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Rail transportation – its security and threat of terrorism

Security Dimensions and Socio-Legal Studies nr 8, 149-168

2012

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RAIL TRANSPORTATION1 – ITS SECURITY AND THREAT OF TERRORISM

Abstract:
The phenomenon of terrorism, that is sometimes called a tool of political struggle is not limited in any way. We are present in the countries that have been specially affected by the plaque of terrorism, because of our political or economical operations. Polish diplomatic and commercial representative offices and missions are located all over the world, while Polish airplanes, ships and trains (or at least with Polish crew) travel thousands of kilometres. After Polish borders opened in 1989 we have been active tourists who reach the furthest places on Earth. Among other factors that significantly increase Poland's exposure to terrorism one should surely mention our membership in the European Union and the North Atlantic Treaty Organisation (NATO), as well as the military involvement in Afghanistan and military and police activities during peace missions. Special meaning may also be assigned to the information that is published by the media from time to time about location of U.S. Army bases in Poland or secret prisons for terrorists located in Poland.
Key words: *Terrorism, military, police, railroads, transportation, hijacking, state, society.*

Characteristics of threats

Poland is among few European countries that have not been affected by the plague of terrorism. Andrei Sakharov, Russian physician and the Nobel Prize laureate, said once: "Regardless of how noble aims terrorists assume for themselves (and often there is no such excuse), their activities are always

[1] Rail transportation includes railways and so called municipal trail transportation: trams, subway and municipal railways.

criminal, always destructive, and bring the human race back to the times of lawlessness and chaos, provoke (possibly with help of secret services of foreign governments) internal and international complications denying peaceful aims and progress"[2] [author's translation]. The fact that no terrorist attack has taken place in Poland does not mean that there is no such threat or that Polish citizens have not suffered in result of terrorist attacks outside their country. The phenomenon of terrorism, that is sometimes called a tool of political struggle is not limited in any way. We are present in the countries that have been specially affected by the plaque of terrorism, because of our political or economical operations. Polish diplomatic and commercial representative offices and missions are located all over the world, while Polish airplanes, ships and trains (or at least with Polish crew) travel thousands of kilometres. After Polish borders opened in 1989 we have been active tourists who reach the furthest places on Earth. Among other factors that significantly increase Poland's exposure to terrorism one should surely mention our membership in the European Union and the North Atlantic Treaty Organisation (NATO), as well as the military involvement in Afghanistan and military and police activities during peace missions. Special meaning may also be assigned to the information that is published by the media from time to time about the location of U.S. Army bases in Poland or secret prisons for terrorists located in Poland.

A terrorist act means such a behaviour of an individual or a group that has a form of violence or threat of violence and is undertaken in order to scare or terrorize others. It is only one among many functioning definitions of the phenomenon, but in every definition it is emphasized that the main tool used by terrorists is fear and doubts concerning the state functions that should ensure safety of its citizens. Kuba Jałoszyński defines terrorism as a special type of criminal activity that is "directed against the state (aimed at the destruction of the state) and against the society that is attacked."[3]

[2] C. Sterling, The Terror Network, Warsaw 1990, p. 337

[3] K. Jałoszyński, Obiekty infrastruktury krytycznej a działania defensywne i ofensywne w obszarze zagrożeń terrorystycznych (*Critical infrastructure facilities and defensive and offensive activities related to terrorist threats)* [in:] Ochrona infrastruktury krytycznej (*Protection of*

Among the most frequently used methods of terrorist attacks one may list:

- Bomb attacks, their simulations or threats;
- Attacks related to the use of dangerous chemical, biological or radiating substances;
- Hijacking of planes, sea vessels and other means of transportation;
- occupation of government or public buildings, or critical infrastructure facilities;
- abduction of persons;
- taking hostages;
- contamination of water sources and food.

A completely new categories of terrorist methods are: eco-terrorism that is often defined as use of force (means of sabotage) to protect the natural environment and cyber terrorism related to IT technologies. Like other extreme actions, eco-terrorism characterises with illegal use of force or violence in order to scare or put pressure, but it should be emphasized that although some extremist ecological organisations apply both direct methods (attacking people) and indirect ones (attacking others' property) in order to intimidate, they underline that according to unofficial rules, such activities are executed in such a way that no living being is killed or wounded. In the opinion of E. Posłuszna, the ecological extremism is not a marginal and disappearing phenomenon, a temporary fascination of a group of enthusiasts, but it is a supranational phenomenon that generally may affect every country and become the problem of forces responsible for security of such country. We may observe a growing tendency concerning the number of crimes committed due to ecological reasons, growing radicalisation and increasing diversification in the tactics, forms and methods of operations of perpetrators[4].

