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SELECTED ELEMENTS OF SAFETY MANAGEMENT ON ROADS IN POLAND

Along with emergence and constant development of motor industry, the safety conditions on roads have become a serious social problem².

Within the last 17 years in Poland there were almost a million of car accidents in which over 110.000 people were killed and over a million were injured. On average, 15 people die in car crashes every day, and 160 get injured. In 2009, 4572 people were killed on Polish roads³. Every fifth Pole behind the wheel does not fasten safety belts, and every tenth car accident is caused by a drunken driver (in 2009, the police detained 173 324 drunken drivers). Material losses that Polish society bears due to car accidents measured by the amount of national income that was not generated exceed the national budget's expenses on health care and social services. The World Bank estimated that Poland loses over 2.5 billion euros every year. The whole society pays for recklessness and irresponsibility of some drivers. It is particularly markedly visible in the case of medical aid. Since 2007 the national budget's expenditures for rescue services has increased by several million euros. Today Poland spends almost 500 **Mio.** euros yearly on this purpose. Hospitalization and rehabilitation of casualties cost even more. The National Health Fund estimates that many billions of euros come from the public purse. A road incident is a total of many pejorative elements which overlap in a definite unit of

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² R. Mądro, G. Teresiński, *Obrażenia ciała u pieszych ofiar wypadków drogowych*, „Prokuratura i prawo” 1996, no. 1, p. 24.

³ In the next section a detailed safety condition on Polish roads in 2009 analysis will be presented.

time and, at the same time, cause the unfavorable results like collisions or car crashes.

Human Right to Safe Existence

The contemporary notion of safety appears ambiguous and complex. Among the multiplicity of references, typologies and classifications, the reference of safety to danger is perceived as most eye-catching and highly publicized. Such an approach favors defining the concept of security in the so called negative aspect. In this respect, security also relates to the Latin *sine cura* = *securitas*⁴.

As every wide-range notion, safety is an ambiguous issue. The primary etymologic meaning defines safety as a state of: non-danger, calm and confidence⁵, state of confidence, free from perils⁶, fear and attacks⁷.

The sense of security is assumed to be defined by objective and measurable factors as well as subjective and hard to measure, but not always rational, ones. Subjective factors, according to J. Stańczyk, can also concern imaginary danger which exists in a person's or society's consciousness but objectively, does not exist outside the consciousness⁸. L.F. Korzeniowski indicates that subjective aspects of safety appertain to: the awareness of real danger; lack of such awareness despite the existence of danger; lack of awareness of possibility to prevent the danger; false awareness of danger non-existent in reality⁹.

To sum up, security is a state which gives a sense of confidence and a guarantee of its maintenance and improvement. It is one of humans' primary needs which is characterized by posing the risk of losing something that is particularly valuable – life, health, job, respect, feelings, material and non-material goods. Security is humans' and social groups' supreme need as well as a basic need of states and international systems and its lack evokes anxiety and feeling of being endangered.

Danger is an antonym of security. According to R. Zięba, danger is perceived as a state of mind being a result of unfavorable or dangerous phenomena and applies to the sphere of consciousness of a given entity (a person, social group, nation etc.)¹⁰. R.H. Ullman defines danger in an interesting way. According to him "...it is an activity or a sequence of occurrences which drastically and in a relatively short time threatens with degradation of life quality of country inhabitants or with considerable narrowing down the range of political decisions available for

⁴ S. Zalewski, *Bezpieczeństwo polityczne państwa. Studium funkcjonalności instytucji*, Siedlce 2010, p. 93.

⁵ *Słownik języka polskiego/ Polish dictionary, volume. 1*, Warsaw 1978, p. 147.

⁶ R. Zięba, *Pojęcie i istota bezpieczeństwa państwa w stosunkach międzynarodowych*, „Sprawy Międzynarodowe” 1989, p. 10 i 50.

