

CONTEMPORARY STATE OF TRAFFIC SAFETY IN POLAND

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Key words: *safety, road safety, road accidents, modes of transport in Poland and Bulgaria, accidents perpetrator*

Abstract: *In the article are presented the issues related to road safety in Poland. The data was compared with other European countries. The paper presents detailed data on the amount of traffic accidents, trends and ideas for improving the road system in Poland.*

Since the invention of the car, over 100 years ago, as a result of road accidents killed nearly 30 million people. The World Health Organization predicts that by 2020 road accidents will become the leading cause of premature death. Over the past 17 years almost a million road accidents that killed more than 110,000 people, and more than a million were injured in Poland. Daily accidents kill an average of 15 people and 160 are injured. Material losses incurred by society due to road accidents, as measured by the size of the national income produced do not exceed the size of our state budget expenditures health care and social assistance. Annually loss of Polish arising from traffic accidents is approximately 2% of gross domestic product. The social cost of one person killed almost 1 million. Drivers of company cars, the amount of which in Poland is estimated at a total of half a million to 800,000 vehicles, cause 30 % of accidents. For each event the company is high losses (loss of an employee, the cost of repairs and insurance), not to mention the purely human dramas affecting the employees and their families.

Approximately 1.24 million people die every year on the world's roads, and another 20 to 50 million sustain nonfatal injuries as a result of road traffic crashes. Only 28 countries, representing 449 million people (7% of the world's population), have adequate laws that address all five risk factors (speed, drink-driving, helmets, seat-belts and child restraints). The number of road traffic deaths each year has not increased – but remains unacceptably high at 1.24 million per year¹.

Safety is a condition that gives you a sense of certainty and guarantees the existence of his behavior and opportunities for improvement. It is one of the basic human needs. It is characterized by the absence of the risk of losing something for the body especially valuable - life, health, work, respect, affection, tangible and intangible property. Below, we show different definitions "safety".

➤ "The state of being safe; freedom from the occurrence or risk of injury, danger, or loss."

¹ *Global status report on road safety 2013*

World English Dictionary

- “The quality of averting or not causing injury, danger, or loss.”

<http://dictionary.reference.com/browse/safety>

- “Safety is the state of being "safe" the condition of being protected against physical, social, spiritual, financial, political, emotional, occupational, psychological, educational or other types or consequences of failure, damage, error, accidents, harm or any other event which could be considered non-desirable. Safety can also be defined to be the control of recognized hazards to achieve an acceptable level of risk. This can take the form of being protected from the event or from exposure to something that causes health or economical losses. It can include protection of people or of possessions.”

<http://en.wikipedia.org/wiki/Safety>

Below, we present data on the number of vehicles on the roads in Poland and Bulgaria (Tab. 1 and Tab. 2).

| SAFER VEHICLES | |
|---|------------|
| Total registered vehicles (2009) | 22 024 697 |
| Cars and 4-wheeled light vehicles | 16 494 650 |
| Motorized 2- and 3-wheelers | 1 808 723 |
| Heavy trucks | 2 797 798 |
| Buses | 95 415 |
| Other | 828 111 |

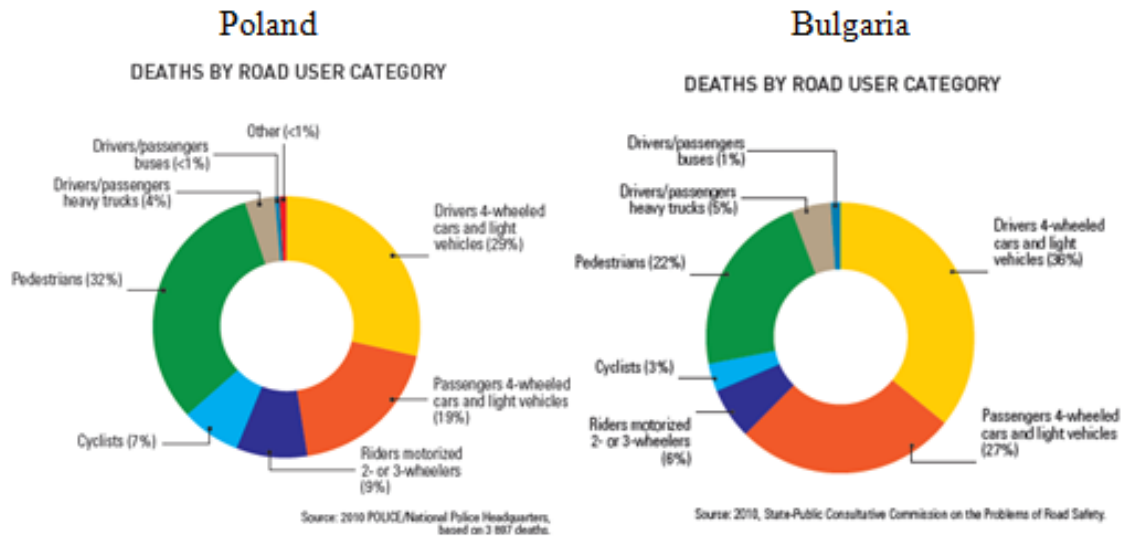
Tab.1. Total registered vehicles in 2009 in Poland