Cyber terrorism, and especially its most dangerous form that is attacking computers operating within networks or systems ensuring proper function-

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Critical Infrastructure), A. Tyburska (ed.), Szczytno 2010, p. 273.

[4] Zob. E. Posłuszna, Ekstremizm ekologiczny. Źródła, przejawy, perspektywy, (*Ecological Extremism. Sources, Symptoms, Perspectives),* Wydawnictwo Naukowe Scholar, Warsaw 2012, p. 16-23.

ing of the economy, in particular responsible for security of transportation, may lead to the so called synergic catastrophes. The systems that handle the main branches of the economy may not function now without an IT support. The danger of consequences of a cybernetic attack corresponds to a level of coherence of the EU Member States and Candidate Countries in different areas related to the economy. Results of disturbances in various state sectors are no longer limited to the problems of each country since the economies of such countries constitute a natural system of communicating vessels. As it is correctly observed by R. Piwowarczyk "an increasingly growing number of structures have European dimension, which means that an exclusively country-level approach is not sufficient. Transportation systems, telecom and power generation, that are the main sectors of development and functioning of the European Union and its Member States […], and a damage or loss of the infrastructure in one country may have a negative impact on a few other countries and the European economy in general"[5].

R. Szpyra points out to the following methods that may be used by an attacker to affect the attacked system:

- **prevention** that means restricting or making it impossible to use possessed computer hardware in result of malicious code that results in breakdowns of hardware or destruction of databases;
- **degradation** which means that an attacked system achieves such condition in which it is not able to accomplish its tasks;
- **disinformation** (misleading) in result of generated false information or causing a situation in which false information is treated as true information by a system;
- **exploitation** that is executed by means of a capture of data and their transmission from the attacked system to the attacking one[6].

[5] R. Piwowarczyk, Europejska infrastruktura krytyczna (*European Critical Infrastructure)* [in:] Ochrona infrastruktury krytycznej, (*Protection of Critical Infrastructure)*, A. Tyburska (ed.), Szczytno 2010, p. 81.

[6] R. Szpyra, Cyberterroryzm – poszukiwanie istoty i charakterystyki (*Cyberterrorism – in Search for the Essence and Characteristics)* [in:] Cyberterroryzm nowe wyzwania XXI wieku (*Cyberterrorism new challenges of the 21th century)* (ed. T.Jemioła, J. Kisielnicki, K. Rajchel), Warsaw 2009, p. 175.

In the narrow sense of the word, cyber attacks mean destruction or deformation of data functioning within teleinformation systems. Within a broader meaning they also include physical attacks on devices and installations that compose a network. Destructive activities aimed at systems ensuring safety of railway, road, air or sea transportation may entail economic and social (mainly) effects that will be difficult to measure. Both scientific publications, thrillers and detective stories, as well as feature films are full of scenarios describing actions of cyber terrorists: interference into steering systems of power plants, systems ensuring security of flights or train movement, and their catastrophic results. Attacks on railway security systems may entail threats of secondary nature, as for instance consequences related to transportation of dangerous loads (substances). Although their original purpose is completely different, when used for terrorist purposes such goods may be dangerous and destructive, especially if authors of terrorist attacks decide to attack railway station premises, a viaduct or tunnel or an area in which a railroad goes in the vicinity of large human settlements.

In the opinion of E. Posłuszna "to be effective, that is to destabilise the system and raise social distress, cyber attacks do not need to affect the infrastructure. It would be enough if they are relatively frequent and generate huge losses"[7]. It is worth pointing out that criminal activities in the cyberspace are not always related to ideological fundaments and there are plenty of examples from the past, when the world was at the edge of a catastrophe in result of careless plays of extremely IT-talented kids.