⁷ Ch. Maunig, *The Elements of Collective Security* [w:] *Collective Security*, (Ed.) W. Bourquin, Paris, p. 134.

⁸ J. Stańczyk, *Współczesne pojmowanie bezpieczeństwa*, Warsaw 1996, p. 28.

⁹ L.F. Korzeniowski, *Securitologia. Nauka o bezpieczeństwie człowieka i organizacji społecznych*, Cracow 2008, p. 71.

¹⁰ R. Zięba, *Instytucjonalizacja bezpieczeństwa europejskiego – koncepcje-struktury-funkcjonowanie*, Warsaw 2004, p. 28.

governments of the country or private non-government entities inside the country”¹¹.

An Outline of Contemporary Threats

Rapid technological and economic developments favouring globalization and the disappearance internal borders are among the factors causing the increase of civil safety threats. The process of civilization and demographic development itself is a key factor correlated with danger. The rapid increase of population, particularly in cities, and people’s dependence on centralized food supplies, water, gas, electricity and sewage and waste purification systems generate serious threats connected with possible breakdowns of technological and communications infrastructures which are dangerous not only for people’s health but also for their lives.

Dangers are not a self-contained category because they always refer to specific subjects and can be of destructive nature. They can cause harmful consequences because every subject (a person, system, organization, natural resource) is characterized by smaller bigger susceptibilities which are weaknesses likely to expose potential dangers to damage. They can be of either objective or subjective character. In relation to the category of objective dangers, it is noteworthy that they are factual, unconditional possibilities of causing destruction ending in heavy damage, whereas subjective dangers relate to:

- awareness of threats;
- lack of awareness of threats;
- lack of knowledge about chances to avoid dangers;

With regard to the origin of emerging threats, they can be divided into three groups:

- natural threats (related to natural disasters caused by nature powers);
- civilization threats related to human activities which can cause disasters and technical breakdowns¹²;
- war threats – resulting directly from local and intercontinental armed conflicts.

¹¹ R.H. Ullman, „*Redefining Security*” 1983, no. 5, p. 133.

¹² E. Kołodziński, J. Matela, T. Pietkiewicz, *Komputerowe wspomaganie zarządzania bezpieczeństwem cywilnym*, Warsaw 2003, p. 16.

