

TENDENCIES OF MODERN TERRORISM ON THE SUBWAY

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ABSTRACT

The issue of anti-terrorist protection of subways in recent decades has significantly worsened. This is due to the general growth of the terrorist threat in the world – a number of terrorist acts have been committed in subways of various countries of the world, including Russia, the United States, Britain, Japan and France. For effective measures to counteract such acts, it is necessary to clearly know

the trends of modern terrorism, particularly on the basis of systematization and analysis of statistical data on the terrorist acts committed in the metro with the subsequent formation of a matrix of trends, which in this case was done by the authors of the article. The proposed matrix helps to assess terrorist threats for Russian subways and can be used to develop measures to ensure their transport security.

Keywords: subway, station, terrorist act, statistics, threat trends, transport safety.

Background. Terrorist acts committed on March 22, 2016 in the metro of Brussels and on April 3, 2017 in the St. Petersburg metro [1, 2], once again confirmed the reality of the terrorist threat to underground railways of all countries.

The terrorist act, as a rule, entails human casualties, destruction, significant financial costs for liquidation of its consequences. And in this respect, each separate fact of this kind (Pic. 1), and the whole set of single-row events that have occurred, deserve attention.

Objective. The objective of the authors is to consider tendencies of modern terrorism at the subways.

Methods. The authors use comparative analysis, statistical analysis, evaluation approach.

Results.

Initial statistics

Today there are eight metro systems (subways) in the Russian Federation [3] in:

- 1) Moscow;
- 2) St. Petersburg;
- 3) Yekaterinburg;

Pic. 1. The consequences of the terrorist act of 2017 in the metro of St. Petersburg
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Table 1

Terrorist acts in subways of Russia

| Date of terrorist act | Subway of the city | Tool of the terrorist act | Injured, people | Fatalities, people |
|-----------------------|--------------------|---------------------------|-----------------|--------------------|
| 08.02.1977 | Moscow | ED* | 37 | 7 |
| 11.06.1996 | Moscow | ED | 14 | 4 |
| 01.01.1998 | Moscow | ED | 3 | 0 |
| 08.08.2000 | Moscow | ED | 61 | 13 |
| 05.02.2001 | Moscow | ED | 20 | 0 |
| 06.02.2004 | Moscow | ED | 250 | 42 |
| 31.08.2004 | Moscow | ED | 50 | 10 |
| 29.03.2010 | Moscow | ED | 76 | 28 |
| 29.03.2010 | Moscow | ED | 12 | 13 |
| 03.04.2017 | St.Petersburg | ED | 103 | 16 |

* Explosive device.

Table 2

Terrorist acts in subways of other countries

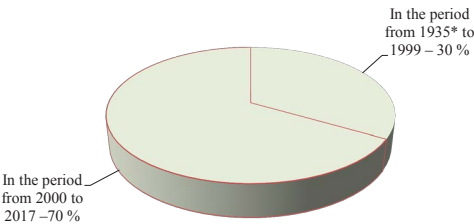
| Date of terrorist act | Subway of the city | Tool of the terrorist act | Injured, people | Fatalities, people |
|-----------------------|--------------------|---------------------------|-----------------|--------------------|
| 23.12.1991 | London | ED | 0 | 0 |
| 23.02.1992 | London | ED | 29 | 0 |
| 03.02.1993 | London | ED | 0 | 0 |
| 19.03.1994 | Baku | ED | 49 | 14 |
| 03.07.1994 | Baku | ED | 42 | 13 |
| 15.12.1994 | New York | ED | 0 | 0 |
| 21.12.1994 | New York | ED | 50 | 0 |
| 20.03.1995 | Tokyo | PS* | 6300 | 13 |
| 25.07.1995 | Paris | ED | 117 | 8 |
| 17.08.1995 | Paris | ED | 17 | 0 |
| 06.10.1995 | Paris | ED | 13 | 0 |
| 17.10.1995 | Paris | ED | 30 | 0 |
| 03.12.1996 | Paris | BY | 92 | 4 |
| 29.10.1997 | Tbilisi | ED | 0 | 1 |
| 27.07.2000 | Dusseldorf | ED | 10 | 0 |
| 04.09.2001 | Montreal | PS | 45 | 0 |
| 12.05.2002 | Milan | ED | 0 | 0 |
| 18.02.2003 | Tegu | FL** | 150 | 198 |
| 07.07.2005 | London | ED | 700 | 52 |
| 11.04.2011 | Minsk | ED | 200 | 15 |
| 22.03.2016 | Brussels | ED | 70 | 14 |

*Poisoning substances. **Flammable liquid.

