

# TERRORIST THREATS AND PUBLIC TRANSPORTATION

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## **Abstract**

Public transportation is an activity facing various problems. One of them, very complex and dangerous, is terrorism which together with criminal activities and vandalism, is making the top of the threats affecting public transportation and therefore urban life quality. Public transportation has several characteristics which make it vulnerable to terrorist attacks and a main target for them. To compensate for these weaknesses, certain solutions are necessary to prevent the attack or in case it already took place, to reduce the human and material losses.

**Keywords:** urban area, urban transportation, vandalism, criminal activity.

## **1. Introduction**

Contemporary terrorism turned urban public transportation in a new theater for its attacks. In various areas of the world terrorist actions targeted transport systems. Parisian underground train was the target of a bomb of the Algerian extremists in 1995 and 1996; Irish Republican Army had a long campaign against the English authorities, targeting passenger trains and London underground; Palestinian terrorists used suicidal agents who blew themselves up in buses in Israel; in Tokyo members of AUM sect attacked the underground train with a lethal gas in 1995, and examples can go on. The attacks of September 9 on World Trade Center and the Pentagon showed the massive social, political and economic impact they may have under certain circumstances, and also pointed out the role of vehicles as an instrument of terrorist attacks. More recent the attacks of March 11, 2004 at the railway terminals in Madrid, besides the great number of victims, commuters killed or injured, had a huge social and political impact influencing the parliamentary elections in Spain, that were taking place the following days, and producing a change of government and policy of the Spanish state in the military campaign in Iraq. In July 2005, in Great Britain, 56 persons were killed because of 4 suicidal attacks in the public transportation network. (Litman, 2005)

A study of the Mineta Transport Institute de Transport shows, for 1997-2000, on a global scale, a number of over 195 terrorist attacks targeting the urban public transportation system. The structure of

the target locations shows a percentage of 41% buses, 22% trains and underground trains, 10% train and underground trains stations, 8% bus terminals, 8% railways, 5% tourist buses, 1% bridges and tunnels, 5% other objectives. (Jenkins, 2001) and (Graf, 2008)

## 2. Characteristics of the transit networks making them vulnerable to terrorist attacks

For those intending to kill people indiscriminately, public transportation is an ideal target. Attacks on the public transportation which is the traffic system in the urban areas cause huge damages and panic therefore meeting the traditional requirements of terrorism. According to officials of the transit system and experts in system safety, certain characteristics of the mass public transportation make it vulnerable to terrorist attacks and more difficult to secure. These systems are designed to operate openly (non-restricted), with many control free access points, so that a huge number of people could travel quickly and easily. Its open character make supervision and control of the people going in or out of the network, more difficult; on the other hand to ensure safety in the access points along the routes is unaffordably expensive. Passangers do not know each other, therefore attackers can easily keep a low profile and get away. Concentration of people in the spaces designed for transport make them vulnerable to conventional explosives and non-conventional arms. (ECMT, 2002)

Other characteristics of the transit systems such as the large number of travellers , costly infrastructure, economic importance and location (large metropolitan areas or tourist destinations), turn them into potential targets. The large number of passangers using the transit network daily, especially during rush hours, make any safety measures impossible, (in case of metal, explosive or arms detectors) due to huge delays and unaffordable expenses.

One more difficulty of transit safety resides in the necessity to preserve characteristics such as accessibility, affordability, availability etc. On the other hand, public transportation should be competitive in relation with the car, otherwise, any safety measures causing delays, affecting availability and rising travel fares push travellers to use the cars. ( Rossiiskaia akademiia nauk, 2004)

One last argument is that public transportation systems are in public places. Other places with similar conditions regarding the large concentration of people at one time, are la big shops of commercial centers, busy and crowded streets and avenues, but also the lines of people waiting to pass through safety systems. These are extremely vulnerable. To isolate each public place with safety systems is not only ineffective but also impossible to obtain, and also a sure path to destroy society openness.

### 3. Transportation safety as an retaliation against terrorism

Attacks on public transportation are in many cases, just a side of the violent phenomenon in the urban area, coinciding with vandalism, armed robbery, theft and aggression. Unlike the other forms of violence or property destruction, terrorism wants to get international attention and to spread panick while vandalism only wants to destroy property, to harass travellers; as a result confidence in public transportation services decreases and customers leave. Graffiti and vandalism (including robbery, theft and aggression) usually do not result in injuring or killing people, still, they are infractional forms favourable to criminal activities and even terrorism.

Terrorist campaigns unfolded in several countries of Europe, but also in some developing countries allowed to accumulate expertise as concerns the terrorist objectives, tactics and technics. Of the total of the incidents analyzed bomb attacks rise to almost 60%, followed by ambushes with approximatively 11%, remote control attacks 9%, hostages taking 5% and sabotage 5%.

The safety measures used to fight terrorism widely depend on the financing funds terrorists get. There are very important factors such as costs of safety measures, limited security budgets and competition for budget priorities. Many of the investments in transit safety can be very expensive, while improvements are cheap, such as litter bins removal from the crowded areas, locking of rest rooms during the night, better illumination of the spaces, better communication with local police or other emergency services, plans for crisis management, procedures for bomb threats and objects found, which rise suspicions etc. (Lenain, 2002)

Applying safety measures does not prevent terrorist attacks completely, but they can reduce the risk of such attacks and reorientate the actions to less important targets, resulting in less injured people. As a rule, terrorists follow vulnerable targets and try to surprise with their attacks. Such attacks can take place anywhere, anytime, while safety measures cannot protect everything all the time. In the aftermath of an attack safety measures increase drastically trying to block any other attempt and reassure the worried public that measures are taken. If threat diminishes some additional measures are obviously suspended. Still, there is a tendency to preserve several safety measures permanently, suggesting that the safety level can vary with time, being decreased or increased according to the suspicion of an attack.

