Surface Transportation Policy Studies
Created by Congress in 1991

Protecting Public Surface Transportation Against Terrorism and Serious Crime: An Executive Overview

Mineta Transportation Institute
San José State University
San Jose, CA 95192-0219

MINETA TRANSPORTATION INSTITUTE

The Norman Y. Mineta International Institute for Surface Transportation Policy Studies (MTI) was created by Congress through the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and established in the California State University system at the San José State University College of Business. MTI continues as a University Transportation Center (UTC), reauthorized in 1998 by the Transportation Equity Act for the 21st Century (TEA-21).

MTI is unique among UTC's in two areas. It is the only center with an outside, internationally respected Board of Trustees, and it is the only center located in a College of Business. The Board provides policy direction, assists with needs assessment, and connects the Institute and its programs with the international transportation community. The Institute's focus on policy and management resulted from a Board assessment of the industry's unmet needs and led directly to the choice of the San José State University College of Business as the Institute's home. MTI applies the focus on international surface transportation policy and management issues in three primary areas:

Research
The aim of the Mineta Transportation Institute's research is to provide policy-oriented research, available to all levels of government and the private sector, to foster the development of optimum surface transportation systems. Emphasis is on research in such areas as finance, institutional structure, social equity, environmental concerns, and legislation. Teams of certified Research Associates conduct the research. Certification requires an advanced degree, generally a Ph.D., a record of academic publications and professional references. Many of the Institute's Research Associates also hold professional certifications appropriate to their discipline. Research projects culminate in publications available both in hardcopy and on the Institute's Web site.

Education
The educational goal of the Institute is to provide graduate-level education to students seeking a career in the development and operation of surface transportation programs. MTI, through the College of Business at San Jose State University, offers an AACSB accredited California State University Master of Science in Transportation Management and a Graduate Certificate in Transportation Management that will prepare the nation's transportation managers for the 21st century. The masters degree is the highest conferred by the California State University system. With the active assistance of the California Department of Transportation, MTI delivers its classes over a state-of-the-art broadcast videoconferencing network throughout the State of California and via webcasting beyond, allowing working transportation professionals to pursue an advanced degree regardless of their location. To meet the needs of employers seeking a diverse workforce, MTI's education program promotes enrollment to under-represented groups.

Information and Technology Transfer
MTI's third responsibility is to develop and maintain electronic information systems to store, retrieve, and disseminate information relating to surface transportation policy studies. MTI, with the assistance of Caltrans and the California State University Chancellor's office, created *TransWeb*. *TransWeb* enables transportation professionals, students and individuals worldwide to access information relating to surface transportation research and policy. *TransWeb* is found at http://transweb.sjsu.edu and delivers regional, state, national, and international transportation information. The Institute also maintains a library of periodicals and other unique publications for transportation research in cooperation with the San José State University Library system. MTI is funded by Congress through the United States Department of Transportation Research and Special Programs Administration (RSPA), the California Legislature through the Department of Transportation (Caltrans), and by private grants and donations.

DISCLAIMER

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MTI Report 01-14

Protecting Public Surface Transportation Against Terrorism and Serious Crime: An Executive Overview

October 2001

Brian Michael Jenkins

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16. Abstract

Recent global events make it clear that the threat of terrorism is one to be taken seriously. For those who are attempting to kill in quantity and kill indiscriminately, surface transportation offers the ideal target. Because of the public nature of mass transit, there is often little security with no checkpoints as is the case with airports.

The practice of terrorism has moved in varying directions in recent years, depending upon different forms of transportation systems and venues of operation. Assaults on public surface transportation systems have continued to take place worldwide without any indications of abatement.

This executive overview summarizes three previous MTI documents: 96-1, *Terrorism in Surface Transportation-A Symposium* (March 1996); 97-4, *Protecting Public Surface Transportation and Patrons From Terrorist Activities: Case Studies of Best Security Practices and a Chronology of Attacks* (December 1997); and 01-07 *Protecting Public Surface Transportation Against Terrorism and Serious Crime: Continuing Research on Best Security Practices* (September 2001). It concluded with a checklist for use by transportation system operators.

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EXECUTIVE OVERVIEW

By Brian Michael Jenkins

Contemporary terrorists have made public transportation a new theater of operations. Algerian extremists set off bombs on the subways of Paris in 1995 and 1996; the Irish Republican Army has waged a long-running terrorist campaign against both passenger trains in England and London's subways; Palestinian terrorists have carried out suicide bombings on Israel's buses; an individual or a group calling itself "Sons of the Gestapo" derailed a passenger train in Arizona in 1995. Islamic extremists planned to set off truck bombs in New York's tunnels and bridges in 1993, and in 1997, they plotted suicide bombings in New York's subways. The nerve gas attack on Tokyo's subways by members of the Aum Shinrikyo sect in 1995 raised the specter that terrorists in the future might resort to weapons of mass destruction to which public transportation is uniquely vulnerable.

Recent events make it clear that the threat continues: 1998 saw an attempt to derail Japan's bullet train and a threatened poison gas attack on Moscow's subway. In 1999, a bomb injured three persons at a Sydney rail station. In 2000, bomb threats shut down London's Underground; one bomb injured nine in Dusseldorf's Underground; another bomb killed nine and injured 60 on the Metro in Manila.

For those determined to kill in quantity and willing to kill indiscriminately, public transportation is an ideal target. Precisely because it is public and used by millions of people daily, there is little security, with no obvious checkpoints like those at airports to inspect passengers and parcels.

Passengers are strangers, promising attackers anonymity and easy escape. Concentrations of people in contained environments are especially vulnerable to conventional explosives and unconventional weapons. Attacks on public transportation, the circulatory systems of urban environments, cause great disruption and alarm, which are the traditional goals of terrorism.

The United States has not experienced ongoing terrorist campaigns like those waged by the IRA in the United Kingdom or by various Palestinian extremist groups in Israel. Incidents here have been isolated and statistically rare although sometimes of great consequence, in particular, the terrorist bombings at the World Trade Center in 1993 and at the Oklahoma City federal building. A number of terrorist bombings have been thwarted by vigilant authorities.

These incidents, however, confirm that the terrorist threat in the United States is real, although there is no consensus on the nature and magnitude of that threat.

Because terrorist threats are not easily quantifiable, it is difficult to determine the "right" level of security. Using cost-benefit analysis as the sole criterion to determine the level of security is inadequate. The risk of death to any individual citizen from terrorism in any venue is minuscule, making it difficult to argue for any security measure solely on the grounds that it will save lives. The problem is exacerbated by the fact that *the costs of security are not determined solely by the number or capabilities of the potential attackers; they also are determined by the size and number of targets to be defended.*

Surface transportation cannot be protected in the way we protect commercial aviation. Trains and buses must remain readily accessible, convenient, and inexpensive. Passenger profiling, the elaborate deployment of metal detectors, X-ray machines, explosives sniffers, hand searches, and armed guards, which have become features of the landscape at airports, cannot be transferred easily to subway stations or bus stops. The delays would be enormous, the costs prohibitive. Rail lines, like power lines or pipelines, are extremely difficult to protect.