M. Adamczuk places Internet activities of terrorist organisations[8] in the following areas:

– maintaining official websites,
– blogs, extremist forums,
– distributing propaganda movies,
– performing cyber attacks aimed at, for instance, state critical infrastruc-

[7] E. Posłuszna, (*Ecological Extremism. Sources, Symptoms, Perspectives),* Wydawnictwo Naukowe Scholar, Warsaw 2012, p.253-254.

[8] It refers to Muslim terrorists from Muslim countries and so called "export" Muslim terrorist that were born and brought up in Western countries.

ture objects;
- instructing users how to construct IED and how to communicate safely in the Internet;
- anonymous fund raising for terrorist activities[9].

Terrorist attacks are the direct result of human activities. Organisation of an effective protection against an enemy that acts in an unconventional manner (in compliance with the main principle of terrorist tactics) surely requires the determination of a large catalogue of possible goals. Together with T. Bajerowski we may assume that "through the characteristic of features present (gathered) in certain places, the space causes (generates) various threats, including terrorist ones. It may be treated as an active creation which depending on the condition of the collection of such features will generate threats to a larger or smaller extent"[10]. An analysis of terrorist attacks that have taken place in the period of the last several years shows clearly that a selection of goals of attacks has not been accidental for a long time already. Next to goals of particular importance and meaning, attacks were directed to economic, military and touristic targets. According to J. Adamski, technical development and an increase in effectiveness of services fighting against terrorism have resulted in an extension of the scope of terrorists' operations to all areas of life, and the quality of such operations was replaced by their intensity and increased spectrum of objects of attacks. Moreover, an analysis of types of attacked targets shows clearly the so called economic tendency. Attacks are directed at goals that are important for the economy and their consequences have significant financial dimension[11]. Particular attention among economic and tourist purposes is paid to the objects of the so called critical infrastructure. It is obvious that among them the facilities of railroad infrastructure are of particular importance[12].

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[9] Compare M. Adamczuk, Rodzimy terroryzm jako zjawisko zagrażające bezpieczeństwu w Europie, (*Native Terrorism as a Phenomenon Threatening European Security),* Bezpieczeństwo narodowe (*National Security*), no 1-2011/17, Warsaw 2011, p. 74

[10] T. Bajerowski, Geoinformacja i macierze zagrożeń w podejściu proaktywnym do neutralizacji kryzysu terrorystycznego, (*Geoinformation and Threat Matrices in Active Approach to Neutralisation of a Terrorist Crisis),* Terroryzm (*Terrorism*), no 2/2009, p. 24.

[11] Zob. J. Adamski, Nowe technologie w służbie terrorystów (*New Technologies Applied by Terrorists),* Warsaw 2007, p.57

[12] Pertaining to the Act on Railway Transportation (Act on Railway Transportation of 28

One of the first and more known terrorist acts in the railroad area is the action of nine terrorists from Southern Maluku Islands who hijacked a train in the Netherlands between Assen and Groningen on 23 May 1977 and took 51 hostages. Finally, after almost 3 weeks the problem was solved by means of force[13].

In 1995 a terrorist gas attack took place in Tokyo subway. Terrorists placed containers with a very toxic gas in three subway trains during peak hours. Then an Although Tokyo Emergency Control Centre staff received alarms within fifteen minutes, Sarin gas spread quickly at fifteen subway stations (carried there by the trains). 12 people died in result of this attack, while more than 5,000 suffered from impact of Sarin. In March 2004 bomb attacks took place in Madrid subway during morning peak hours. This attack resulted in a real massacre that may be compared with attack on Pan Am fight exploding over Lockerbie in 1988. In Madrid, in result of an explosion of 10 out of 13 improvised explosive devices (IED) 191 people were killed, while 1,858 people were wounded. Further attacks aimed at railway and subway stations in Moscow (2004), London (2005) and in Moscow again (2010) killed altogether 132 people and injured 902. An analysis of selected terrorist attacks committed in Europe in the period of 1970 – 2008[14] points out to 8 incidents (as compared to the total number of 108 major attacks, including 20 aimed at the objects of the transportation system) accounting for more than three hundred deaths and almost 2,200 injured. In those cases railway and subway passengers were direct or indirect objects of the attacks[15].