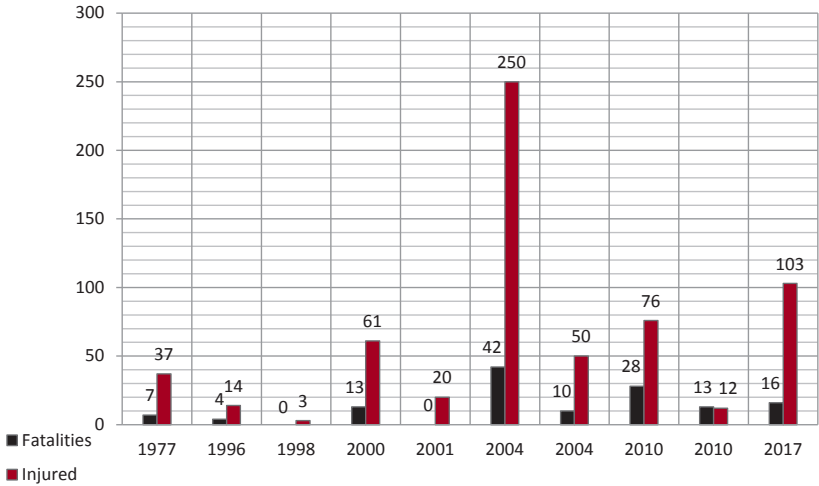
- 4) Novosibirsk;
- 5) Nizhny Novgorod;
- 6) Samara;
- 7) Kazan;
- 8) Volgograd metrotram.

Among the objects of transport, the metro occupies a special position from the point of view of the country's economy.

For example, the structure of passenger transportation by certain types of public transport in Moscow is as follows: 42 % is the proportion of traffic on the metro, 34 % – on buses, 13 % – on trolleybuses, 11 % – on trams. Public transport of