This does not mean, however, that nothing can be done. Transportation operators and security officials in areas that have been subjected to terrorist attacks have developed some effective security countermeasures. Although they cannot entirely prevent terrorist attacks—*no security system can stop terrorists from setting off bombs in public places*—good security measures can make terrorist operations more difficult, increase the terrorists' likelihood of being detected and identified, keep casualties and disruptions to a minimum, reduce panic, and reassure alarmed passengers in a crisis.

SCOPE OF THE RESEARCH

In order to meet the threat posed by terrorism and other forms of violent crime effectively, it is essential that transportation system operators have a thorough understanding of the security measures employed by other operators, especially by those transportation entities that confront high levels of threat.

Since 1996, the Mineta Transportation Institute (MTI) has supported a continuing research program aimed at identifying the "best practices" for protecting public surface transportation—facilities, equipment, and

passengers—against terrorist attacks and other major violent crimes. This research has been supported by the United States Department of Transportation, Caltrans, and the Mineta Transportation Institute's own funds.

The effort began with a symposium held in 1996 that brought together security experts from transportation entities, law enforcement, and other government agencies. The results of their discussions were published by MTI in *Terrorism in Transportation–A Symposium* (San Jose: Norman Y. Mineta International Institute for Surface Transportation Policy Studies, March 1996). For convenience, this report will be referred to in the text as Volume I.

The following year, MTI launched a more formal research program aimed at identifying the best security practices. The first phase of this effort included four case studies that reviewed transportation security measures in Paris, Atlanta, New York, and on the Amtrak rail system. The Paris case study focused on the immediate aftermath of the 1995 terrorist bombing at the St. Michel Station. Further terrorist bombings occurred in France in the fall of 1995 and again in December 1996, obliging authorities to increase security. The Atlanta case study focused on the security preparations connected with the 1996 Olympics and the aftermath of the Centennial Park bombing, although this bombing was not directed against public transportation. The Amtrak case study focused on the response to the deliberate derailing of the Sunset Limited in Arizona in November 1995. New York was included because of the size and complexity of its transportation systems and the various incidents and threats that have affected it, including the 1993 World Trade Center bombing, the subsequent plot to blow up bridges and tunnels, and the 1996 explosion at the Battery Park subway station. As these case studies were being completed, police in 1997 discovered a terrorist plot to carry out suicide bombings on the New York City subways.

All the case studies were conducted with the full cooperation of the operating entity and are based on reviews of plans and after-action reports, interviews with company officials and public authorities, and media accounts of the events.

During this phase of the research, an additional task was performed. The Federal Transportation Agency (FTA) previously had examined security practices at nine public transportation systems in the United States. The systems included multimodal transportation systems, medium-sized and large bus systems, and small and rural bus systems. The FTA reviews were based not on case studies but on surveys, and they did not focus exclusively on terrorism

but included a broader spectrum of crimes against property (that is, objects thrown at vehicles, arson, and hate crimes), crimes against persons (assaults on passengers, attacks on operators or drivers, weapons offenses, and homicides), and dramatic impact crimes such as bomb threats and terrorism. This material was reformatted and included so that it could be compared more easily with the four case studies.

In addition to preparing the case studies, the author compiled a chronology of terrorist attacks and major criminal assaults on surface transportation and added an annotated bibliography of publications dealing with surface transportation security. The results were published by MTI in *Protecting Surface Transportation Systems and Patrons from Terrorist Activities: Case Studies of Best Security Practices and a Chronology of Attacks* by Brian Michael Jenkins and Dr. Larry Gerston (San Jose: Norman Y. Mineta International Institute for Surface Transportation Policy Studies, December 1997). In the text, this report will be referred to as Volume II.

Further research added four more case studies, updated the chronology through 2000, and expanded the annotated bibliography. The new case studies included the United Kingdom's response to the IRA's long-running terrorist campaign against mainland surface transportation; the 1995 sarin attack on Tokyo's subways, the first large-scale terrorist use of a chemical weapon, which provoked growing concern elsewhere; and security at the Bay Area Rapid Transit District (BART) and the Santa Clara Valley Transit Authority (VTA). Results of this research were reported in *Protecting Public Surface Transportation Against Terrorism and Serious Crime: Continuing Research on Best Security Practices* by Brian Michael Jenkins and Dr. Larry Gerston (San Jose: Mineta Transportation Institute, 2001). This will be referred to in the text as Volume III.

Taken together, the three volumes present a comprehensive review of surface transportation security covering fourteen transportation systems in the United States and three systems abroad. They offer an opportunity to examine how operators of different systems—subways, commuter rail, and intercity and city buses—have dealt with different kinds of threats, from ordinary crime to isolated sabotage to long-term bombing campaigns to chemical attacks.

The effort will now focus on distilling the lessons learned from these experiences and cataloging the best security practices. This executive summary identifies these lessons and practices. Future workshops and symposia will

offer opportunities for system operators and authorities charged with security responsibilities to discuss them in greater depth.

PATTERNS AND TRENDS IN TERRORIST ATTACKS

Only by understanding the threat can we develop effective security measures. Although the United States has been largely spared the kinds of terrorist campaigns waged against public surface transportation in the United Kingdom, France, Japan, and less-developed countries, the unfortunately rich history of violence elsewhere can be used to better understand terrorist tactics, targets, and techniques.

Volumes II and III contain a chronology of approximately 900 terrorist attacks and other significant criminal incidents involving public surface transportation systems. The chronology runs from 1920 to 2000; however, all but 14 of the events listed occurred after 1970, the year that marks the beginning of modern terrorism.

Despite efforts to include all significant incidents, the chronology should be considered representative rather than comprehensive. Thousands of incidents of ordinary crime, such as individual murders, rapes, armed robberies, and other assaults, are not included. Nor does the chronology report all the many bomb threats that are a common headache for transportation system operators. The chronology includes guerrilla and terrorist attacks in which a transportation system or its passengers were the principal target. It excludes acts of open warfare, such as aerial bombing and artillery fire.

The chronology shows that contemporary terrorists view public surface transportation as a killing field. While roughly 20 percent of all incidents of international terrorism involve fatalities, the proportion of attacks on surface transportation systems involving fatalities is significantly higher. About two-thirds of the attacks on surface transportation have been intended to kill, and about 37 percent of the total involve fatalities.

A further indication of lethality is the percentage of incidents with multiple fatalities: 74 percent of the attacks with fatalities involve more than one fatality, and 23 percent involve 10 or more. Attacks are roughly evenly split between rail systems (trains, subways, stations, and rails) and bus systems (buses of all types and bus depots—see Appendix B, Figure 1).