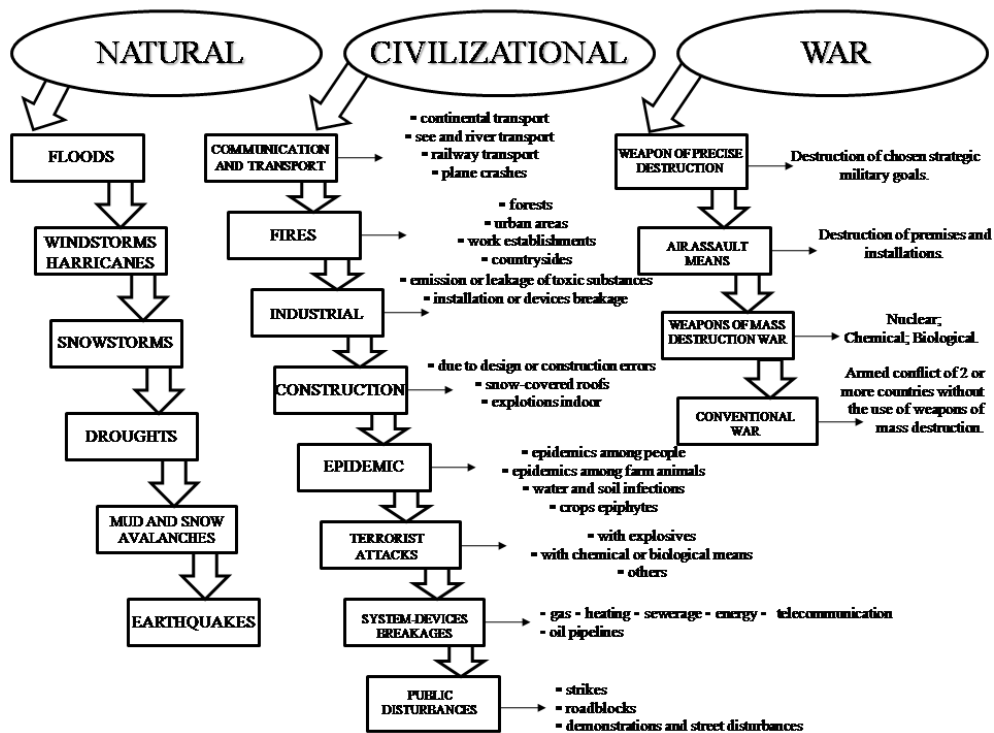


Illustration no.1: Contemporary threats.
Source: a stud of my own.

The above division of threats is an open one because it is not always possible to separate particular threats and their causes fully and unequivocally. In reality, it is a set of threats which can mutually reinforce (the synergy effect)¹³, interrelate or supplement, as, for instance, in the case of road disasters with the participation of dangerous materials nearby and drinking water intake, there can be a domino effect – apart from traffic fatalities and material losses, water contamination can occur resulting in its lack.

The number of factors generating threats along with civilization development are known to be constantly increasing, despite applying better and better security systems. However, it is optimistic that as new kinds of threats emerge, people are

¹³ *Synergy* means that cooperating elements give a random result in some respect larger than a simple sum of results caused by each factor separately. The notion of synergy was first introduced by Melancton (Philipp Schwarzerg, 1497-1560), German humanist, theologian and Protestant activist. He applied it in his theological deliberation on analyzing the factors determining the “soul salvation”. Source: L.J. Krzyżanowski, *O podstawach kierowania organizacjami*, Warsaw 1999, p. 194.

able to repel them creating new or improving old methods and organizations of preventing them.

Threatening Elements in Road Traffic

The researches show that in most of OECD¹⁴ countries, the costs of car accidents absorb 2% of NGP. In developing countries, losses are larger than loans and international financial support.

In the etiology of traffic road accidents, the following elements are specified as contributory factors:

- human (road traffic occupant – O)
- vehicle (V)
- road (surrounding – S)

The term of “road traffic occupant” should be understood as all road users (drivers, motorcyclists, cyclists, and unprotected road traffic occupants – pedestrians). The elements of OVS system appear in the majority of analyses concerning the road traffic security issue.

In the field of road traffic safety there is a term of a collision and a road accident. A road collision is an event in which people are neither killed nor injured but only the property is damaged (vehicle), whereas a road accident is an event where one or more road traffic occupants are either injured or killed. In such cases the police needs to be called immediately and sometimes also the fire brigade (if the casualties are trapped in vehicles). In every collision three mutually related phases can be distinguished: *initial*, *climactic* and *final*¹⁵. In the *initial* phase such a road situation arises that road traffic occupants do not have the ability to prevent a collision. The effect of the *climactic* phase, which lasts only a few seconds and happens on a short section of the road, has the most serious consequences (injuries and death of road traffic occupants, damage or destruction of the vehicle, material losses in environmental surroundings). The exception is a road event in which many vehicles are involved on the roads with large traffic intensity (over 700 v/h), where the duration of the climactic phase and the collision area is considerably extended (the so-called domino effect). The *final* phase is a continuation of the climactic phase and may be over after all the vehicles involved in the collision pull up, or it may continue (as in the case of fire).

A human being presents a central element of the human-vehicle-road (OVS) system. Therefore, resolving road traffic issues requires the knowledge about road occupants, i.e. drivers, cyclists and pedestrians.

The main cause of most road events (accidents, collisions) is a human mistake which can be related to:

- not adjusting the speed to traffic conditions and obliging speed limits;
- not observing the road itself closely enough;

¹⁴ ORGANIZATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT.

¹⁵ W. Kończykowski, *Odtwarzanie i analiza przebiegu wypadku drogowego*, Paris–Warsaw 1993, p. 162.