March 2003, Journal of Laws of 2007 no 16 item 94) railway infrastructure consist of *railways and other constructions, buildings, and devices together with land occupied by them, that are located in railway areas and intended for management, handling transportation of people and freight and maintenance of the property of infrastructure administrator that is necessary for this purpose;*

[13] Compare S. Kochański, Brygady antyterrorystyczne (*Anti-terrorist Brigades*) , Warsaw 1992, p. 27-30.

[14] W. Zubrzycki, ATLAS zjednoczona Europa wobec zamachów terrorystycznych (*ATLAS United Europe against Terrorist Attacks*), Jografika Olsztyn 2009, s. 127.

[15] Numbers of deaths and injured persons are different in various sourcesi.

Tactic analysis by means of CARVER method[16] places railway transportation on a relatively high position in the ranking of particularly threatened goals in case of which potential human casualties gather voluntarily in closed spaces[17].

An application of another method for assessment of terrorist threat probability for specific places (spaces) by means of the so called threat matrix, for a railway station and specific types attacks provides the following results:

- bomb attack – 0.30
- sniper attack– 0.10
- chemical attack – 0.08
- biological attack – 0.10
- radioactive attack– 0.10
- other attack – 0.32
- These values for a subway station amount respectively to:
- bomb attack – 0.50
- sniper attack – 0.08
- chemical attack– 0.15
- biological attack– 0.20
- radioactive attack– 0.03
- other attack– 0.04[18]

We should point out together with the author that the matrix which has been worked out is not of universal nature and it is correct only in relation to a precisely defined area since it must take account of individual features and local differentiation.

Types of terrorist attacks, pertaining to the aim criterion, according to K. Liedl, classify the railways, that are means of public transportation, as so

[16] CARVER –acronym of: Criticality, Accessibility, Recoverability, Vulnerability, Effect, Recognisability.

[17] Zob. B. Mazurowski, Identyfikacja celów ataków terrorystycznych (*Identification of Targets of Terrorist Attacks)* [in:] Przeciwdziałanie zagrożeniom terrorystycznym w Polsce, (*Counteracting Terrorist Threats in Poland)* W. Zubrzycki (ed.), Warsaw 2011, p. 79.

[18] T. Bajerowski, (*Geoinformation and Threat Matrices in Active Approach to Neutralisation of a Terrorist Crisis),* Terroryzm (*Terrorism*), no 2/2009, p. 25-26.

called "soft" goal[19], next to subway, town streets, schools or theatres. It depends mainly on poor protection and the fact that the society easily identifies with the victims of an attack. The consequences of such actions include large human and material losses, panic and long-term media and psychological effects. As an element of the transportation system, next to financial, fuel, tele-information, health protection or power systems, due to their meaning for every day functioning, social role and sensitivity, railways belong to objects that are more exposed to threats. Railway transportation, or more generally rail transportation, is of huge importance, in particular in densely populated and highly industrialised areas, e.g. industrial zones[20]. Such areas cumulate numerous transportation needs related to both movement of people and transit of goods. Providing optimal services to customers of transportation companies (including broadly understood safety) becomes a real challenge in such circumstances. Railway transportation, in which means of transportation move on special railroads only, next to road transportation and pipeline transportation belongs to the so called means of land transportation (surface, ground and underground transportation). The railroad infrastructure includes not only the rails, electric traction, trains and railway station buildings, but also hundreds of thousands of engineered structures – bridges, tunnels, culverts and viaducts (according to the data of PKP PLK S.A. – as of 31.12.2011: 27,863 kilometres of mainline tracks and main tracks at railway stations, 9,557 kilometres of station tracks, 25,830 of engineered facilities, including 6,463 bridges and viaducts, 6,439 buildings, 12,114 constructions)[21].

Particular attention in respect to security should be paid to tunnels that are an essential part of the transport infrastructure (both railroad and road infrastructure). They make route shorter and save time, they do not occupy

[19] K. Liedel, Zarządzanie informacją w walce z terroryzmem, (*Information Management in Fighting against Terrorism),* Wydawnictwo TRIO, Warsaw 2010, p. 21.

[20] Compare P. Sośnicki, Transport szynowy w obsłudze przewozowej Zagłębia Ruhry i konurbacji górnośląskiej, (*Rail Transportation in Handling Freight Transit in the Ruhr Region and Upper Silesian Conurbation)*

Logistyka (*Ligistics*), no 5/2010, p. 24-28.

