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Rail Security: Critical Insights and Applications

**Norman Y. Mineta Transportation Forum at the
Transportation Research Board Annual Conference**

**January 22, 2012 – Washington DC
Omni Shoreham, Palladian Room**



TRANSPORTATION RESEARCH BOARD CONFERENCE

Norman Y. Mineta Transportation Forum Rail Security: Critical Insights and Applications

January 22, 2012 – Washington DC
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The Mineta Transportation Institute (MTI) presented a workshop at the request of the Transportation Research Board (TRB) Committee. The half-day discussion was offered on a timely, relevant, and critical topic, given the revelations that Osama bin Laden and al Qaida may have been planning rail attacks in the United States. While these plans were not well developed, it did underscore that terrorists do plan to expand their attacks beyond Europe and Asia.

MTI presented the forum because it strongly believes that passenger rail security must be given much greater attention, especially because of the open nature of the mode and the millions of people who travel by rail each day, whether on inter-city rail, subways, light rail, or commuter rail. The panel addressed the areas of primary concern and vulnerability.

Program

Welcome and Introductions

- Brian M. Jenkins, National Transportation Security Center of Excellence

Keynote Address – “MTA: Securely Moving Eight Million People a Day”

- Nuria Fernandez, New York Metropolitan Transportation Authority

Panel

- Nuria Fernandez, Chief Operating Officer, New York Metropolitan Transportation Authority
- Robert Pryor, Director, Intermodal Division, Transportation Security Administration, US Department of Homeland Security
- Tom Farmer, CEO, Association of American Railroads
- Christopher Budd, Consultant, National Infrastructure Security, United Kingdom

Synopsis

Security procedures similar to those for air travel have not been applied to surface transportation primarily due to operational and economic differences, such as higher visibility in an open network. However, they are no less important. This has been made clear by recent terrorist attacks on surface transit systems around the world, such as in Madrid, London and Mumbai, and discovery of several terrorist plots in the US and elsewhere. Findings in Osama bin Laden’s compound demonstrated that he had rudimentary plans to attack rail infrastructure.

As a continuation of research from the Mineta Transportation Institute’s (MTI) proprietary database on surface transportation, TRB’s Intercity Passenger Rail Committee sponsored a workshop on “Rail Security: Critical Insights and Applications” during its annual meeting.

Presentations

Nuria Fernandez presented “MTA: Securely Moving Eight Million People a Day.” First, she gave credit to the general safety of public transit, citing that crime is the lowest it has been on the MTA system in two decades and that bus travel is “170 times safer” than driving.

However, warning that we should not have a false sense of security (i.e., expectations of being 100% secure), she described the security measures that have been implemented, much since 9/11, on MTA's subway network, which serves eight million riders per day. She pointed out that the MTA must address two realities – that New York is one of the primary terrorist targets, and that New York seeks to have the safest transit system. Ms. Fernandez explained that security initiatives on surface transit differ from those on aviation systems because transit is a public operation in an open network, and it repeats service in the same places at the same times each day. Some measures that have been taken at MTA include:

- Physical Technology and Infrastructure
 - Security cameras with direct access to NYPD
 - Improved lighting
 - Capital investment in research and technologies
- Policing
 - Presence in trains and stations
 - Canine teams
 - Joint initiatives each month with local and state enforcement agencies
 - Heavy-weapons training for use at Grand Central Terminal and Penn Station
- Customer Awareness
 - “If you see something, say something” campaign

Brian Michael Jenkins presented insights from a recent paper, “Fourteen Terrorist Plots against Public Transportation: Preliminary Observations,” which he authored with Joseph Trella. He discussed the planning details, similarities, approaches, and how the plots were foiled. Insiders were not directly involved in any of the plots, and most were prevented because of inexperience or poor planning. The great majority of plots do not succeed, noted Mr. Jenkins. However, terrorists have to be successful only once. Security measures must be successful 100 percent of the time.