- incorrect maneuvering (overtaking, passing, bypassing);
- incorrect driving across the pedestrian crossings;
- not observing traffic regulations by pedestrians¹⁶.

Research carried out in the USA and the UK in the 70s showed that the cause of 57-65% of all road accidents results from road occupants' incorrect behavior, whereas in the remaining 30%, such behavior constitutes one of two or three causes.

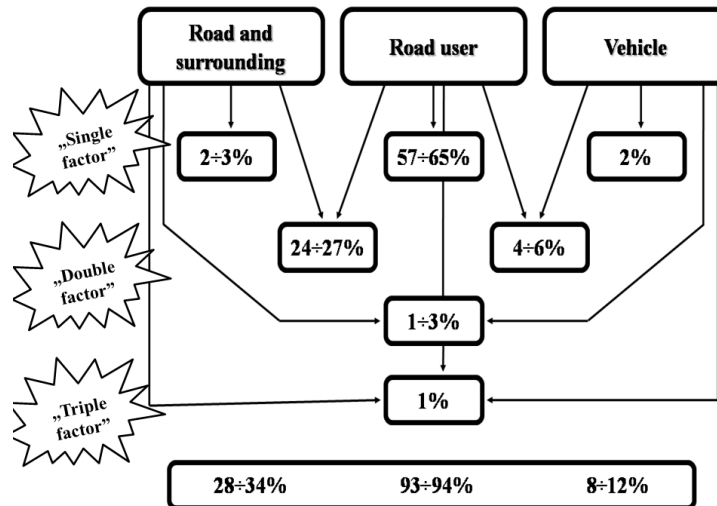


Illustration no.2: Proportional participation of specific factors in road accidents.

Source: Rumar Kare. The role of human behavior. Psychological aspects, [w:] Road Safety, first and foremost a matter of responsibility. ECMT International Seminar 1998.

Different psychophysical factors influence the safety of driving: temperament, age, eyesight, general health condition, fatigue, current professional and family situations, stress, ability to make fast decisions, experience.

Safe participation in road traffic is largely dependent on mental and physical development levels. Among the elements of psychological nature which affect the driver's decision-making and which directly relate to actions taken to increase the level of road traffic safety can be cognition processes (perception, observations, reflections, thinking), emotional, volitional and other properties (alcohol or drugs' influence on driver's organism).

¹⁶ K.J. Pawelec, *Wypadek drogowy*, Warsaw 2003, p. 116.

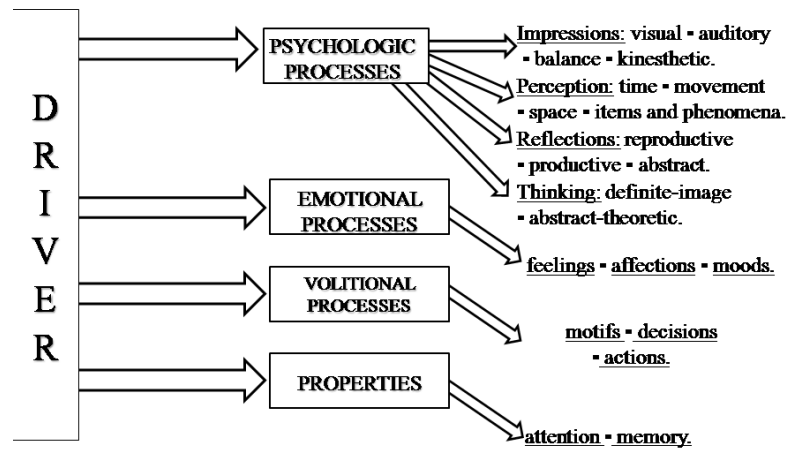


Illustration no.3: Psychological elements which influence vehicle-driving.

Source: own study.