| SAFER VEHICLES | |
|---|-----------|
| Total registered vehicles (2010) | 3 284 837 |
| Cars and 4-wheeled light vehicles | 2 602 400 |
| Motorized 2- and 3-wheelers | 125 371 |
| Heavy trucks | 335 788 |
| Buses | 23 857 |
| Other | 197 421 |

Tab.2. Total registered vehicles in 2010 in Bulgaria

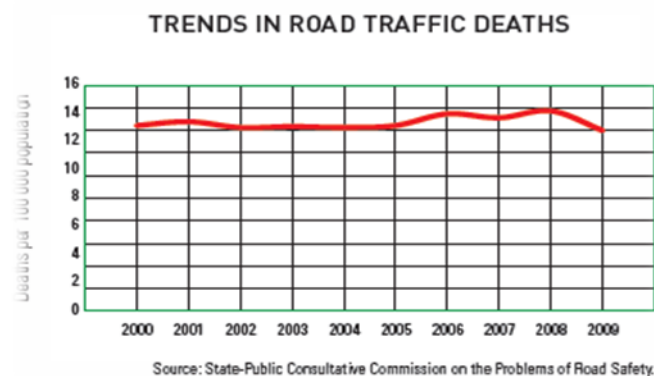
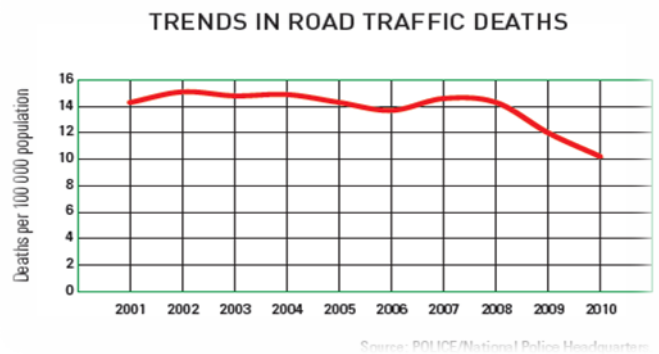
After the Polish roads moves much more vehicles. It is worth recalling that these countries differ greatly from each population and the surface which significantly affects the number of vehicles on the roads.

Structure of road accidents in Poland and Bulgaria by category is similiary. In the graph below we can see that the drivers of 4-wheeled cars and light vehicles in Bulgaria are up 36%, while in Poland this percentage is lower and reaches 29% (Graph 1).



Graph 1. Deaths by Road user category in and Bulgaria

In both countries, we can observe a positive trend decline in the number of deaths road accidents (Graph 2).



Graph 2. Trends in Road traffic deaths in Poland and Bulgaria

1. Road accidents and their consequences in 2013

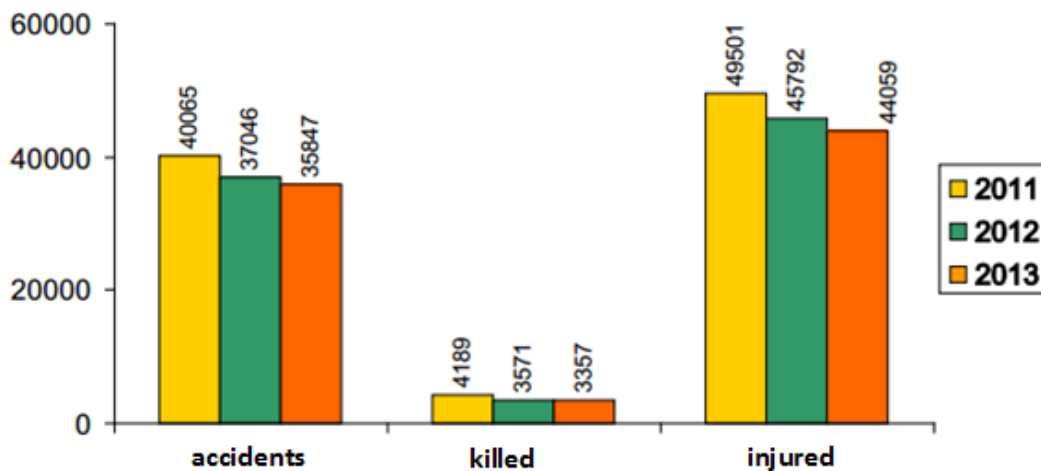
In 2013, the Police reported 35 847 road accidents occurring on public roads in residential areas or traffic zones:

- In comparison to 2011, when it took place 40 065 accidents, the number is decreased by 4 218 accidents (-10.5%),
- In comparison with 2012 the year in which were recorded 37 046 cases, the 3.2%).

As a result of road accidents 3 357 people died:

- In comparison to 2011, when 189 people were killed 4, there was a decrease of 832 persons (-19.9%),
- In comparison with 2012, which killed 571 people three declined about 214 people (-6.0%). In cases where the injured were 44 059 persons:
- compared to 2011, when 501 were injured 49 people, the number of the wounded has decreased by 5 442 (-11%),
- In comparison to 2012 when there was 45 792 people injured, this number decreased about 1 733 persons, it means (-3.8%).

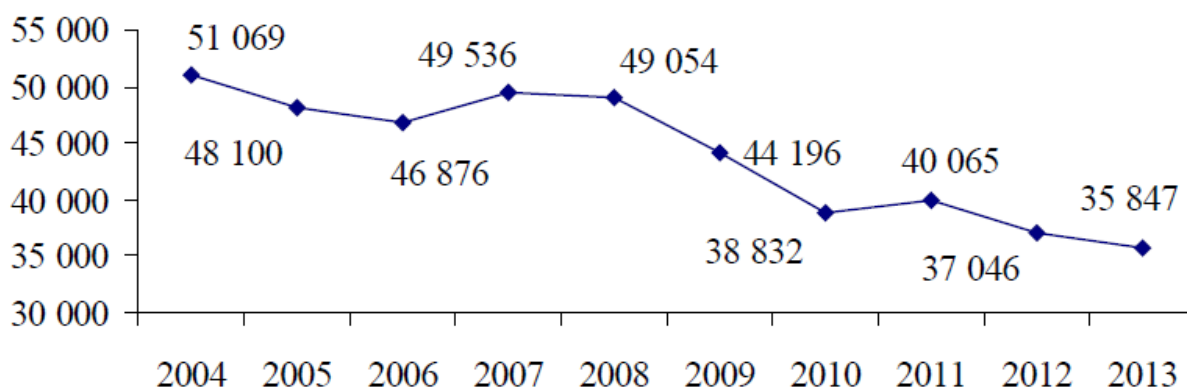
Below, there is a comparison of the number of accidents, deaths and injuries in 2011-2013 (Graph 2).



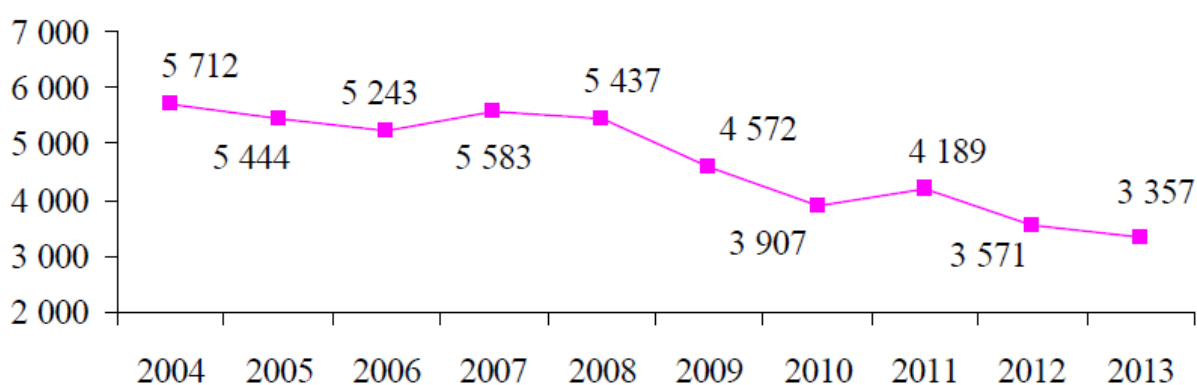
Graph 3. The number of accidents, deaths and injuries in 2011-2013

In the last decade, most road accidents and casualties recorded in 2004, followed by a decline, lasting until 2006. In 2007, there was an increase in the number-of accidents and their victims, in the years 2008 to 2010 there was again dropped until 2011, where he recorded another increase. From 2012, the observed decrease in traffic accidents and their victims.