Our count of bomb threats, although far from complete, indicates that bombings predominate as the most frequent mode of terrorist attack (see Appendix B, Figure 2). Overall, bombings account for 60 percent of all incidents; ambushes and armed assaults account for 11 percent; standoff attacks, 9 percent; hostage situations, 5 percent; and mechanical sabotage, 5 percent.

By definition, the chronology includes only attacks on public surface transportation, thereby excluding terrorist attacks involving other targets. However, in many instances, the chronology refers to ongoing conflicts, including civil wars, guerrilla wars, and terrorist campaigns. Often these combatants bring their violence to the capital cities to obtain international attention and to remind complacent populations that they will have no peace while wars rage in distant lands.

Of course, attacks on public transportation are only one facet of these conflicts. Under the circumstances, they are to be expected. The threat level is high. The violence is ferocious. Governments and transportation operators are obliged to take extraordinary measures that would be difficult to justify outside of the conflict zones.

Leaving out countries with ongoing armed conflicts would eliminate about two-thirds of the incidents and would provide a different picture of the threat. Bomb threats, acts of sabotage, extortion, individual assaults, and isolated crimes would predominate. There would be fewer fatalities. Individuals with personal motives and mentally deranged perpetrators would figure more prominently. The threat in these circumstances becomes less predictable, which, in turn, creates dilemmas for security planners.

Absent an ongoing armed conflict and without reliably precise and timely warnings from intelligence efforts, how do transportation providers and security planners protect against terrorism? How much security is enough? Is the answer to these questions the same everywhere? Should San Francisco's BART or a medium-sized bus company in rural America adopt the same measures as those used by London Transport?

Location does make a difference. This does not mean that a terrorist event cannot occur in a small or medium-sized city seemingly distant from national symbols, the political centers of power, and the more complicated social geography of our major cities—witness the Oklahoma City bombing—but it does mean that attacks in such areas are less likely. Historically, the United

States, although a comparatively violent country, has not suffered high levels of terrorist violence. Within the United States, six major metropolitan areas (New York, Miami, Washington, D.C., Chicago, San Francisco, and Los Angeles) account for a majority of the terrorist incidents, although owing to the magnitude of the event in Oklahoma City, not a majority of casualties.

SECURITY AGAINST TERRORISM

Threat assessment cannot be based solely upon perceived vulnerabilities, which are infinite, or hypothetical foes. At the same time, the absence of a specific threat cannot be an excuse for doing nothing at all. Security planners, therefore, should not consider the list of best practices in Appendix A as formulaic. It is a catalog from which planners can choose the best options for the location and nature of their specific transportation systems.

Cost is a legitimate criterion in designing security measures, and security budgets are limited. However, many of the security measures identified as best practices in the case studies have been found to contribute also to the efficiency of transport operations (vehicle locating systems, multimode communications), to passenger safety (design and materials used in station and coach construction), to making systems more convenient and attractive to passengers (good lighting, clean and well-kept interiors, up-to-the-minute information on system status, visible presence of staff), and to reducing ordinary crime (closed-circuit television [CCTV], high-profile and undercover patrolling). Those anti-terrorist security measures that have an obvious deterrent effect on criminal activity should be favored.

Many measures involve only modest expenditure. Improving liaison with local police and other emergency responders, establishing crisis management plans, conducting exercises, and putting in place procedures for handling bomb threats and left or suspicious objects are not costly undertakings. Technology that further reduces security operating costs also should be favored.

As mentioned previously, *physical security by itself does not prevent terrorism, but good security can displace the risk,* pushing terrorists toward still vulnerable but less lucrative targets where their actions are likely to cause fewer casualties. Terrorists will always find a vulnerable place to attack. They can attack anything, anywhere, anytime. We cannot protect everything, everywhere, all the time, which means that security often will necessarily be reactive. Security is increased after an attack to plug any gaps that the attack has made obvious, in anticipation of further possible similar attacks, and to

reassure an apprehensive public that something is being done. The added security measures may be suspended when the threat is reduced, although these measures are more easily increased than reduced—once in place, security measures have a tendency to become a permanent feature of the landscape. This, in turn, suggests that security measures should be flexible, capable of being increased or reduced in accordance with the perceived threat.

The following basic principles dictate the overall strategic approach to security for public surface transportation:

- Security has two major objectives: Preventing casualties is the paramount goal; reducing disruption in the form of unnecessary shutdowns is the secondary goal.
- Security cannot prevent terrorist attacks, but it can persuade terrorists (except those for whom escape or even their own survival does not matter) to choose less lucrative targets.
- Potential casualties can be reduced both through the design of stations and vehicles and through effective and rapid response.
- Disruptions can be minimized with technologies and procedures that permit prompt assessment, accurate diagnosis, and rapid, well-rehearsed responses.

Effective security, therefore, includes not only deterrent and preventive measures but all efforts to mitigate casualties, damage, and disruption. Since deterrence and prevention are difficult to achieve given the nature of terrorism and the inherent vulnerabilities of public transportation, great emphasis is placed upon the mitigation of casualties through design of facilities and upon effective, rapid response that ensures safety while minimizing disruption. Crisis management planning is essential. Constant training, including tabletop simulations and field exercises involving operating entities and local authorities, is essential to rapid response and successful crisis management.

The security topics listed here fall into two broad categories: (1) pre-incident preparedness, including threat assessment, security in station and vehicle design, security personnel, security technology, and communications; and (2) response and recovery, including crisis management planning, procedures for dealing with bomb threats and suspicious objects, emergency response teams, frequent exercises, dealing with victims and their families, and reassuring apprehensive passengers.

Pre-Incident Preparedness: A Comprehensive Security Plan

Most transport operators have plans for dealing with service interruptions caused by natural disasters, bad weather, accidents, or other incidents, including serious crimes or acts of terrorism. These plans usually emphasize minimizing disruption and maintaining service. Security issues often are scattered among these plans or are addressed in separate documents that deal with specific issues such as bomb threat response procedures. Operators may or may not have a separate formal crisis management plan.

All transport operators should have an overall security plan or manual that addresses organization and responsibilities, facilities and procedures, preparation and response. This plan should be prepared in cooperation with local authorities (that is, police and emergency responders), consistent with best practices, approved by management, used as the basis for testing and exercises, and regularly reviewed and updated.

Threat Assessment and Analysis

Almost all the information that transport operators receive about terrorism comes from government authorities. In the United States, the federal government will continue to be the principal source of information about terrorist threats, although larger local police departments with intelligence units may have additional information about threats in their locales. Many large U.S. cities have antiterrorist task forces that facilitate the flow of information and coordination between the FBI and local law enforcement agencies. Unlike the commercial aviation industry, where there is an established national structure for communicating terrorist threat information directly, surface transportation operators may be at the end of a long line to receive such information. The United Kingdom's system of communicating terrorist threat levels to the commercial sector is enviable. *To ensure their awareness of current terrorist threats, transportation operators should establish and maintain good formal and informal relations with both local police and federal officials.*

At the same time, transportation operators should not ignore their own sources of knowledge. Specialized chronologies like those in Volumes II and III and accounts of highly publicized attacks elsewhere in the world, which may inspire local copycats, should be examined. In addition to having external sources, operators are aware of local crime patterns that affect their systems and should have detailed knowledge of how ordinary criminals, thieves, and

vandals approach their facilities. British authorities discovered that IRA terrorists followed the same paths used by vandals and graffiti taggers to surreptitiously trespass on transportation property. Threat reviews should be conducted at regular intervals.