[21] http://www.plk-sa.pl/linie-kolejowe/siec-linii-kolejowych-w-polsce/infrastruktura-kolejowa/ [07.01.2013].

space above ground (which is quite important taking account of high prices of investment areas in towns), they usually do not interfere significantly in the natural environment and finally they make it possible to build transit networks of low cost[22] municipal technical infrastructure. Unfortunately, sudden and immediate dangerous events that may take place there entail serious consequences. Such events surely include: crash or derailing of a train, fire or a catastrophe related to transportation of high risk goods. A partial report (being a part of the document entitled *Raport o zagrożeniach bezpieczeństwa narodowego (Report on Threats to National Security)*) prepared by the minister responsible for transportation in the part devoted to threats mentions also: floods, strong frost and intensive precipitation, hurricanes and strikes[23]. Each of such events may be accidental, they may result from a human error or be a consequence of an intentional act. Besides usual acts of vandalism, thefts, hooligans and illegal trading in railway premises, there is also the threat of terrorism that has been a specific challenge for the railway "industry" for some time. The threat of terrorist attacks is of "mixed" nature. On one hand, attacks may be aimed at people (human objects) who use railway services, that is passengers or persons exposed to secondary threats (synergic catastrophes), while on the other they may be directed to elements of railway infrastructure (material objects) that have often an impact on the security of railroad traffic[24] or having in themselves an element of secondary threats (dangerous loads). IT systems used for train movement management are sensitive elements in the context of a threat with cyber attacks. An error or false information introduced to a system by an intruder may result in a catastrophe.

In case of material objects that are administered by the railways, one

[22] Power industry, water installation, sewer installations, teletechnics, etc..

[23] Compare the Regulation of the Council of Ministers of 30 April 2010 on the Report on Threats to the National Security (Journal of Laws no 83 of 2010 item 540)

[24] In November 2012 the railway services responsible for security of transportation in the area of Lubuskie Voivodeship were really scared by a madman (called "Crazy Stationmaster") who pretended to be a stationmaster and used a radiophone with so called radiostop function that enabled him to remotely stop trains.

Source: http://www.kurierkolejowy.eu/aktualnosci/10991/Lubuskie-szaleniec-zatrzymuje-pociagi.html [03.01.2013]

should emphasize their diversity: from station buildings, through devices (installations) ensuring traffic safety, signalling boxes and centres, rails, electric tractions, sidings, warehouses (for instance to store fuel), and to passenger and freight trains.

Technologically advanced railway stations with devices of peripheral infrastructure are getting increasingly more similar to airports or sea ports, while the latter have completely other possibilities and situation related to the control of passenger traffic, for instance according to the applicable legal provisions it is not possible to control passengers thoroughly. Persons responsible for safety of passengers and goods on behalf of an owner or administrator must meet the applicable standards in the area of security, safety, efficient communication and automation of processes, as well as polite handling of a customer. The fundamental problem is to ensure security of transported persons, freight and elements of the infrastructure. It should be emphasized that danger does not focus – as it may seem – mainly on railway stations and transhipment ports, that may be controlled relatively easily my means of modern technologies, but the real problem is caused by tracks located in very differentiated areas (where accessibility for rescue and intervention services is differentiated) and characterised by different degrees of urbanisation.

Another equally convenient goal for terrorists is a subway which is usually an efficient and attractive means of city transportation. The structure of subway, with tracks hidden underground, large numbers of users, hurry, problems related to evacuation of passengers (difficult access, lack of space, panic) and complex system of devices that ensure security (air intakes and outlets, etc.) in combination with passive attitude of entities responsible for safety of passengers might guarantee an efficient attack.

The suitability of this aim results from consequences of a possible attack: strong social response to an attack, long-lasting results – mainly psychological and in the media, and a possibility to disappear quickly in the surroundings after an attack.

The most probable methods that may be used by terrorists to attack a subway include:

– leaving explosive materials in cars, subway stations, commercial areas, toilets;
– derailing of a train;
– taking hostages;
– destroying devices that ensure safe traffic of trains;
– introducing dangerous substances (chemical, biological, radioactive) by means of elements of the infrastructure that ensure air supplies to all rooms, tunnels and platforms;
– putting subway cars on fire from inside the cars;
– spraying, diffusing and spreading dangerous substances in station buildings, cars and tunnels;
– selling contaminated food through trade and service points operating at subway stations.