Considering a road¹⁷ – the “S” element in road traffic safety system, it needs to be indicated that according to the statistics it is in the second position (after the driver) among the causative factors responsible for the number of road events in Poland. Construction properties of roads as well as their nearest surroundings are of major significance in ensuring that road traffic occupants can feel safe.. It leads to designing and constructing roads and routes which will be characterized by simplicity, regularity and uniformity of applied solutions, which, in turn, makes them clear and easy to understand to drivers and other road users.

A road’s significant element which has direct impact on road traffic occupants’ (drivers) safety is its capacity. Capacity is defined as the largest number of units (vehicles or pedestrians) that the section of a road (street, junction entry, pedestrian crossing, bicycle path etc.) is able to accept in specified road and traffic conditions and in a specified unit of time (1 h). The section’s capacity or other road infrastructure elements’ capacity depend on both physical and external conditions as well as drivers’ behavior.

J. Wicher indicates that also road traffic devices are responsible for safety (active and passive)¹⁸. They should:

¹⁷ A road is an allocated and entrenched section of the land with hardened surface assigned for vehicle traffic, and outside the built-up area also for pedestrians. A road can be divided into roadway and sidewalk. A road can also have a sidewalk for pedestrians, bicycle path and trackway for track vehicles. If the length of the hardened surface (bituminous, paved, concrete, clinker, break-stone or gravel) exceeds 20m, the road can be called *hard* road and others are called *ground* roads. Correctly labeled two-lane road with collision-free junctions is a *highway*. J. Walawski, *Droga – bezpieczeństwo ruchu*, Warsaw 1980, p. 11.

¹⁸ In road traffic industry the elements of *active* safety are devices which channel the flow of vehicles within the traffic zone; they improve the smoothness and traffic order. Typical active safety devices are safety barriers, safety barriers on bridges. Devices which influence the *passive* safety

- minimize the obstacles in traffic smoothness;
- regulate (even partly – so called *forgiving road*)¹⁹ the mistakes made by road traffic occupants;
- minimize road accidents' consequences.

In the light of research²⁰, the largest drawbacks of the road infrastructure in the Silesian region²¹ are mainly due to bad conditions of road surface, vertical side obstacles in direct proximity which hinder visibility (especially on curves) and the lack or an insufficient number of traffic signs (vertical and horizontal)²².

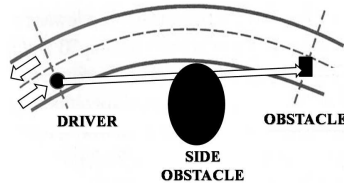


Illustration no. 4: Visibility on curves with side obstacles.

Source: own study.

are devices which allow to minimize the possibility of an accident (traffic signals, anti-reflective shields, sound-absorbing screens) or mitigate its consequences (street lamp posts, traffic signal posts, which absorb the crash energy during a collision so that they become distorted or damaged). *Węzły drogowe i autostradowe*, (Ed.) R. Krystek, Warsaw 2008, p. 128.

¹⁹ The term *forgiving road* denotes a road which is designed in way which does not require constant concentration on avoiding incorrect maneuvers from the driver or even „forgives” the driver his mistakes while maneuvering, allowing to concentrate on safe driving. L. Herrstedt, *Self explaining and forgiving roads. Speed management in rural areas*, ARRB Conference Denmark, October 2006.

²⁰ The author carried out a research (survey) in 2010 (Feb-Jun) among university students in Silesia. The questioned group was 217 people (164 men, 53 women) aged 20–54. 74% of the interviewees indicated that the bad condition of Silesian roads (ruts, holes) is the „causative factor” of road events, coming from the “S” element of the traffic safety system. 15% stated that bad infrastructure and surrounding solutions (side obstacles) are to be blamed for most of the collisions. 8% indicated lack or insufficient traffic signs. 3% of respondents drew attention to out-of-control expansion of advertising market within road infrastructure, which results in worsening of visibility of vertical signs being consecutively covered or overwhelmed with colors by advertising banners. The Board of Ministers Committee works on planning and land development act amendment, which aim at giving the counties relevant tools to administer on the local level observing the rules of advertising locations, materials and size. It functions similarly in Germany for years. See: M. Wybieralski, *Sprzątanie w reklamie*, „Gazeta Wyborcza” 2010, no. 196, p. 6.