Building up a general security strategy for the public transportation should take into account some fundamentals:

Transport security should have to major objectives: the main objective is prevention of potential victims and the secondary objective is decreasing of damages caused by services interruption.

Security measures probably cannot prevent terrorist attacks but they can greatly discourage actions against protected places. Number of potential victims can be reduced with a better design of the stations and trains, but also with a quick and effective respond in case of attacks.

Damages can be minimal using technologies and procedures that allow a prompt evaluation and a precise diagnosis and a quick and better respond. The efficiency of safety measures reside not only in their pre-emptive and intimidating effect but also in the efforts to keep down the number of victims, damages and transport networking interruptions. Since coercion and prevention are difficult to maintain, due both to the nature of the terrorist actions and to the specific weaknesses of the public transportation, it is only natural to focus on the reduction of potential victims number by an adequate design of the transport networks and a quick and efficient respond.

The themes of public transportation safety fall into two major classes: previous preparation by developing a safety program; respond and return to normal.

#### **4. Security Program**

Most of the transport operators have programs which should solve the situations when services are interrupted due to various reasons: natural disasters, bad weather, accidents, other incidents including criminal actions of terrorism. With such program operators try, as a rule, to reduce damages and to keep on providing the services. Programs should be developed together with local authorities (police, fire fighters, emergency hospitals), according to the best expertise, approved by operator management, checked by tests and practice, and periodically improved.

##### **4.1. Threat estimation and analysis**

Information about the possible terrorist attacks usually come from government specialized institutions and organizations but transport operators should not ignore other inside or outside information sources. The process of threat and vulnerability evaluation follows several steps: preparation of evaluation process; critical assets identification for protection; identification of assets with greatest impact on people and system; identification of threats to critical assets; developing scenarios for the threats; consequences of threats anticipation; hierarchy of vulnerable spots in public transportation and decision upon taking the best safety measures; audit of safety measures implementation. (Whitehurst, 2003)

#### **4.2. Design of stations and means of transport**

When a new station is built (train or underground train) or an old one is rebuilt, safety measures should be an important factor of design. A good station design avoids dens or other obstacles, allowing visual access in all directions, without corners or dark areas where criminals can hide and terrorists can place bombs; good and constant lighting, TV supervision systems, fire resistant doors, good smoke release systems, emergency evacuation routs, betc. (Naşcu, 2006)

Even if traveller waiting and circulation platforms should provide easy access, still access restrictions are necessary, hence fences and enclosures built for bus garages and underground stations and parking zones by the stations. Employees or visitors enter the garages and underground stations only if they have permits. (Hoel, 1992)

Station design should provide good access control and suitable supervision of traveller areas. The most performant means are TV systems which offer images from various directions and receive images from every corner or area of the station in order to discourage any kind of criminal actions.

Station building should necessarily include blast resistant areas to shelter the people who cannot be quickly evacuated. It is preferably to place them away from the access routes, windows or doors, and to provide them with concrete walls and communication means.

Litter bins should not be placed close to waiting or circulation areas because they could be used to place bombs. The places where such objects are positioned should be watched by TV systems or built out of blast resistant materials and the bins should be out of transparent materials to monitor their contains.

Vehicles should be built out of collision and fire resistant materials and, if set on fire, the some released should not be toxic. In order to adapt to anti-terrorist measures, objects, inside the vehicle that could become projectiles in case of blasts, should be removed, the space beneath chairs should be sealed to prevent placing of bombs or chemical devices, and supervision cameras and alarms should be installed either visibly or hidden.

#### **4.3. Setting a security force**

Big operators should use security forces specialized in transport activity. They can be private companies or police agents specialized in public transport. They can be used in areas considered of high risk, inside or outside the transport space. There can be used uniform or civilian-clothed units. Uniform units discourage criminal actions and calm down the travellers, while civilian-clothed agents are

used in high risk areas and during violent actions. Transport operator personnel present in the stations and vehicles also has a calming effect on travellers. (Taylor, 2005)

#### **4.4. Technologies used to provide public transport safety**

There are signaling and supervision systems in the stations or vehicles, railway control systems to detect possible sabotage actions, systems to locate in real time vehicles or workers movement in tunnels or along the routes, chemical or biological detecting systems etc.

#### **5. Respond and return to control activity**

It is very difficult to prevent and dissuade terrorist actions in public transport due both to the specific nature of terrorist attacks and to the specific vulnerability of public transport; that is why authorities try to respond quickly and efficiently to minimize the potential number of victims and damages, taking care of the victims and their relatives and trying to calm down the nervous population. For a suitable response Crisis management program has a paramount role, being an essential component of the general safety program. Crisis management program should include procedures for the crisis team and the responsibilities of each member.

The program should specify procedures for evacuation and activity stopping; helping victims and their families and relatives; communication with emergency institutions and organizations; providing passengers safety after the incident; return to providing services or alternative services; public information; calming down the passengers.

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