As far as subway stations and trains are concerned, actions of the so called active shooters may be another threat. It is a new and extremely dangerous phenomenon in form of mass murders committed by individuals (named active shooters). After an analysis of place and time of such events, it is possible to state that locations for possible attacks are selected from the perspective of an assumed result of such attack which aim is to make as big as possible social and political damages based mainly on physical elimination of randomly selected people. "Active shooters" who are also called "lone wolves" act on their own, attack accidental people unaware of a danger in crowded places. The perpetrators usually use firearms and their attacks take place against the so called "soft" goals.

Attackers are often suspected of hidden mental diseases and other disorders, and it is characteristic for them that they hardly ever act under severe provocation, but their "actions" are perfectly prepared and planned. After an analysis of most known attacks performed in the recent years (Norway, Finland, France, Azerbaijan) we may state that political motivation could play a significant role there, but there are also examples of actions undertaken by desperate and frustrated persons[25].

[25] Next year the Police Academy is going to accomplish a project entitled: *Reactions of the*

To sum up, the high susceptibility of the rail transportation system to terrorist attacks depends on the following features:

– criticality (a possibility of complete, immediate and long-term exclusion of objects and devices from operation);
– accessibility (easy access and possibility to remote attacks – public objects, so called "soft goals");
– recoverability (a possibility to recover measured in time – months, weeks, days, hours);
– sensitivity (a possibility to destroy potential aim defined by means of type of arms/means and its range);
– results of destruction (impact on ordinary every-day functioning of people, town, other related systems, objects);
– recognisability (free access to objects and areas at the stage of preparation of an attack during a phase of recognition and gathering of information).

Recognition

Terrorist acts may be prevented and counteracted effectively on the condition of an access to information about perpetrators and tactics of their operations. Tactics comprises the ways in which goals of attacks are selected, methods of attacks and resources and tools used. An analysis of previous events, methods of terrorist attack risk assessment in combination with numerous opinions of experts make us consider that the rail transportation, in particular passenger transportation in cities, is among the major targets of terrorists. Pertaining to the applicable legal provisions, monitoring of threats in the companies belonging to PKP Group is the responsibility of their main dispatching centres and branch offices within the scope of their responsibility, which is coordinated by PKP PLK S.A. Railway Traffic Management Centre. However, an analysis of the decision of PKP S.A. General Manager[26] leads

state security services of the European countries to threats related to use of firearms and dangerous materials and tools in public places as a priority research task.

[26] Decision no 56 of the President of the management Board – General Manager of S.A. dated 29.09.2008 on exchange of information on the current situation in *PKP Group.*

to a conclusion that such monitoring refers rather to the events that have already taken place, so using of the results of such recognition for the purpose of prevention of terrorist threats seems to be at least doubtful. Sources of information comprise results of monitoring activities performed by the Railway Guard (SOK) patrols, security companies and mixed patrols comprising SOK, the Police and the Military Gendarmerie. In case of objects that are particularly exposed to threats and important for security (railway stations, transhipment stations, bridges, tunnels, viaducts, etc.) an important role is played by video surveillance system. Data collected in the result of conducted monitoring activities is formed twice a day (7:00 pm– 07:00 am and 07:00 am – 7:00 pm) into a *Report on an Event*. Data for such reports is supplied to PKP PLK S.A Railway Traffic Management Centre by the dispatching centres of PKP Group's companies. Reports are addressed to the Presidents of the Management Boards of PKP PLK S.A. and PKP S.A., and the information of SOK Chief Headquarters is used in the works performed by the Central Team for Security on the Railway Areas[27].

The demand for information for the purpose of police activities within broadly understood prevention includes mainly identification of sources of information that may be:

– communities originating from so called "high risk" countries (Afghanistan, Algeria, Egypt, Iraq, Iran, Jordan, Lebanon, Libya, Pakistan, Palestine, Sudan, Syria, Muslim states of former Community of Independent States and Caucasian republics belonging to the Russian Federation), groups, organisations and associations that are suspected of terrorist activities and financing of such activities within the country or abroad;
– personal sources of information originating from criminal structures mentioned above or allowing direct access to communities that possess knowledge about them or that have contact with the above mentioned structures because of their profession (e.g. staff employed in hotels, hostels, shelters, survival instructors, escort agencies, etc.);

[27] Compare B. Szymański, Zarządzanie kryzysowe w dziale administracji rządowej „transport", (*Crisis Management in Government Administration "Transportation"),* TWO, problem report no 1 (69), Warsaw 2012, p. 39-40.