Uncertainty, however, is the reality of dealing with terrorism, and serious crimes like the mass shooting on the Long Island Railway by a mentally disturbed gunman or extortion against the transit system remain entirely unpredictable.

Every event that occurs must be closely analyzed to identify vulnerabilities and establish the adversaries' mode of attack. Identified gaps must be plugged, and responses must be improved. A single event may be the beginning of a campaign.

Station and Vehicle Design

When new stations are built or old ones remodeled, security should be a factor in the design. In the United Kingdom, architectural liaison officers—specially qualified police personnel with knowledge of blast effects on structure, cladding, glazing, fixtures, and street furniture, and an understanding of the principles of emergency evacuation routes and bomb security areas—advise local companies on security issues in design and construction. In France, the removal from rail stations of metal-framed wall signs and other extraneous items, along with combustible materials, reduced potential casualties from shrapnel, fire, and smoke inhalation.

Good station design includes emphasis on open space, including broad fields of vision, the absence of dark corners and other spaces where criminals might hide or terrorists could place bombs, good lighting, the effective deployment of CCTV, installation of fire doors and blinds, ventilation shafts with reversible fans to provide rapid smoke evacuation, emergency evacuation routes, and bomb security areas.

Fencing and Other Physical Barriers. Public surface transportation must have easy access, which limits the use of physical barriers. However, fences should be built around bus yards, around public parking areas adjacent to stations, and along surface tracks. Public parking areas also can be controlled by gates, CCTV cameras aimed at the drivers of vehicles, and cameras covering the entire parking area. Employee and visitor parking in bus yards should be controlled by permit. Power facilities and buildings or rooms

containing ventilation systems, electrical power connections and controls, communications systems, switching controls, computers, and other vital systems must remain locked, with access to them controlled and visually monitored.

Access Control and Alarm Systems. Access control and intrusion detection are areas of continuing rapid technological advance. Used in conjunction with physical barriers and CCTV, access control systems enable security personnel to monitor and protect vital systems (power facilities, control centers, computers, communications, air conditioning systems, etc.). We have not attempted to summarize this area in detail, as it is a major security topic with its own extensive literature.

Closed-Circuit Television (CCTV). Faced with serious terrorist threats, both French and British systems have made extensive use of CCTV to protect public transport. As of 1996, the Paris Metro and RER (commuter rail system) had installed 4,000 cameras to monitor entrances and stations, to enable drivers to check passengers, and to perform other security tasks, and more cameras were being installed. The French video system employs sophisticated hardware that combines the televised image with other types of data input and enables operators to instantly summon the image from any camera (see Volume II).

By the late 1990s, British authorities had installed 3,500 cameras to keep watch on the London Underground and rail transport; this number was being increased to 5,000. All station cameras can be called up on demand and are directly accessible by the police (see Volume III).

CCTV can be used to monitor activity, detect suspicious action, recognize individuals, and identify suspects beyond a reasonable doubt. Each of these tasks requires a progressively tighter focus and better image. Technology has advanced rapidly in this area, producing cameras with increasingly better resolution.

The mere presence of cameras probably contributes to deterrence, although CCTV surveillance in Tokyo's subway stations did not stop Japanese cult members, one of whom was caught on a station camera, from disseminating nerve gas. "Dummy" cameras are not recommended.

In locating cameras, transport operators should identify areas where passengers are most vulnerable and not immediately visible to staff; they should situate cameras so that they cannot easily be avoided, damaged, or obscured, and can

be moved or added to later; and they should consider eventually extending coverage to the surrounding areas. All passenger call boxes and help points should be covered by cameras.

Police should record the locations of the cameras in advance so that images from those cameras can be used to identify suspects and aid prosecutions.

Although CCTV has proved enormously effective in reducing crime and contributing to the deterrence of terrorism, authorities have found that a combination of CCTV coverage plus security patrols and prompt police response makes the greatest contribution to security.

The emplacement of cameras on vehicles is a recent development brought about by technological improvements. However, its effectiveness is limited by the availability of bandwidth for broadcasting images from a large number of vehicles. One solution would be to equip all vehicles with cameras (both visible and hidden) that are brought on air by a distress signal from the driver or an external command from the operations center. Another option would be to equip buses or train coaches on high-crime routes with hidden surveillance cameras temporarily.

Bomb Shelter Areas. In cases where time or specific circumstances do not permit evacuation out and away from the facility, people can be routed to a bomb shelter area. Bomb shelter areas are predetermined areas within a building or other facility that have been examined by a structural engineer and determined to provide protection against blast effects. These locations typically are surrounded by full-height masonry or concrete walls (but are not located in stairways or areas with access to elevator shafts that open to the ground level); are away from windows, external doors, and walls (flying glass is a major source of casualties in bomb blasts); and are away from the "perimeter structural bay." Bomb shelter areas also need access to communications to keep occupants updated.

Limiting Availability of Trash Containers as Receptacles for Explosive Devices. Because bombs are often left in trash containers, a great deal of attention has been devoted to this issue. *Removing trash cans entirely or sealing permanent receptacles, sometimes an emergency response following a bombing, are not useful long-term solutions* as they could lead to piles of rubbish, which, in turn, could provide suitable places for concealing explosive devices and make bomb searches even more difficult.

All trash containers should be monitored for use to identify and remove those that are not absolutely necessary. Those remaining should be located in prominent, well-lit areas within view of CCTV systems and away from sources of secondary fragmentation such as windows, mirrors, or overhead glass. Trash containers should not be located adjacent to obvious terrorist targets such as police stations, post offices, or banks.

A number of blast-resistant trash containers now are commercially available. Transparent trash-can liners provide a clear view of their contents.

Emergency Evacuation Routes. *Emergency evacuation routes should be preplanned to provide the safest means of egress in a variety of emergency situations.* For new facilities, this issue should be addressed in the design phase. Evacuation routes should take people away from the point of danger (for example, a suspicious object, a source of mysterious fumes) to a safe location at a distance from the facility. The location of the safe area will depend on the nature of the threat. For example, passengers evacuating from subways in response to chemical or biological threats or attacks should not be allowed to loiter on sidewalk ventilation grates above the stations and tunnels. Evacuation routes should not clog the access routes of emergency responders trying to get to the scene (these access routes should be designated in advance). Alternate routes to bomb shelter areas, to be used when exit is not possible, should be included in the evacuation plan.