Robert Pryor discussed efforts that the Transportation Security Administration's (TSA) Surface Transportation Protection Program is taking to counter terrorist threats directed at surface transportation systems and facilities. TSA collaborates with and provides a core program of services for mass transit systems, freight rail operators, and the pipeline, ferry, and trucking industries. This program helps to fill the gap between industry needs and existing technologies that will further the effort in counter-terrorism. TSA has conducted 21 major pilots, including lab and field testing, from 2004-2010. In the end, data and product lists, particularly useful to first responders, are openly provided to all appropriate surface transit providers through internet -based information.

Tom Farmer represented the Association of American Railroads, an organization composed of major freight railroads, including short lines, in the United States, Canada and Mexico, as well as Amtrak. Mr. Farmer recommended “knowing your opponent” as a strategy for security, which can be achieved through the integrated effort of intelligence gathering and knowledge of security information.

He referred to another strategy as “FACTS,” which is based on the military strategy of using force multiplication, a technique that makes a given force more effective by working

in combination with other factors. In this case, the force multipliers would be actions and assessment undertaken in collaboration with local law enforcement, training of first responders and implementation of sustainable security measures.

Christopher Budd provided an international perspective, discussing the role of the Center for the Protection of National Security (CPNI) in the United Kingdom. This government authority provides protective security advice and recommends safety and security standards to businesses and organizations across the national infrastructure in the UK.

Mr. Budd explained that characteristics of the transit network make the system vulnerable. These include an open mass transit network, heavy reliance on an electronic information system, a diverse transient staff, and demonstrated precedence for attack. CPNI's approach is holistic by focusing on physical protection and personnel and information security. Physical protection has involved use of CCTV – a human factors approach and a deterrent – but not sufficient by itself. In summary, Mr. Budd listed four key requirements to implementing a good mass transit security program:

- Staff on the Ground, Operator Awareness
- Communications to Deter Hostile Reconnaissance
- Increased Public Awareness
- Messages for the Terrorist, “We are watching you.”

Outcome

This workshop provided a valuable forum for researchers and practitioners engaged in this field. It also explored current research and identified promising directions for future research. Following the workshop, TRB published a newsletter with a summary of the presentations and discussions from this panel.

SPEAKER BIOGRAPHIES

Nuria I. Fernandez
Chief Operating Officer
NYS Metropolitan Transportation Authority



A Senior Executive with over 30 years of experience in the transportation field and a professional career that includes, planning, design and construction of mass transit systems, airport operations

and policy development of federal transportation programs. Nuria is

the Chief Operating Officer for the New York State Metropolitan Transportation Authority, where she is responsible for the overall security of the MTA system, development of its capital and environmental sustainability programs, federal and state government affairs and management oversight of the five operating agencies and

the capital construction company.

Her accomplishments include managing the operations of O'Hare International Airport; providing high-level policy and program expertise at the U.S. Department of Transportation and managing the design and construction of multi-billion dollar rail expansion programs in Chicago and Washington, D.C.

She has a B.S. in Civil Engineering from Bradley University and an MBA from Roosevelt University in Illinois. Nuria is a member of the American Public Transportation Association, the Program Management Institute, and the Women's Transportation Seminar. She also serves on the Mineta Transportation Institute's Board of Trustees and the Advisory Board for Bradley University's College of Engineering and Technology.

CHRISTOPHER BUDD
UK Government Security Advisor
Centre for the Protection of National Infrastructure

Christopher Bu is currently a UK Government security advisor working for the Centre for the Protection of National Infrastructure (CPNI) providing integrated security advice to the transport sector. Mr. Bu specializes in the identification and assessment of critical national infrastructure, providing threat-based physical security advice in the land transport sub-sector (road, rail and metro). CPNI is an interdepartmental organization with resources from industry, academia and a number of UK Government departments and agencies.

Prior to this role, Mr. Bu had extensive operational intelligence and security experience in Bosnia, Kosovo and Northern Ireland while serving in the British Army. Following this, he devoted a number of years as a transport security regulator to the civil nuclear industry. In

all, he has almost 16 years' experience of intelligence and security gained in the military and government service while also acting as an essential link with the private sector.