– animal protection groups and communities;
– databases including information about people with mental disorders who may be able to undertake terrorist activities under influence of the current situation in the world.
– Interesting information during a recognition include:
– number, legality of a stay and intentions;
– possible criminal activities;
– existing criminal groups;
– potentially endangered regions, in particular places in which there are large numbers of people (railway and coach stations and other transportation facilities, shopping malls, government administration areas, places in which mass events are organised, etc.).

Successful counterterrorist activities performed by the police force responsible for physical counteracting of terrorism can be hardly imagined without possession of the information about:
– operational circumstances concerning conditions of planned activities (place, time, nature of an event, nature and level of danger, etc.),
– motivation, tactics and methods of operation of the enemy;
– contemporary tactics and techniques (including technical means of support) used by counterterrorist units;
– admissibility of undertaken activities and applied methods and means (legal framework, internal procedures).

Prevention

Since the contemporary strategies of the fight against terrorism are based mainly on continuous improvement of methods and tools of recognition used for anticipation and broadly understood prevention, involvement of the society in an accomplishment of them and education activities become the key elements of such strategies. Creating social awareness through definitions of the threat, making society more sensitive to the occurrence of threat symptom and teaching them proper behaviour ensure supplies of information for

the security services and may help to save lives of accidental participants in dangerous events. Educational activities are accomplished in form of direct impact and delivery of information to addressees, for instance through different means of distribution (leaflets, brochures, programmes) of instructions, procedures of conducts, messages in case of danger and system actions. Offers of system education in form of postgraduate studies are addressed mainly to teachers, officers and employees of services responsible for the security of the state and employees of the government and local government administration. Among aims defined by entities that organize trainings and courses one should mention: preparing participants to successfully recognize, prevent and counteract contemporary terroristic threats and counteract crises, to operate effectively when they occur and finally to develop competences of human group management in a situation of crisis[28].

Prevention includes also proper preparation of services that are responsible for security for a terrorist threat, which is a sudden and unforeseeable event. Such preparation includes preparing algorithms of operations (procedures) and technological tools that support the decision making process, that is the so called Command Support System (CSS). These tools constitute a uniform IT platform that integrates databases concerning for instance the current road and rail network, traffic conditions, town and city infrastructure, dislocation of police and municipal guard patrols or location of rescue services. From the perspective of efficiency of operation of the police and rescue services, so called "response time" (that is the period in which police force and rescuers with equipment arrive at a place of an incident) is of essential importance in a situation of crisis. It is not a major problem in highly urbanized agglomerations, but it is a challenge in case of incidents that occur on railway tracks far away from towns and in areas that are hard to reach and have undeveloped infrastructure. An example of a tool improving the process of action commanding (managing) is a time (transportation) accessibility map[29] that makes

[28] The Police Academy in Szczytno offers postgraduate studies, for instance on the issues of organized crime and terrorism, crisis management and education for security.

[29] Accessibility maps, called also time or transportation accessibility maps present time of access to a given place by means of different land, water and air means of transportation. The

it possible to define access time to a place of incident for the police, fire service, medical services or a rescue train.

An extremely important element of prevention of events of terrorist nature in public transportation system, including in the railway areas, are complex tests of the operations of systems that prevent terrorism. Their aim is to check the reality of assumptions defined in planning documents, assessed functionality of headquarter structures, skills of the staff and algorithms of operation. Such undertakings are also aimed at reflecting tasks accomplished by individual entities in the circumstances of defined threat, in compliance with possessed competencies, territorial and material competence and pertaining to applicable provisions that regulate the way in which such activities are to be performed. Participants in such a test include in general the services that are responsible for protection of security and public order (the Police, Border Guard, Railway Guard) medical services, local government entities and specialised units of transportation companies (e.g. Subway Guard). The following main objectives are assigned to individual organisational units that participate in such drills:

– improving the efficient launch of terrorist threat counteracting procedures and skills;
– participation in rescue actions and improving first aid skills in case of mass events in public transportation;
– checking the level of preparation of individual entities to cooperate and coordinate conducted activities;
– working out common strategies of operation, for instance in respect to liquidation of consequences of events and financial consequences, determining scope of competence related to commanding, protection of victims' health and coordination of information policy.