Underground stations and subways in tunnels are the most difficult environments to evacuate. The routes should be broad enough to accommodate a surge of people (for example, no narrow staircases) and should contain no obvious choke points (for example, elevators) where impatience and alarm may lead to panic and casualties. Evacuation routes should be able to accommodate stretchers and should be designated clearly by signage as well as easily discerned identifiers, such as lighted colored arrows that can be switched on in an emergency.

Design of Coaches and Buses. Safety reinforces security in new vehicles, which are designed to withstand collisions and are constructed with materials that will not easily burn or will not produce toxic fumes if they do burn. Specific antiterrorist measures include the reduction of shrapnel-producing interior fixtures, sealing areas below the seats to prevent easy concealment of explosive or chemical dispersal devices, and the installation of both covert and visible but protected CCTV cameras.

The Security Force

Most large public transportation systems have their own dedicated security force. This may be a proprietary private security force or a regular police department dedicated to the transit authority, such as the Metropolitan Transportation Authority (MTA) Police Department or Port Authority Police in New York. Some larger urban police departments may have a dedicated transit police division. Operators of smaller transport entities are more dependent on regular local police, who may or may not have specific responsibilities and training for responding to incidents involving transportation systems. Proprietary security forces and dedicated police forces generally deal with routine patrolling and ordinary street crime. Major security challenges, such as the Olympics or a continuing terrorist campaign, require cooperation and augmentation from several police departments. While self-reliance is a desirable goal, reality often dictates that additional external resources are required. Jurisdictions also vary depending on the location and nature of the crime. Complexity is guaranteed. Coordination is required, and it is not easy.

Rail systems, especially underground rail systems, are special environments for which security personnel require special training. To work in these unfamiliar environments, regular police must be given detailed training and guidance or be accompanied by dedicated personnel (page 65 of Volume I). The United Kingdom, although it fields a transport police force of 2,000, has tried to improve overall awareness, training, and response capabilities at the local level by designated Counter Terrorist Crime Prevention Officers (CTCPOs) in each police department. CTCPOs receive special training and provide guidance to their private sector "clients." Absent a CTCPO equivalent, the same approach can be taken through less formal but still structured liaison arrangements created at the initiative of the transport operator.

There is no right number for the size of the security force. It will depend on the size and nature of the system, the organizational structure in place, and the level of threat.

Security requires the active participation of the transit entity's security personnel and civilian staff, special transit police in cities where they exist, local police, and the general public. Intercity transport may involve a number of local police jurisdictions. Procedures should be standardized as much as possible. This requires the dissemination of detailed guidance to all involved parties. In the United Kingdom, the National Terrorist Crime Prevention Unit (NTCPU) performs this task by analyzing terrorist and criminal threats and

providing police and transport operators with lessons learned, best practices, and detailed guidance on everything from trash bins to the proper emplacement of CCTV to dealing with bomb threats. No such entity exists in the United States, although a similar role could be assumed by the Department of Transportation working through one of its research institutes.

High Profile and Plainclothes Patrols. Many public transportation systems use a combination of highly visible and plainclothes patrols. Visible patrols provide an obvious deterrent and reassure passengers, while plainclothes patrols, their presence occasionally publicized through arrests, greatly increase uncertainty on the part of would-be adversaries. Plainclothes patrols are especially useful in high-crime areas or during outbreaks of crime; they will not stop a determined suicide bomber, but they will give pause to the adversary who wants to carry out his mission and escape.

The Role of Civilian Staff. All transport system staff members contribute to security, whether or not that is their primary responsibility. Just their visible presence adds to deterrence, and some transport operators have deliberately deployed civilian staff to make them more visible, which also reassures passengers. Employees are effective monitors of what is going on. They are often the first to notice left or suspicious objects. They will be best positioned to recognize and diagnose trouble. They are truly the first responders to any incident, and they are the most reliable communicators in the first moments of an incident. They are the shepherds who will lead passengers to safety and who will guide emergency responders to the problem, and they are the people who stand by to restore operations.

Because these roles are not explicit, civilian employees often are overlooked when it comes to training and equipment that would assist them in performing these vital tasks. Providing training does not mean altering the primary responsibilities of civilian staff members, but recognizing that a security role automatically comes with their presence on the scene. It also recognizes that they are often among the first casualties. When station personnel in Tokyo removed by hand the deadly sarin-leaking bags from the subway coaches, they were unaware that they were exposing themselves to illness and death in the process. Training in awareness, surveillance, response procedures, and self-protection is owed the civilian staff.

Training. Training programs vary depending on the configuration of the security force. Where security is provided by local police, officers undergo regular police academy training. They may or may not receive additional

special training to familiarize themselves with unique public transportation issues. Ideally, they will. Where security is provided by a transit police division or a separate transportation police department, regular police training is supplemented by special training.

Proprietary private security forces and contract security personnel rarely receive police training, and the quality of the security training they do receive varies greatly. Although civilian staff are relied on as a "first line of defense" and expected to apply psychological profiles and recognize and exercise judgment regarding suspicious packages, they rarely receive adequate formal training to do so. In addition to providing formal training, the British make extensive use of laminated cards containing basic instructions for operators and nonspecialist police officers who are confronted with bomb threats, suspicious objects, and other contingencies.

Management-level personnel who will be involved in on-scene response and crisis management should meet minimum training requirements through attending disaster management courses, in-house training, and regular exercises. Command team members should be fully educated on available local, state, and federal disaster response services and should know how to request them (pages 50-51 of Volume I).

Covert Testing. Faced with a continuing terrorist threat, British transport security authorities emphasize covert testing of security and response procedures to ensure that security personnel and civilian staff remain alert and are familiar with procedures. The U.S. Federal Aviation Administration also conducts increasingly realistic covert testing to ensure high standards of security at the nation's airports. *Covert testing followed by critiques should be an integral part of the security plan.*

Public Involvement in Security. There are pros and cons to encouraging public involvement in security. The fact that passengers are constantly being advised to be on the lookout for suspicious behavior increases the risks perceived by would-be attackers who imagine themselves to be under constant surveillance. Vigilant passengers often are the first to notify authorities of left items or suspicious objects. Repeated public warnings, however, may also frighten passengers, inspire hoaxes, and lead to numerous false alarms. Where the terrorist threat is remote, the potential adverse consequences may outweigh the benefits. However, where terrorist attacks have occurred and the threat level remains high, the risk of hoax threats and false alarms is already high. Israel, France, the United Kingdom, and other countries that have experienced

terrorist campaigns have sought public participation through signs and repeated public announcements reminding travelers to keep personal packages under their direct control, remain vigilant for left parcels, and immediately report suspicious activity or articles to staff. In the United Kingdom, police are confident that any such parcels will be discovered within a few minutes, far less time than terrorist bombers normally allow when they set their timers to permit them to escape. The objective is to move the bombers toward less-frequented areas where, if a bomb did explode, it would likely cause fewer casualties. Public announcements also warn people not to touch suspicious objects. *Public vigilance plus rapid response can reduce the risk of casualties and disruption.* Involving passengers in their own security also has the psychological effect of reducing anxiety by transforming passengers from seeing themselves exclusively as helpless victims to seeing themselves as contributing to their own security.

