

THE TERRORIST THREAT TO SURFACE TRANSPORTATION



MTI

Brian Michael Jenkins
National Transportation Security
Center
Mineta Transportation Institute

October 31, 2007
PATH-UTC Conference

PUBLIC SURFACE TRANSPORTATION TARGETS ATTRACTIVE TO TERRORISTS

- **Easy access and escape**
- **Congregations of strangers guarantee anonymity**
- **Crowds in contained environments vulnerable to conventional explosives and unconventional weapons**
- **Attacks cause alarm and great disruption**

TERRORISTS WHO ATTACK TRANSPORTATION SYSTEMS OFTEN SEEK SLAUGHTER

- **Two-thirds of attacks intended to kill**
- **37 percent result in fatalities (compared to 20-25 percent of terrorist attacks overall)**
- **75 percent of fatal attacks involve multiple fatalities; 28 percent involve 10 or more fatalities**
- **Every attack in past three years intended to kill**
- **Bombs kill an average of 20 persons**

TARGETS OF ATTACKS

- **Buses (32%), tourist and school buses (8%) and bus terminals (7%) = 47%**
- **Subways and trains (26%), stations (12%), and rails (8%) = 46%**
- **Bridges and tunnels (5%) and other (2%) = 7%**

TACTICS USED

- **Bombings (60%), bombs thrown (4%) = 64%**
- **Ambushes, armed assaults (11%)**
- **Standoff attacks, shots fired (9%)**
- **Hostage situations (5%)**
- **Mechanical sabotage (5%)**
- **Arson (3%), threats (4%), other (1%)**

TERRORIST THREAT HAS FOCUSED ON PEOPLE NOT INFRASTRUCTURE

- **Jihadists have contemplated attacks on bridges and tunnels (New York 1993, Brooklyn Bridge scheme in 2003) however...**
- **No terrorist attacks on bridges, tunnels, or roads**
- **Only five percent of 900 surface transportation attacks involve bridges or tunnels**
- **Almost all in on-going conflict zones where smaller bridges have been blown up**

TRANSPORTATION TARGETS IN JIHADISTS' PLAYBOOK

- **January 2003 – Plot to release cyanide on New York's subways**
- **August 2004 – Plot to bomb subway stations in New York**
- **April 2005 – Plot to spread ricin on Heathrow express**
- **July 2005 – Failed attack on London subway**
- **August 2005 – Plot to release deadly gas in London subway**

TRANSPORTATION TARGETS IN JIHADISTS' PLAYBOOK (cont.)

- **November 2005 – Plot to bomb train stations in Melbourne or Sydney**
- **April 2006 – Plot to blow up a commuter train in Milan**
- **April 2006 – Plot to seize hostages aboard a passenger ship or ferry in the Philippines**
- **July 2006 – Plot to blow up subway tunnels in New York**
- **August 2006 – Bombs discovered aboard a train in Germany**
- **Recent chatter about attacks on subways**

TERRORISTS GET GOOD

“RETURN ON INVESTMENT”

- **Stavropol – December 5, 2003 (1 bomb – 42 killed)**
- **Moscow – February 6, 2004 (1 bomb – 40 killed)**
- **Madrid – March 11, 2004 (10 bombs – 191 killed)**
- **Russia – August 31, 2004 (1 bomb – 10 killed)**
- **London – July 7, 2005 (4 bombs – 56 killed)**
- **Mumbai – July 11, 2006 (7 bombs – 207 killed)**
- **Dewana – February 18, 2007 (2 bombs – 66 killed)**
- **Average fatalities per bomb – 24**

PRELIMINARY LESSONS LEARNED FROM MADRID—TERRORIST PLANNING

- **Planning for attack began in late 2002 or early 2003**
- **Specific operational planning in 2004**
- **Locals knew schedules—planned to the minute**
- **Attacks clearly intended to kill (10 kgs of explosives plus 23 oz. of bolts and nails)**
- **Trial runs?**
- **Terrorists did not travel with assembled bombs**

LESSONS LEARNED FROM MADRID— WARNINGS

- **No prior “chatter”**
- **Terrorist propaganda was a warning**
- **Publicity surrounding thwarted ETA attacks**
- **Partially-assembled bomb found day before a possible indicator**

OBSERVATIONS FROM LONDON ATTACKS

- **Partially inspired by Madrid**
- **Prior plots involving public transportation**
- **No prior indicators—cells beneath radar**
- **CCTV does not deter suicide attackers**
- **CCTV helped in rapid identification, confirmation of suicide, may have accelerated action by second cell**
- **Response well done but still some shortcomings**
- **Random search procedures accepted**

ADDITIONAL ISSUES ARISING IN LONDON ATTACKS

- **Reaction time?**
- **Diagnosis**
- **Communication failure**
- **Handling massive amounts of information**
- **Informing the public**
- **Getting people home**
- **Ability of second cell to penetrate heightened security**
- **Psychological effects of second bombing**

LESSONS LEARNED FROM THE MUMBAI TERRORIST ATTACK

MUMBAI SUBURBAN RAILWAY SYSTEM

- **Comprises three systems (Indian, Railways Western, Railways Central Railways)**
- **303 kilometers; approximately 100 stations**
- **2067 daily trains; electric powered**
- **Carries 6.1 million commuters daily**
- **Passenger per kilometer density greater than Tokyo; 52 x Long Island RR**

MUMBAI SUBURBAN RAILWAY SYSTEM (cont'd)

- **Overcrowding--during peak hours, 9-car train carries 4,700 passengers against designed capacity of 1,700 (550 persons on coach designed for 200)**
- **Known as “Super-Dense Crush Load” of 14-16 standing passengers per square meter of floor space**
- **Dangerous--3,500 accidental fatalities a year--13 every weekday (hit by trains, fall off trains, electrocuted on train roofs)**