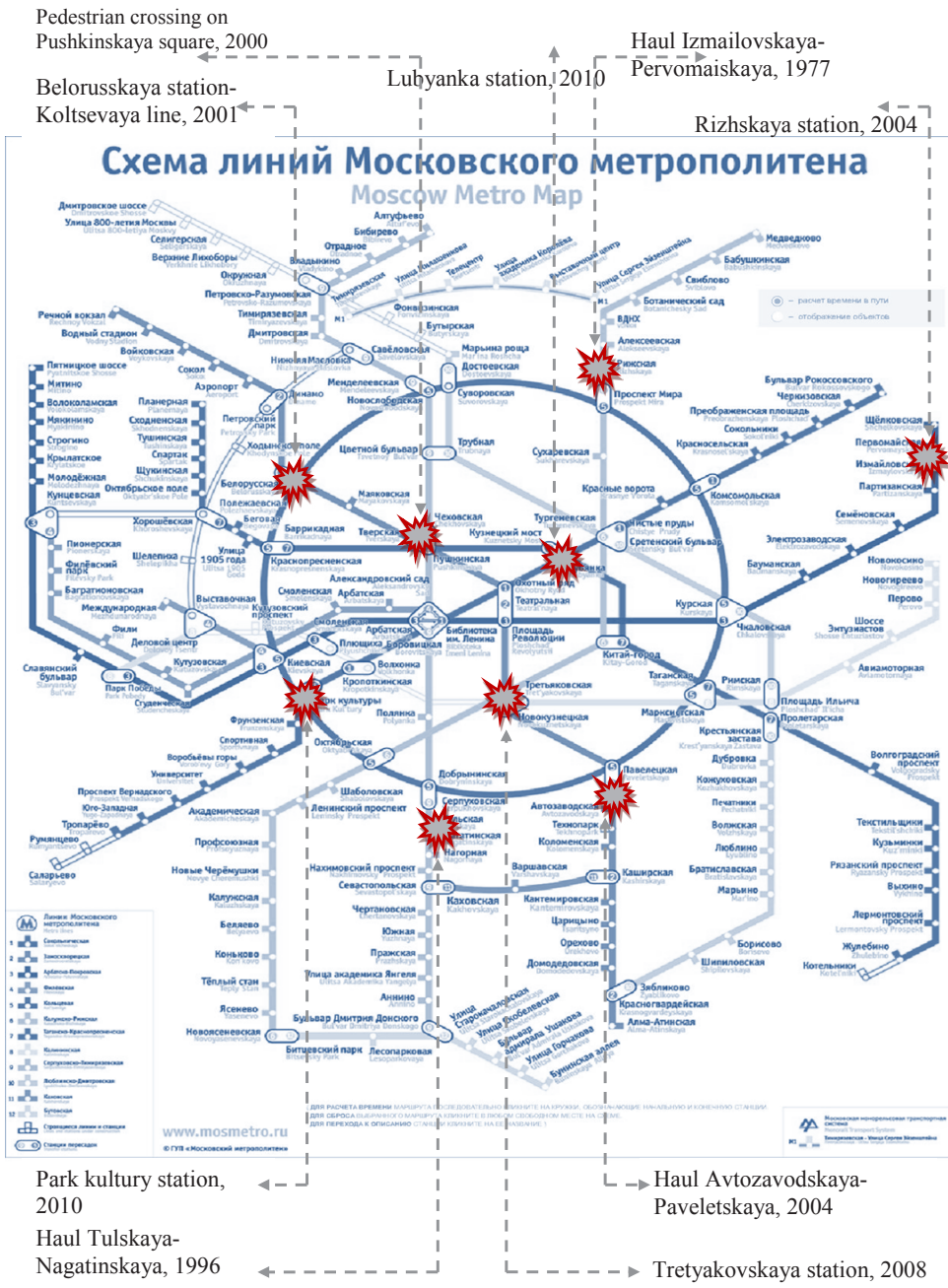
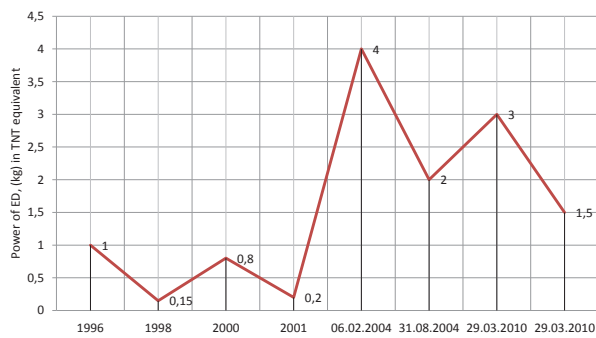
Pic. 2. The number of terrorist acts on the metro until 2000 and from the beginning of 2000 (* – the year of the launch of the first metro in Russia).



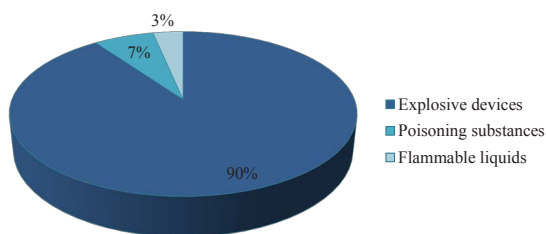
Pic. 3. The number of victims in the terrorist acts committed in metro.



Pic. 4. The power of explosive devices used in terrorist acts on the metro in 1996–2010.



Pic. 5. The place and year of commission of terrorist acts on the scheme of the Moscow Metro.



Pic. 6. Tools for committing terrorist acts in the world's subways.

the capital annually carries from 6 to 8 billion passengers, including the metro – 2,5–3 bln [4]. In just over 80 years the Moscow metro transported more than 145 bln people [5]. Every day about 9 mln Muscovites and visitors of the city use the subway [6].

As a result of our studies, it was established that in the period 1977–2017, 31 terrorist acts were committed in the subways of Moscow, London, Paris, Tokyo, New York and other cities of the world, of which ten in Russia, while 465 people were killed and 8530 people were injured [7–17]. The data on terrorist acts are systematized in Tables 1 and 2.