THOMAS L. FARMER
Assistant Vice President – Security
Association of American Railroads (AAR)

As the Assistant Vice President for Security for the Association of American Railroads (AAR), Thomas L. Farmer coordinates development of railroad industry security policy and serves as the principal rail industry liaison with Federal departments and agencies



on matters pertaining to security. Among his responsibilities are assuring the viability and effectiveness of the industry's Security Management Plan; facilitating industry-wide security exercises to evaluate implementation of the plan and apply lessons learned in

improvements; managing the intelligence and security information sharing and alert notification functions of the Railway Alert Network; and identifying and advancing opportunities to enhance the railroads' capabilities to address security challenges. As a critical component of these duties, Tom serves as coordinator of the Railroad Security Working Committee and Freight Rail Sector Coordinating Council. Each of the Class I railroads, regional freight railroads, Amtrak, Metra, and affiliated commuter railroads, and the American Short Line Railroad Association (ASLRRA) participate in these forums, which foster collaborative risk mitigation and security enhancement efforts and effective communication and coordination with the Federal government.

Mr. Farmer joined AAR in April 2010 following nearly 6 years of service with the Transportation Security Administration (TSA), in both the Mass Transit and Passenger Rail Security Division (2006-2010) and Office of Chief Counsel (2004-2006). In his more than 4-year tenure with Mass Transit, during which he twice served as Acting General Manager for extended periods, Tom worked in close concert with other Federal agencies and security directors and law enforcement chiefs in passenger railroads and mass transit systems nationally in the development of broadly embraced strategic priorities and the programs and initiatives that advanced their implementation. He placed particular emphasis on the need to improve the analytical quality, efficiency of dissemination, and timeliness of intelligence and security information for passenger rail and mass transit stakeholders.

Tom's professional career includes two tours of active military service – as a judge advocate in the United States Air Force from 1994 to 2004 and as a tactical intelligence officer in the United States Army during 1985 to 1988.

A graduate of Seton Hall University (B.A., Communications – 1985), St. John's University School of Law (J.D., 1993), and the Institute of World Politics in Washington, DC (M.A., National Security Affairs – 2008), Tom resides in Fairfax, Virginia with his wife Michaele, 11-year-old daughter Haley, and 6-year-old son Timothy.

BRIAN MICHAEL JENKINS
Director, National Transportation Security
Center of Excellence
Mineta Transportation Institute



As a leading authority on terrorism and sophisticated crime, Brian Michael Jenkins works with government agencies, international organizations and multinational corporations. He has directed MTI's continuing research on protecting surface transportation against

terrorist attacks. He is also a senior advisor to the president of RAND.

From 1989-1998, Mr. Jenkins was deputy chairman of Kroll Associates, an international investigative and consulting firm. Before that, he was chairman of RAND's Political Science Department where he also directed RAND's research on political violence.

Mr. Jenkins has a B.A. in fine arts and a Masters Degree in history, both from UCLA. He studied at the University of Guanajuato in Mexico and at the University of San Carlos in Guatemala where he was a Fulbright Fellow and received a fellowship from the Organization of American States.

Commissioned in the infantry, Mr. Jenkins became a paratrooper and a captain in the Green Berets. He is a decorated combat veteran having served in the Seventh Special Forces Group in the Dominican Republic and with the Fifth Special Forces Group in Vietnam. He returned to Vietnam as a member of the Long Range Planning Task Group, receiving the Department of the Army's highest award for his service.

Since then, he has served on numerous U.S. and international task forces investigating terrorist attacks. In 1996, President Clinton appointed Mr. Jenkins to be a member of the White House Commission on Aviation Safety and Security. He served as an advisor to the National Commission on Terrorism and has served on the U.S. Comptroller General's Advisory Board.

Mr. Jenkins is the author of several articles, reports and books, including *International Terrorism: A New Mode of Conflict* and *Will Terrorists Go Nuclear?*.

ROBERT PRYOR
Director, Intermodal Division
Office of Security Capabilities
Transportation Security Administration

Mr. Pryor is assigned to the Office of Security Capabilities, Transportation Security Administration as the Director, Intermodal Division.

Mr. Pryor returned to government service in 2003 after 10 years working in the private sector. During that time, he held several director and program manager positions, and he served in several security-related foreign assignments.

A former US Marine officer, Mr. Pryor's active duty experience included a variety of Fleet Marine Force command and staff assignments. He specialized research and development, and in counter-intelligence/counter-terrorism assignments.



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