SECURITY AT TIME OF ATTACK

- **Multiple jurisdictions--Mumbai police, state forces, Railway Protection Force--with different tasks**
- **Little security in place**
- **No access control to platforms; no passenger screening**
- **Mumbai police lack the resources to secure trains**
- **Few police focus primarily on gropers**

PREVIOUS ATTACKS ON UNATTENDED SURFACE TRANSPORTATION TARGETS

- **December 2002 - Two persons killed, 31 injured by bomb in municipal bus outside suburban railway station in Mumbai**
- **December 2002 - 25 persons injured by a bomb in the food plaza at the Bombay Central Railway Station**
- **January 2003 - 30 people injured by bomb planted on a bicycle outside Vile Perle Station in Mumbai**
- **March 2003 - 11 persons killed and 65 injured by a bomb in the ladies special train entering Mulund Railway Station**

PREVIOUS ATTACKS ON SURFACE TRANSPORTATION TARGETS (cont'd)

- **March 2006 - Simultaneous bombings at a railway station (2 bombs) and Hindu temple in Varnasi; two other devices found and defused. Total casualties: 23 dead, at least 62 wounded**
- **March 2006 - Bomb found and defused inside an unattended bag on the platform of central Mumbai commuter rail station**
- **February 2006 - Explosions on Samjhawta Express kill 68 persons**

THE JULY 11, 2006 ATTACK

- **Western Line targeted during evening rush hour**
- **Seven bombs on trains; all placed in first class coaches**
- **Bombs consisted of metal pressure cookers each packed with RDX high explosive; bombs were in leather suitcases placed in overhead racks**
- **Detonated with digital countdown timers from Germany--not a suicide attack**

THE JULY 11, 2006 ATTACK - (cont'd)

- **First of seven explosions at 18:24, subsequent explosions at 18:24, 18:25, 18:26, 18:29, 18:30, 18:35**
- **Detonation sites spread out over 18 miles of rail line**
- **209 persons killed, more than 700 injured**
- **Police suspected Lashkar-e-Toiba (Army of the Righteous) a jihadist extremist group linked with al Qaeda**
- **Students Islamic Movement of India also believed to be involved**
- **Bombings preceded by hoax calls from perpetrators to test responses (bags of old clothes left) and followed by usual hoax bomb threats**

EMERGENCY RESPONSE

- **Mumbai unprepared for mass casualty attack (despite 1993 bombings in which 250 persons were killed)**
- **Each train station had two stretchers and first-aid box**
- **Slum dwellers bordering tracks and stations were the first responders--little involvement by police**
- **Police stretched thin--unable to muster adequate manpower**

EMERGENCY RESPONSE (cont'd)

- **No perimeter controls for several hours at any locations**
- **No crime scenes established for several hours (and damaged coaches removed within one hour)**
- **No traffic control plans implemented**
- **Civilians swarmed all locations to look for relatives and evacuate injured**

EMERGENCY RESPONSE (cont'd)

- **Heavy rain made evidence collection and establishing order difficult**
- **After life safety operations, trains moved in their entirety to rail yards for examination**
- **Victims received little medical treatment on site to stabilize critical injuries or prepare patients for transport--this increased the death toll**
- **Emergency room doctors admitted they were unprepared for high volume of critical injuries**

EMPHASIS ON RAPID RESTORATION OF VITAL SERVICE

- **Clearing rails took precedence over crime scene investigation--crime scenes massively contaminated anyway by rescue effort, heavy rains**
- **Trains with damaged coaches moved to yard in approximately one hour**
- **By 22:45, service on affected line, four hours after blast, restored**
- **By late next morning, service almost entirely back to normal**

HEIGHTENED SECURITY MEASURES

- **Additional security personnel deployed to the stations including police armed with automatic weapons**
- **Random searches focusing on persons with luggage, backpacks, shoulder bags; bags searched, their names recorded**
- **Additional explosives-sniffing dogs deployed**
- **Posters put up admonishing public to be vigilant**
- **Non-passengers no longer allowed on train platforms**
- **CCTV with smart cameras installed, initially at three most sensitive stations**

HEIGHTENED SECURITY (cont'd)

- **Trains locked when taken to the yard overnight**
- **Persons sending parcels via rail required to have them open and seal them only at the station in the presence of security personnel**
- **Announcement of integrated surveillance and security systems being developed for Mumbai stations (No details given.)**

HEIGHTENED SECURITY (cont'd)

- **Railway Protection Force expanded, training increased**
- **Metal detectors deployed (no numbers available)**
- **Claim that “every commuter is checked,” but given volume of passengers, that cannot mean searched**
- **Claim that all bags inspected is also doubtful**

SOME OBSERVATIONS ON THE MUMBAI ATTACK

- **Despite record of large scale terrorist attacks over previous 14 years (in Mumbai and against surface transportation nationwide), there was little security**
- **Despite the 1993 Mumbai bombing, with a thousand casualties, Mumbai did not appear to have a well-rehearsed crisis management plan or adequate emergency response capabilities**
- **Limited resources clearly are one reason**
- **High volume and extraordinary passenger density impede security measures**
- **Restoration of full-service on this vital lifeline appeared to take precedent over all considerations**

SABOTAGE OF RAILS ON MOSCOW - ST. PETERSBURG TRAIN

- **2 kg of TNT placed 100 feet on track 100 feet ahead of bridge 60 feet above roadway**
- **Device identical to one used in 2005 rail bombing**
- **Clearly intended to derail train and cause casualties**
- **High speed of train enabled train to cross bridge before derailing**
- **12 cars derailed**
- **More than 20 injured (if train had gone off bridge, casualties would have been greater)**