Unfortunately, often objects are empty since participation of users of public transportation means is not taken into account in case of such activities. Therefore, for instance, persons observing such drills may feel that they wit-

first map of such type was presented in 1881 by Francis Galton on a conference of the Royal Geographical Society.

ness a staging or a show arranged for the purpose of its presentation in the media or activities aimed at "improvement of self-confidence" of persons responsible for the organisation of such event that are responsible for the specific field of security.

Direct preventive protection of railway and subway infrastructure means a well-thought dislocation of police patrols (including specialised railway or subway police) and guard services prepared to accomplish for instance the following tasks:

- systematic supervision of stations, transportation routes and objects that may possibly serve as targets of attacks, including means of monitoring;
- paying particular attention to the basic symptoms of danger (vehicles and luggage left unattended, persons who act in suspicious manner, access to closed zones, etc.)
- performing checks in order to disclose explosive devices (ED),
- being in touch with owners and employees of trading and service points located in railway objects,
- mutual cooperation and exchange of information.

Technical security devices (besides standard system of access control in case of limited access areas and CCTV monitoring) should include, for instance:

- additional security devices in form of detectors of movement, chemical, biological and radioactive contamination (in particular in places that require particular protection, such as air intakes and outlets or tunnels, and in general on air flow routes);
- special evacuation vehicles that enable reaching of threatened places and evacuation of threatened persons (specially in case of tunnels and subway);
- special emergency exits;
- special equipment for rescue actions (e.g. electric hydraulic tools and pumps with connections);
- legible marking of inaccessible and dangerous places and exit routes by means of pictograms that facilitate movement of passengers within borders of facilities.

Counteracting

Taking into account threats to life and health of persons who use rail transportation and critical infrastructure facilities forming elements of the transportation system, the state faces a need to build an effective counterterrorist protection system. Among essential elements of this system one should mention specialized police units, such as antiterrorist troops that perform actions requiring special physical preparation, special skills, tactics and equipment. Their task is to maintain constant operational readiness to undertake an effective action, both against terrorists and other criminals that use equally dangerous combat assets. These tasks are accomplished by the police together with other entities (services, guards) on the tactic level within the scope of antiterrorist protection of the country. Physical counteracting means combat actions aimed at recognition and liquidation of terrorist attacks, as well as neutralisation of individuals and groups that use terrorist methods. In a situation of crisis an antiterrorist troop is expected to conduct an operation aimed at liquidation of results of such event.

The Police structure includes also the support groups of the Central Investigation Office (CIO) which aim is to detain most dangerous criminals. Their officers have specialised equipment and they are trained in AT tactics. In every day work the officers of such groups are members of working units. CIO has also a central full-time support group. Part-time support groups have been established in certain Municipal Police Headquarters and county Police Headquarters. They mainly detain dangerous criminals, convoy them and participate in patrols. The level of training of such part-time support groups is quite differentiated. Majority of members of part-time support groups work in other sectors, sometimes they form a sector performing patrol tasks.

In the context of the above discussion one may observe that railway security depends largely on possibilities to counteract threats by means of preventive activities, and to maintain readiness to respond to all their possible symptoms. Examinations performed in the antiterrorist groups of the Police and Polish Board Guard (they covered persons responsible for preparation

of operational procedures and tactics in case of terrorist threats) showed that one of the main variants of drills that have been accomplished was related to railways[30].

However, regardless of the split of competencies among individual entities, in case of a terrorist act at the stage of liquidation of consequences of such attack it is difficult to imagine successful activities and protection against secondary attacks without forces and resources possessed by the Police. Still, due to specific features of the "railway environment", cooperation of the entities responsible for the state security with transportation companies and services functioning in the area of the railway infrastructure is most efficient.

[30] J. Truchan's Doctor Thesis: Cooperation of Special Police and Border Guard Units in Protection of the Eastern Border of Poland as the Border of the European Union, Warsaw 2011, p.114.