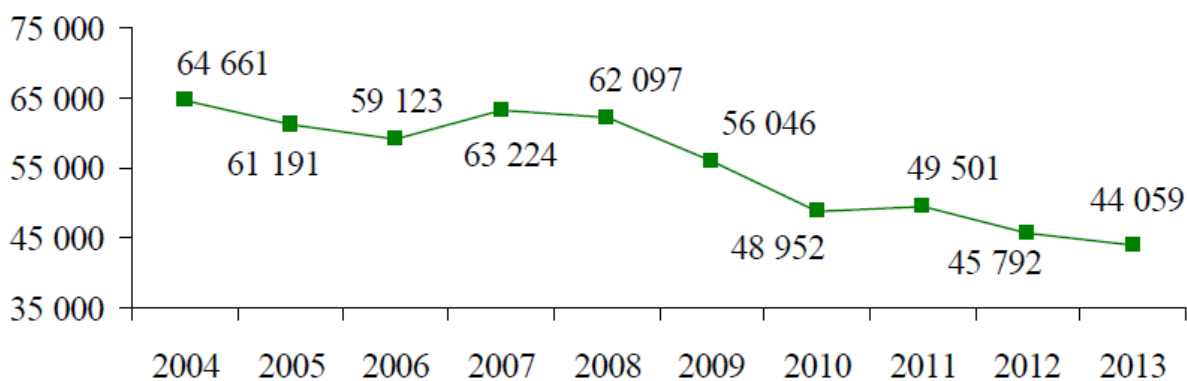
Below, there are graphs which present trend of road accidents in the years 2004 – 2013 (Graph 4.), trend of people killed in road accidents in the years 2004 – 2013 (Graph 5.), trend of injured in road accidents in the years 2004 – 2013 (Graph 6.).



Graph 4. Trend of road accidents in the years 2004 – 2013



Graph 5. Trend of people killed in road accidents in the years 2004 – 2013



Graph 6. Trend of injured in road accidents in the years 2004 – 2013

The above data indicate that the rate of accidents and injuries are lower than last year, and the rate of killed is at the level of the previous year. In 2012, the indices were:

- Accidents - 96.1
- Killed - 8.7
- Injured - 118

The table below presents a security status indicators, depending on the number of inhabitants in Poland (Tab. 3.).

| | Population | Indicator of the number of accidents per 100 000 inhabitants | Indicator of the number of deaths per 100 000 inhabitants | Indicator injuries per 100 000 inhabitants |
|---------------|-------------------|--|---|--|
| Poland | 38 533 299 | 93,0 | 8,7 | 114,3 |

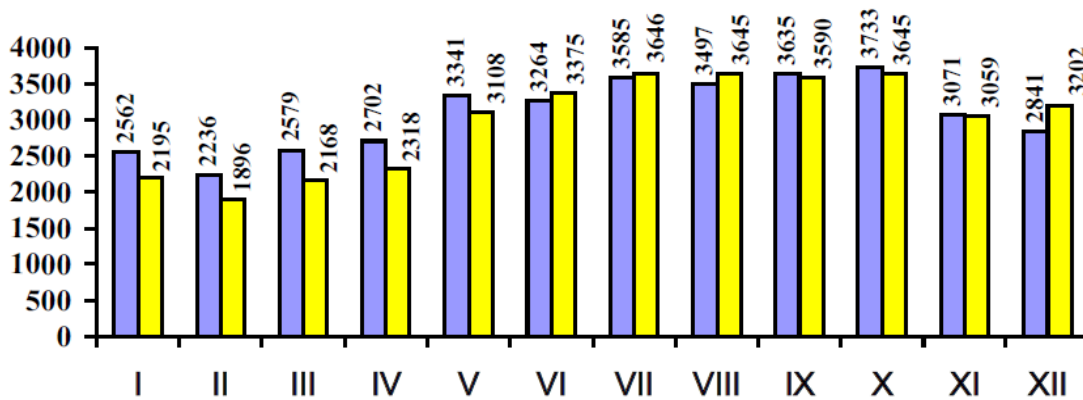
Tab. 3. Security status indicators, depending on the number of inhabitants in Poland

