“BEST SECURITY PRACTICES” FOR PROTECTING SURFACE TRANSPORTATION AGAINST TERRORISM AND SERIOUS CRIME

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Contemporary Terrorists Have Made Public Transportation a New Theater of Operations

• Easy Access--Little Security
• Anonymity for attackers--escape easy
• Concentrations of people in contained environments
• Softer target than commercial aviation
Our Chronology of 900 Terrorist Attacks and Serious Crimes Involving Surface Transportation Shows That:

• Attacks intended to kill: 37% involve fatalities; 2.3 intended to kill

• Goal often slaughter: 74% of fatal attacks involve multiple fatalities; 23% involve 10 or more fatalities

• Attacks evenly split between rail and bus systems

• Most Attacks occur in conflict zones, but 1/3 outside

• Bombing remains most common tactic (60%)
Targets of Attacks on Public Surface Transportation Systems (1920-2000)

- Subways and trains: 26%
- Buses: 32%
- Subway and train stations: 12%
- Rail: 8%
- School buses: 1%
- Tourist buses: 7%
- Buses: 32%
- Bus terminals: 7%
- Bridges and tunnels: 5%
- Other: 2%
- Bridges and tunnels: 5%
Targets of Attacks on Public Surface Transportation Systems (1920-2000)

- Bombings: 58%
- Standoff attacks, shots fired: 9%
- Ambushes, assaults: 11%
- Hijackings, hostage situations: 5%
- Mechanical sabotage: 5%
- Bomb threats: 4%
- Grenades or bombs thrown: 4%
- Arson: 3%
- Other: 1%
Location of Attacks with Fatalities on Public Surface Transportation Systems (1920-2000)
Countries with the Most Fatalities in Attacks on Public Surface Transportation Systems

(1920-2000)

Number of Incidents

India  Pakistan  Algeria  Egypt  Russia (USSR)
Some Recent Events

• 1997 - Plot to carry out suicide attack on New York subways
• 1998 - Attempt to derail Japan’s bullet train
• 1998 - Threatened poison gas attack on Moscow subway
• 1999 - Bomb injures three at Sydney rail station
• 2000 - Bomb threats shut down London Underground
• 2000 - Bomb kills nine, injures 60 on Manila Metro
• 2001 - Seven die in crash of hijacked bus
MTI Study

• Essential that transportation system operators and supporting authorities have thorough understanding of security measures—especially those implemented by entities that confront higher threat levels

• Objective: Distill lessons learned and catalog “best practices”

• A multi-phase research effort that IISTPS began in 1996

• Three volumes completed plus executive summary
MTI Study Addresses:

- Threat perception, assessment, and analysis
- Security organization and personnel
- Security through environmental design (visibility, lighting, materials)
- Use of CCTV
- Alarms and detection technology
- Communications systems and procedures
- Training of staff, security personnel, law enforcement
MTI Study Addresses: (cont’d.)

• Augmented security (for special events or in response to threats)

• Emergency response (including evacuation plans)

• Public involvement

• Crisis management plans and procedures

• Communicating with families in crisis

• Clean-up and restoration
MTI Case Studies
(14 U.S. and 3 foreign systems)

- New York City (MTA)
- Atlanta (during the Olympics)
- Amtrak (derailment of Sunset Limited)
- San Francisco (BART)
- Santa Clara (VTA)
- FTA-conducted surveys of nine transit systems
- United Kingdom (25-year IRA terrorist campaign)
- Paris (1995-96 terrorist bombings)
- Tokyo (1995 sarin attack)
Transportation Security Has Two Objectives

• Preventing casualties
• Minimizing disruption
Lessons Learned from 1995 Sarin Attack on Tokyo’s Subways

• Three lines hit, 12 dead, 5,500 ill
• Early indicators missed
• Security measures could not have prevented
• Diagnosis and reaction slow--trains with sarin kept running
• Rail staff unprepared, untrained; some died
• Most illnesses result of panic--only 1,200 persons actually exposed
• Emergency response unprepared for CB; diagnosis of poison slow
Lessons Learned from Response to IRA Terrorist Campaign

• 25-year campaign of terrorism against surface transportation in England

• In all, 17 persons killed, 200 injured

• From 1991 to 1999, 81 explosive devices, 6,589 bomb threats, 9,430 suspicious objects

• High volume of activity allowed analysis of modus operandi and formulation of strategy
Lessons Learned from Response to IRA Terrorist Campaign (cont’d.)

- Security measures worked against terrorists and reduced ordinary crime
- Government provided detailed guidance to private sector and general public to improve awareness and security, and to follow standard procedures
- CCTV effectively used
- Covert tests regularly conducted
Lessons Learned from BART

• No terrorist incidents, but threat taken seriously
• Chemical attack is seen as most serious threat
• Maintains first response team but arrival may lag behind local responders
• Conducts regular exercises
• CCTV covers stations, not track
• Funding for security uncertain
Overall Lessons Learned

• Effective security includes not only deterrent and preventive measures, but all efforts to mitigate casualties, damage, and disruption;

• Deterrence and prevention difficult to achieve given nature of terrorism and inherent vulnerability of public transportation. More attention to measures to mitigate casualties, damage, and rapidly restore service;

• Crisis management essential

• Threat is real, but not easily quantifiable; difficult to determine the “right level or security.” Security will be reactive;
Overall Lessons Learned (cont’d.)

• Security should be incorporated in design and construction of transportation systems to discourage attack, reduce hiding places, eliminate hazardous materials that produce shrapnel or toxic fumes, and contribute to emergency response and orderly evacuation;

• Multi-mode communications are essential. Communication breakdowns, resulting from inadequate procedures or technical failure, appears to be common problem;
Overall Lessons Learned (cont’d.)

• Constant training, including simulations and field exercises involving operating entities and local authorities, essential to rapid response and successful crisis management;

• Technology that reduces security operating costs will be favored;

• CCTV increasingly used to increase surveillance and assist in investigation and prosecution;

• Ability to analyze tactics and rapidly diagnose a threat can save lives and reduce disruption;
Overall Lessons Learned (cont’d.)

• Trend to involve the public in a security role through signage and public announcements despite risk of provoking increased false alarms;

• Good communications essential component of crisis management; must communicate accurate information to users and public, also provide continuing information and assistance to relatives and friends of victims. As we have learned from airline disasters, this is an extremely difficult task, not always done well.