Security Technology

Computerized System Layout. New York Transit has developed a computerized database capable of depicting the rail track network, with corresponding street grid, emergency exits, access points, and ventilation fans in selected sectors of the system. This enables the operations center to readily envision all options in a crisis situation. An emergency mobile command center equipped with a duplicate of the computerized layout can be dispatched to the scene.

Security System Integration. The installation of access control systems—alarmed doorways backed by thousands of cameras—increases the requirement for personnel to monitor them and presents a challenge for security systems integration. Advances are being made in automated problem recognition; for example, a breach of a secure zone automatically brings a camera to focus on the site of the breach and alerts a security official at the operations center. Fortunately, technology is moving fast in this area, offering cost-effective solutions.

Systems to Detect Chemical and Biological Agents. Government research on systems to detect and identify dangerous chemicals or harmful pathogens in the air is ongoing. While significant advances have been made and some devices currently are being used by the military, by hazardous materials teams, and by technical personnel in special circumstances, there is as yet no commercially viable technology that would allow reliable continuous monitoring of the air in large semi-enclosed areas such as train stations or

subway systems. Moreover, where potential victims cannot promptly don protective clothing and breathing apparatuses, the utility of warnings is diminished. Fire department hazardous material teams are able to deploy detectors when a chemical dispersal is suspected, however, and further development is anticipated in this area.

Protecting Signal Systems. Vandalism is a common problem in rail transportation. Authorities report more than 10,000 incidents a year nationwide. In 1994, there were approximately 3,000 incidents of signal vandalism, 154 of which resulted in derailments, although none involved passenger trains. Ensuring the integrity of signal systems requires both physical and electronic measures.

Track Monitoring. One of the most dangerous types of incidents is the deliberate derailing of a speeding passenger train, although the one recent derailing incident in the United States fortunately resulted in only one fatality. In most urban rail systems, the frequency of trains itself acts as a security measure. Where trains run with less frequency, opportunities for sabotage increase. Track security is maintained by using the track itself as a low-voltage electric circuit, with the rails as its conductor. When the current is interrupted or compromised, the system displays a red signal to the engineer. In the 1995 Amtrak derailment, however, the saboteur spliced a shunt wire around the dislocated rail section, thus bridging and preserving the circuit and allowing the signal to display green. This, of course, takes knowledge and time. Additional security for remote rail systems can be provided by regular patrols and frequent track inspection.

GPS Tracking of Vehicles. Most modern rail systems provide real-time information about the precise location of trains. GPS tracking technology has improved and has become cheaper, enabling operators to identify the exact location of specific buses or trains that may be experiencing a security problem. GPS may be used in conjunction with duress switches for drivers and on-board CCTV cameras that can be turned on remotely to provide authorities with a picture of what is taking place on board.

Individual Location Devices. Personnel on foot in tunnels can be equipped with locating devices that use the existing radio infrastructure. These devices can be integrated with a vehicle-locating system to provide a graphic display of the position of all security and response elements connected with the system. Such technology is currently employed in Paris by the Metro and RATP (Régie Autonome des Transports Parisiens) (see Volume II).

Passenger Screening. The passenger screening procedures in place at commercial airports are not feasible for public surface transportation. The number of surface transportation passengers is too great, there are too many points of access, and advance ticket purchase is not required. Attempting to have all passengers pass through metal detectors before entering train or subway stations or X-raying their parcels would create significant delays and impose huge costs. Public surface transportation would cease to be convenient. For buses, such measures would not work at all. However, this does not preclude deploying some X-ray or other bomb detection technology to conduct random security checks in extreme threat situations.

Communications

Multimodal communications are essential. Case studies show that communication breakdowns resulting from technical failures or inadequate procedures are a common problem. Explosions destroy hard lines. Radios do not work well in tunnels. Backups are required. In an ideal situation, all drivers and security staff have radios, although frequencies used by emergency responders differ from those used by transport operators. A common-frequency radio communications system should be set up in each local community, permitting transportation staff and emergency response organizations to share information and coordinate operators (page 53, Volume I). Inadequate procedures compound technical problems, and information received by one component (for example, bomb threats) may not be quickly relayed to response agencies.

Communications with passengers should include several modes. Electronic signs that routinely provide information about the time to arrival of the next train can be used to provide instructions during emergencies, supplementing public address systems. *Larger urban systems must also recognize the need for public announcements to be made in more than one language.*

Passengers should be able to communicate with operators through clearly indicated and readily accessible alarms, emergency telephones, and help points on trains and in stations that will immediately connect the caller with a security person or other staff member. Emergency call boxes should be under visible CCTV surveillance (a camera focused at the caller) both to help security officials assess the communicator and diagnose the situation and to discourage hoax reports.

Response and Recovery

Crisis Management Plans

Deterrence and prevention are difficult to achieve given the nature of terrorism and the inherent vulnerability of public surface transportation; in most cases, authorities will be responding to events that have occurred. The ability to respond rapidly and effectively, mitigate casualties and damage, reduce unnecessary disruption, deal with victims and their families and friends, and reassure a nervous public is critical. *Crisis management planning must be regarded as an essential component of the overall security plan.* Crisis management plans must include procedures for notification and activation of the crisis management team(s) and must indicate the roles and responsibilities of all those involved. The plans must address evacuation and shutdown procedures; dealing with victims, families, and relatives; liaison with local emergency responders; ensuring safety and security of passengers after the incident; restoring service or creating alternatives; issuing public information; and reassuring anxious passengers.

Alert Levels with Predetermined Security Measures

To ensure the consistency of security responses in heightened threat conditions, it is useful to identify in advance alert levels with predetermined security measures. This enables authorities to warn operators of threat situations without providing confidential details, and it allows operators to quickly adjust security measures to the perceived level of threat.

U.S. airports currently operate under such a system, with the Federal Aviation Administration informing airports and carriers of threat levels that then mandate corresponding security measures. British authorities have developed a similar system to assist rail operators and commercial centers to adjust their security according to four levels of threat.

Security Augmentation. A major terrorist incident or publicized threat will require that security be increased visibly to fill any obvious gaps, deter future attacks, and reassure the public. Mutual aid agreements should be negotiated in advance. After the first bomb attacks on its commuter rail and Metro systems, France reinforced security on the RER, Metros, and other potential targets with an additional 5,000 soldiers and gendarmes, a level beyond the capacity of most departments but a demonstration of how huge the workforce burden can become. Deployments of this magnitude in the United States would require

mobilization of the National Guard at the state level or federal assistance, actions that normally are seen only in large-scale civil disturbances but that are increasingly being considered in response to catastrophic terrorist incidents. Such augmentations would necessarily be of short duration. Their contribution to actual security is debatable. Additional security personnel contribute to deterrence, and nervous terrorists will move their attacks further out, away from the heavy security. Nevertheless, additional security cannot prevent determined attackers.