2. Time and place of road accidents

Time of road accidents in 2013

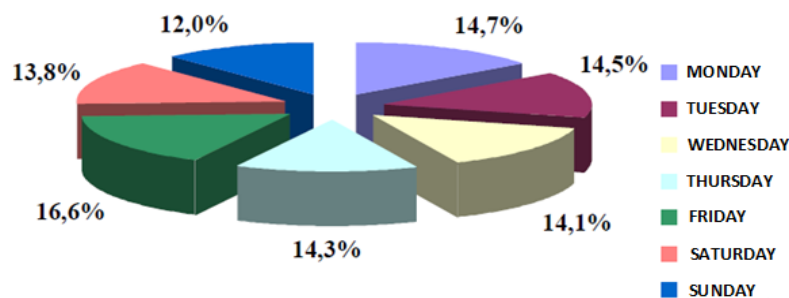
In 2013, most accidents occurred in July (10.2% of the total), in August (10,2,8%) and October (10.2%). In contrast, most people died in October (11.6%).

A large number of accidents in the summer months is due to increased traffic associated with the holiday period. Increased number of accidents in the autumn months is a phenomenon observed for several years. During the deteriorating weather conditions and road conditions, early nightfall. Occurs primarily for pedestrians deductions because they become less visible. In the winter months there was a significant reduction in the number of accidents and casualties due to inclement weather conditions (Graph 7.).



Graph 7. Road accidents by months in 2012 and 2013

When the distribution of traffic accidents on the particular days of the week, most of the events recorded in five (16.6% of the total). Most people (16.4% of the total) were killed on Saturday, on average, in which case the ninth man died, where on Friday in what the twelfth (Graph 8.).



Graph 8. Road traffic accidents by day of the week in 2013

Both in 2013 and in previous years, the most severe accidents occurred in the hours 14 - 19, a period very heavy traffic associated with the return of the work.

Least of accidents reported in the 24 - 5 hours, during which time the least people were injured and killed.

On the occurrence of road accidents is also influenced by weather conditions and lighting, the latter factor depends on the time of day and season.

Just as in 2012, most accidents occurred in good weather conditions. In good weather conditions, steering feel more comfortable ride, develop greater speed, as in the case of an accident gives tragic consequences.

Most accidents were recorded during the day, because then there is the most traffic. However, at night, on unlit roads is the largest index of people killed in the accident which killed a fourth man, where during the day in which the fourteenth accident.

Places of road accidents

In 2013, the vast majority of cases, because 26 078 took place in built-up areas (72.7%), were killed in their 1 581 people and 30 935 were injured. Outside the built-up took place 9 769 cases (27.3% of the total), were killed in their 1 776 people and injuries were 13 124 participants in the movement area.

Although most of the accidents occurred in built-up areas, as a result of accidents occurring in the area of undeveloped killed more people in every fifth case, a man died while in built-up areas in which the sixteenth. The reason for this state of affairs can be traced to the fact that control of undeveloped areas develop greater speed, often in a car killed more than one person, and further medical help arrives much later.

On straight roads 19 214 accidents occurred, they suffered the death of 2 179 people and injured 22 605 traffic. Another particularly dangerous place is the junction with the road rights of way, on their territory the 10 550 accidents killed 513 people and the injury suffered 13 339 people.

3. Causes and accidents perpetrator

Among the factors that have a decisive impact on road safety (man - the road - vehicle accidents as a causative factor), the first place definitely extends to man. It is the behavior of different groups of road users, in general, affects the formation of road accidents. Other factors were far less important.

Accidents due to the fault of drivers

It should be noted that the most common perpetrators of accidents in 2013 were men - vehicle drivers who caused 74.1%, while the women-led 21.4% of accidents.

Particular attention should be paid to the so-called. "Young drivers" at the age of 18-24 years. They cause a large number of accidents in 2013 were the perpetrators of 6 233 cases (21.2% of accidents caused by the fault of managers), killing 584 people in them, and 8 430 were the wounded. The cause of 42.5% of accidents that caused "was inappropriate speed to traffic conditions", but about their gravity provides 62% of fatalities in accidents caused by them black oxide. It is a group of people, which is characterized by a lack of experience and skills of driving and a high propensity for recklessness and risk.