As can be seen from the statistics given in the tables, the largest number of terrorist attacks in the world's subways is in Moscow, then in the subway of Paris.

To develop effective measures to counter the attempts of new terrorist acts, it is necessary to take into account the trends of modern terrorism at the subway. It is possible to solve such a problem on the basis of systematization and analysis of statistical data on the actual terrorist acts with the subsequent formation of a matrix of trends in terrorism.

Analysis of data on terrorist acts

The study of statistical data (Table 1) on terrorist acts in Russia showed the following trends:

- an increase in the number of terrorist acts since 2000, seven out of ten were committed precisely during the period from 2000 to 2017 (Pic. 2);
- an increase in the number of casualties in terrorist acts since 2000 relative to the number before it (Pic. 3);

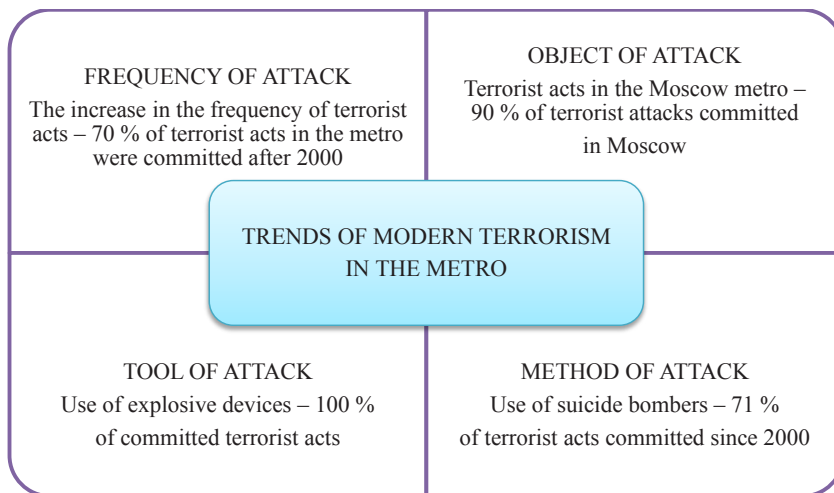
– in the 2000s, the use of increasingly powerful explosive devices in terrorist acts (Pic. 4) is observed, which indicates that the terrorists are aimed at causing the greatest possible damage.

During the research, the use of a new method of committing terrorist acts in the metro was identified as one of the main trends of modern terrorism. In the last five, suicide bombers were used to deliver explosive devices, which greatly increased the severity of the consequences of their self-explosions in crowded places.

An analysis of the geography of terrorist acts committed in the subways of Russia showed that the priority goal for them was the Moscow Metro. And this is a common feature: explosions in the metro of foreign countries, including London, Tokyo and Minsk subways [18–20], also testify the terrorists aiming at the metropolitan subways.

The authors analyzed the distribution of places of terrorist acts in Moscow (Pic. 5). Terrorists do not choose only the central or some other special area of the city, from which it follows that all metro stations need an equally effective system of transport safety. See our designations on the scheme taken on the official website of the Moscow Metro [21].

Statistical analysis carried out by the authors (Pic. 6) showed that 90 % of terrorist acts in the subway of the world were made with the use of explosive devices, in Russia this figure is 100 % (Table 1). There is a tendency that most of the tools for realizing potential threats by terrorists are explosive devices that have a higher deterrent power compared to other means, and thus are used for the purposes of terrorism [22].



Pic. 7. The matrix of trends of modern terrorism at the subway.



The matrix of terrorism trends

Based on the analysis and revealed trends of modern terrorism on the subway in Russia, a matrix has been formed (Pic. 7), designed to help prevent terrorist threats in underground transport.

Conclusions. The development of effective measures to counter new terrorist acts in the metro is impossible without a clear understanding of the trends of modern terrorism.

Systematization and analysis of data on terrorist acts allowed to form a matrix of such trends. Its application will make it possible to orientate more clearly when developing countermeasures against terrorist threats in the metro, preparing transport security plans with a view to increasing the effectiveness of the means of protection involved and preventing violations of the rules for screening passengers and observing the established order of transportation of people.

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Article received 09.09.2017, revised 24.01.2018, 17.02.2018, accepted 18.02.2018.