Responding to Bomb Threats. Bomb threats are by far the most common method used by terrorists and others seeking to cause alarm and disruption. Generally, terrorists do not begin a campaign with bomb threats, because they have no established credibility. However, the disruptive effects of actual terrorist bombings may be amplified subsequently with bomb threats, an IRA technique. Bombings also inspire hoax threats. Therefore, transport operators must have well-established protocols for dealing with bomb threats.

First, it is essential that the threat be relayed to the responsible persons, whether it initially is telephoned to the police, transportation company headquarters, switchboard operators, stationmasters, toll-free help lines, reservation centers, or any other number. Everyone should be trained to obtain as much information as possible from the caller and promptly forward it to the appropriate authorities. A bomb threat checklist can be found in Appendix C of Volume I. Some operators (for example, Amtrak) have instant recording devices at all locations where bomb threats may come in. This allows all calls to be captured and transmitted to the police. Second, a protocol for evaluating the threat is needed. Actions can range from watchful waiting to local searches to shutdowns and immediate evacuations. Evacuations will be rare. Authors of bomb threats are rarely bombers. Even during the height of the IRA's bombing campaign, fewer than 2 percent of the threats were considered serious, and evacuations or partial evacuations were ordered in response to fewer than 0.66 percent of the threats. Still, even when threats appear to be hoaxes, as almost all are, they cannot be ignored. A reasonable assessment must be made and appropriate action taken. The desire to avoid needless disruptions must be balanced against the threat to public safety. Guidelines based upon actual experience (and defensible in a court of law if things go wrong) are helpful in taking the pressure off local decision makers.

Handling of Unattended Items. Public transportation systems deal with thousands of items left unattended or left in stations and on trains and buses each year. These impose a tremendous burden on security. Although

unattended parcels are rarely linked to explosive devices, they all represent a potential threat, and during periods of high alert, they need to be examined systematically. To deal with the IRA's terrorist campaign, British authorities developed a standardized reporting form that records where the item was found, its contents, whether the parcel was X-rayed, and whether the bomb squad had been called. All left items are photographed.

The Tokyo and London case studies in Volume III underscore the importance of diagnosis in dealing with terrorist attacks. In the Tokyo case, the mysterious and unprecedented nature of the chemical attack prevented the prompt shutdown of the affected trains and immediate evacuation; contaminated coaches continued on their runs, causing more casualties. In the British case, close analysis of the patterns of the terrorists allowed security authorities to design more effective countermeasures.

Emergency Response Teams

Several of the public transportation operators examined in the case studies have some form of mobile response team that can respond rapidly to serious incidents that cause system disruption. These teams may comprise management personnel who remain at operations headquarters or deploy to the scene of a major incident and trained specialists who have specific responsibilities, specialized training, and equipment for responding to derailments, explosions, chemical incidents, etc. These operational personnel can get to the scene of the incident within minutes. Some operators also have teams with mobile tool sheds and rolling-stock-lifting teams, but their function is related to restoration of service. Having a mobile command center with proper communications equipment is a good idea. Despite the rapid reaction capability of operators' teams, they may be delayed by police and fire units that arrive on the scene first and put in place strict security cordons. This underscores the need for close coordination, recognizable badging, and joint exercises.

Emergency Services

The capabilities of the local emergency services—fire, rescue, hazardous materials, and medical services—are beyond the control of the transport operator whose own resources are likely to be extremely limited. Transport operators should be aware of the capabilities of the local services. Joint exercises should be conducted regularly to identify and remove any unnecessary obstacles to prompt, effective response. The World Trade Center

and Oklahoma City bombings, along with heightened concerns about the possibility of terrorist attacks involving chemical or biological substances, have prompted the U.S. federal government to devote increasing resources to improving the training and equipment of first responders.

Exercises

There are two ways to determine whether crisis response plans work. One is to wait for a real-life incident and hope for success, since the learning curve is very steep and mistakes can be fatal. The other is to conduct regular exercises, both tabletop crisis response games and field exercises, aimed at specific objectives, including testing response procedures, communication, and coordination. Problem areas can be identified and remedies applied without loss. The costs generally are modest, mainly consisting of time. A number of large operations, including New York's Metropolitan Transportation Authority (MTA), conduct such exercises regularly. Most plans, however, are never tested until actual episodes occur.

Assistance for Victims and Their Families

A terrorist attack is, above all, a human tragedy. People are injured, perhaps killed. The precise casualty count and the identities of the casualties and the dazed survivors may remain unclear for hours, or even days, creating agonizing uncertainty for relatives and friends. The problem is compounded in the case of surface transportation by the absence of passenger manifests. While rescue efforts focus on saving lives, investigators try to figure out what happened and gather evidence to determine who was responsible. Operators focus on clearing the wreckage and restoring operations.The task of dealing with victims and their families, as well as those who fear that a relative or a friend might be among those harmed, may be ignored or handled cavalierly. This lack of assistance is one of the biggest sources of complaint and criticism in air and surface transportation disasters.

Crisis management plans and exercises should address this issue directly. The biggest challenges are seeing to the immediate nonmedical needs of the survivors (assistance in communications, clothing, housing, counseling, etc.) and providing accurate and timely information about casualty numbers and identities. The National Transportation Safety Board (NTSB) has been given these responsibilities, but transportation operators must be prepared to participate actively. Crisis plans, therefore, should designate a manager who will be responsible for these tasks.

Working with the NTSB, transportation officials may establish an information center near the location of a disaster (but not where it could hamper rescue and investigative efforts) at which worried family members can seek assistance. Information also can be disseminated through toll-free numbers established for this purpose and through the news media.

The immediate needs of survivors should be promptly identified, and reasonable assistance should be offered. In large-scale disasters, transport staff may have to seek information aggressively from local hospitals regarding emergency admissions; NTSB support will help there. Providing prompt assistance to survivors and victim identification and location information to relatives will not save lives, but it will spare the operating entity some of the ugly criticisms that have come with inept handling of these tasks.