Accidents with pedestrians fault

Another group of perpetrators of road accidents were pedestrians. In 2013, they caused 3 182 accidents (8.9% of all accidents), which resulted in the deaths of 579 people (17.2% of the total killed), and injury were 2 671 people (6.1% of all injuries). In most of the victims in these cases were alone pedestrians.

The most common cause was:

- entrance to the road directly in front of a moving vehicle - 1 773 accidents (55.7% of all events caused by pedestrians)
- crossing the road in an unauthorized location - 358 cases (11.3%),
- entrance to the road behind the vehicle, obstacles - 353 accidents (11.1%)
- entrance to the road at a red light - 288 cases (9.1%).

Compared to 2012, fewer accidents, pedestrians caused by 553 (-14.8%), which killed about 46 people less (-7.4%) and injured about 511 people less (-16.1%).

Analyzing the causes of accidents due to the fault of pedestrians should pay attention to accidents due to standing or lying on the road, because the effects of these accidents are tragic, in which the second such accident killed a man.

Accidents fault of the passenger

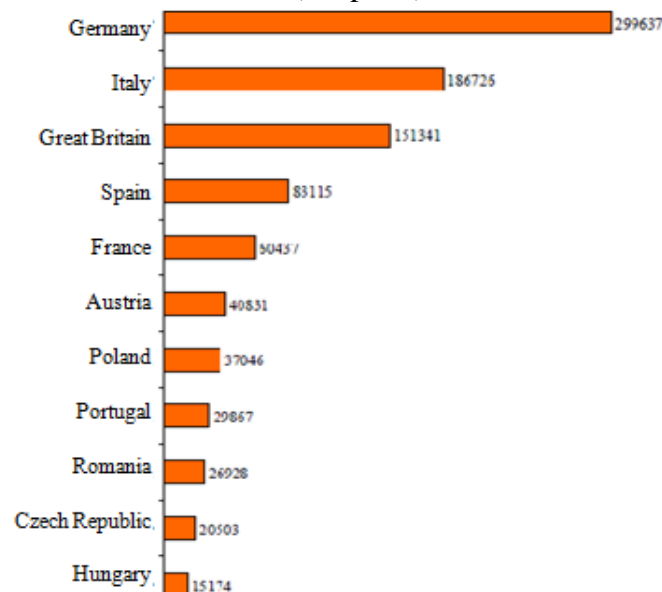
The smallest group of perpetrators of accidents are passengers. In 2013, they collapses caused 132 accidents in which three people were killed and 135 were wounded.

Accidents due to technical malfunction of the vehicle

In 2013, the technical condition of the vehicle was the cause of 53 accidents, die-LO in these 6 people and wounds have had 63 people. Most found deficiencies in lighting (49.1% of the total), and deficiencies in the tires (30.2%). Moreover, due to no fault of the persons driving vehicles technical malfunction occurred 91 accidents involving personal 3-by were killed and 120 were wounded.

Road accidents in selected European countries in 2012

In 2012, according to with the most current final figures published in the CARE database of selected European countries, most road accidents took place in Germany - 299 637, 186 726 in Italy and the UK – 151341 (Graph 9.).



Graph 9. Road accidents in selected European countries in 2012

Safety is a one of the basic human needs, guarantees the existence of the subject and gives a sense of stability. In today's world, security is a state particularly expected. The continuous development of society and the rapid progress of civilization have a negative impact on the safety situation defined. The increasing number of road vehicles and the rush of people, lead to an increase in the number of accidents and dangerous situations on the road, which result in the victims. This report includes a comparison of deaths road accidents in Poland and Bulgaria and the trends of road accidents in European Countries. The situation in

Poland was presented in detail - trends in road accidents over the last years, the reasons, circumstances and participants in road accidents.

This knowledge and awareness among people, developing technology, we can see a clear decline in traffic accidents, and thus increase the level of safety of life.

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АКТУАЛНО СЪСТОЯНИЕ НА БЕЗОПАСНОСТТА НА ПЪТНОТО ДВИЖЕНИЕ В ПОЛША

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Ключови думи: *безопасност, пътна безопасност, пътни инциденти, видове транспорт в Полша и България, извършител на произшествие*

Резюме: *В статията са представени въпроси, свързани с безопасността по пътищата в Полша. Данните са сравнени с други европейски страни. Докладът представя подробни данни за количеството пътни инциденти, тенденции и идеи за подобряването на пътната система в Полша.*