ACRONYMS AND ABBREVIATIONS

CAD	computer-aided design
CCTV	closed-circuit television
CTCPO	Counter Terrorist Crime Prevention Officer
FTA	Federal Transportation Agency
GPS	Global Positioning System
HVAC	heating, ventilation, air conditioning
IRA	Irish Republican Army
MTA	Metropolitan Transportation Authority
MTI	Mineta Transportation Institute
NTCPU	National Terrorist Crime Prevention Unit
NTSB	National Transportation Safety Board
RATP	Régie Autonome des Transports Parisiens
RER	Réseau Express Régional

APPENDIX A: BEST PRACTICES CHECKLIST

PLANS

- Comprehensive security plan
- Alert levels with predetermined security measures
- Emergency response plan
- Coordinated with local authorities
- Periodic review

INTELLIGENCE AND THREAT ANALYSIS

- Periodic meetings with local, state, and federal authorities
- Analysis of local crime patterns

STATION AND TERMINAL DESIGN

- Target hardening
- No highly combustible materials or sources of toxic fumes or shrapnel
- Reversible fans
- Open spaces
- Good visibility
- No hiding or hidden spaces
- Adequate emergency exits
- Designated evacuation routes
- Bomb-secure areas with communications
- Good lighting
- Effective CCTV coverage
- Easy to maintain and well-maintained
- Bomb-resistant, well-placed trash containers

VEHICLE DESIGN

- Crumple impact zones
- No highly combustible materials or sources of toxic fumes or shrapnel
- Modification of car seats to eliminate concealment space
- Visible or hidden CCTV coverage

PHYSICAL BARRIERS

- Fencing for perimeters of parking lots and structures
- Fencing for bus yards, maintenance depots, etc.
- Fencing for vital facilities (power, fuel, etc.)
- Fencing along track
- Locked doors at signal boxes, electric controls, etc.

ACCESS CONTROL AND INTRUSION DETECTON

- Headquarters and operations centers
- Power stations and fuel depots
- HVAC facilities
- Bus yards and depots
- Train yards and maintenance facilities
- Other vital facilities
- Integrated with CCTV

CCTV COVERAGE AND CAPABILITIES

- Stations
- Passenger call boxes and information points
- Entrances
- Parking lots and structures
- Surrounding areas
- Access-controlled doors

- On board vehicles
- Pan, tilt, zoom where appropriate
- Good quality image
- Record full-time or on command
- Date, time synchronized
- Integrated with access control and intrusion detection
- Can be transmitted directly to the police

TRACK AND SIGNAL MONITORING

- Automatic systems (electric current, validation)
- Patrols

CHEMICAL AND BIOLOGICAL DEFENSE

- Detectors in place
- Protective gear for security staff
- Breathing apparatuses available to station staff and drivers

COMMAND CENTERS

- Designated crisis management center and alternate
- Operations center
- Mobile command center

CAD LAYOUTS AND GPS LOCATORS

- CAD layout of system
- GPS on buses
- GPS on trains
- GPS for individual security staff (displaying position at operations center)

SECURITY ORGANIZATION

- Proprietary security
- Contracted security
- Dedicated police department
- Local police
- Police departments along routes
- Liaison with state and federal authorities
- Involvement of civilian staff
- Public involvement

AUGMENTED SECURITY

- Arrangements in place with local police
- K-9 units available

COMMUNICATIONS EQUIPMENT AND PROCEDURES

- Multimodal communications
- Dedicated landlines at track intervals
- Dedicated landlines at stations
- Direct lines to emergency services
- All security personnel have two-way radios
- All drivers have two-way radios
- Common frequency for communications with emergency services
- Cellular phone backup
- Plan talk to eliminate misleading jargon

PUBLIC COMMUNICATIONS

- Emergency phones for passengers indicating caller location
- Public address system
- Multilingual public announcements

TRAINING

- Propriety security
- Dedicated police department
- Local police
- Additional police jurisdictions along routes
- Managers and members of crisis management teams
- Civilian staff

ADDITIONAL GUIDANCE

- Laminated cards
- Liaison with designated officer in each jurisdiction

CRISIS MANAGEMENT

- Crisis management plan
- Designated crisis management team
- Designated emergency response team
- Crisis management manual indicating roles and responsibilities
- Public spokespersons designated and trained
- Regular exercises
- Lessons learned

EXERCISES

- Tabletop crisis management exercises
- Joint field exercises to test emergency response
- Covert testing of security

BOMB THREATS

- Staff trained
- Bomb threat checklists in place

- Ability to record calls
- Established protocol for threat assessment
- Search procedures
- Laminated cards

LEFT ITEMS AND SUSPICIOUS OBJECTS

- Public awareness
- Staff trained
- Established procedure
- Each item examined and recorded
- X-ray capability

CARING FOR VICTIMS AND FAMILIES

- Familiar with NTSB procedures
- Designated member of crisis team to cover assistance to victims and information for relatives
- Protocol to establish contact center at the scene of the incident

OTHER POST-INCIDENT ISSUES

- Public information plan to restore confidence
- Counseling for staff involved in disaster
- Review of lessons learned

APPENDIX B: FIGURES 1 AND 2

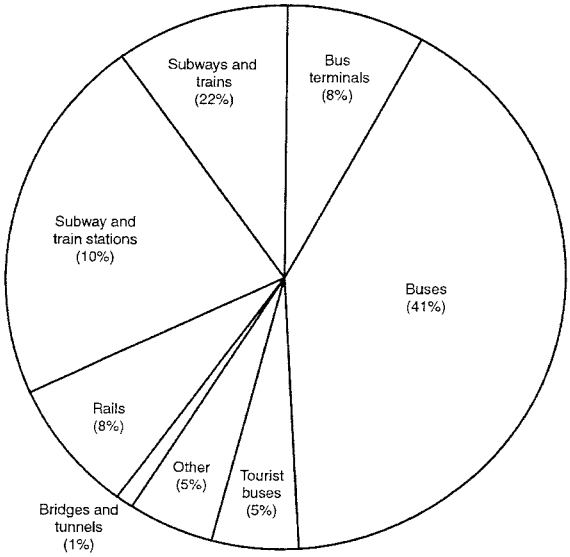

Figure 1. Targets of Attacks on Public Surface Transportation Systems (July 1997–December 2000)

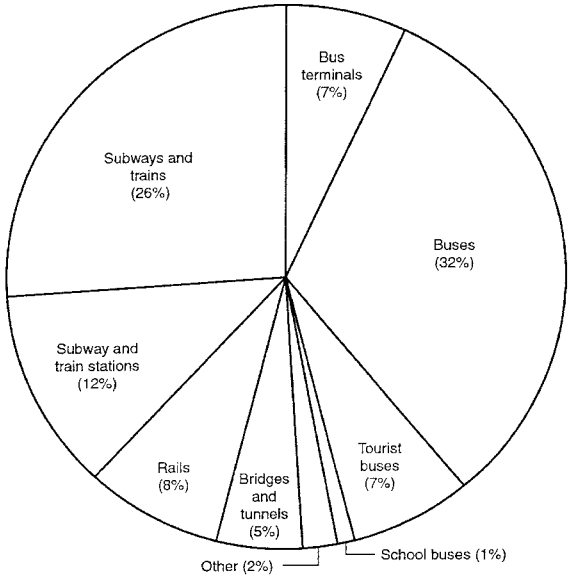

Figure 2. Targets of Attacks on Public Surface Transportation Systems (1920–2000)

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