²¹ The Silesian Voivodship is inhabited by 4. 642 Mio. of people. The surface of the Voivodship is 12, 333 km². There are 71 cities in Silesia region (19 with urban county rights and 17 with mundane county rights) with 78,4% urbanization level and demographic density at 377 people per km².

²² First innovations influencing the improvement of traffic safety were implemented by W. P. Eno, also called “the father of road safety”. He is the creator of the STOP sign, a roundabout, one-way road and many more communicational solutions and traffic signs. J.A. Montgomery, *Eno – The Man and the Foundation. A Chronicle of Transportation*, Pub. Westport 1988, p. 11.

Among the most popular defects in traffic signs in Poland are:

- putting up signs in places where they are hardly visible.
- Not noticing road signs are often related to their incorrect location. It happens that they are not put up within driver's direct field of vision. They can be set up too far from the road, too high or not at the right angle. They can be located too close to the road making them hard to notice, as for instance, at the junctions. In a number of cases a surplus of road signs hinders noticing them. Another important cause of not noticing the signs is their background or their surroundings. It concerns mainly the excess of advertisements on road sides, which can overwhelm the signs effectively and make them unnoticeable;
- poor legibility of signs causes difficulties in reading their message. Poor legibility can be caused by the lack of supervision and renovation works. It refers to signs which are damaged, bent, faded, dirty, painted or overgrown with roadside bushes. Sometimes they are simply too small, even if their size is agreeable with the road category. Some of the signs are difficult to read because they were not properly designed. It concerns not only a whole group of direction and guide signs but also supplementary signs, panels etc. It also needs to be mentioned that applying signs in different versions influences their legibility²³.
- inadequate application of a sign in a given situation. In this regard out-of-date signs need to be mentioned, as for example STOP signs (B-20)²⁴ put up close to unfrequented level train crossings etc. Also the sequence of important (for safety reasons) signs with less important signs often makes problems. In some situations road signs are applied inadequately in respect of specific conditions, which results in their disregard. It refers to, for instance:
 - “speed limit”;
 - “double solid line”;
 - “no entry in both directions”;
 - “no parking” etc.
- different combination of the same informative signs or combination of contradictory signs can also cause problems.
- lack of adequate sign.

²³ S. Gaca, W. Suchorzewski, M. Tracz, *Inżynieria ruchu drogowego. Teoria i praktyka*, Warsaw 2009, p. 504.

²⁴ Infrastructure Ministers' and Ministry of Interior Affairs and Administration Decree from July 3rd, 2002 on signs and traffic signals (2002 No.170, art. 1393).



Picture no.1: Incorrect traffic sign marking.
Source: own materials.

While characterizing the “S” element, it needs to be indicated that it does not only concerns a road itself but also its surrounding infrastructure elements, other traffic occupants as well as weather conditions (visibility, rainfalls and temperature).

Another ‘causative factor’ of road incidents in Poland is the bad technical condition of vehicles. A vehicle is an indispensable element of road traffic. Specific damage risk is connected with its exploitation. Defining the risk in the road traffic context, it is noteworthy that it becomes a product contributing to the frequency of undesirable events and their consequences.



Illustration no.5: Classification of damage risk, resulting from vehicle exploitation.
Source: own study.

Following the “old European” countries’ pattern, a lot of Polish people clearly adopt Western consumerism – which is reflected in the high level of sold new cars²⁵ which are equipped with the latest active and passive drivers’ support technologies. But still, considering bad technical conditions of vehicles on Polish roads, the problem arises when repaired “post-accidental” cars imported from France, Belgium, Germany or the Netherlands²⁶ join the traffic.

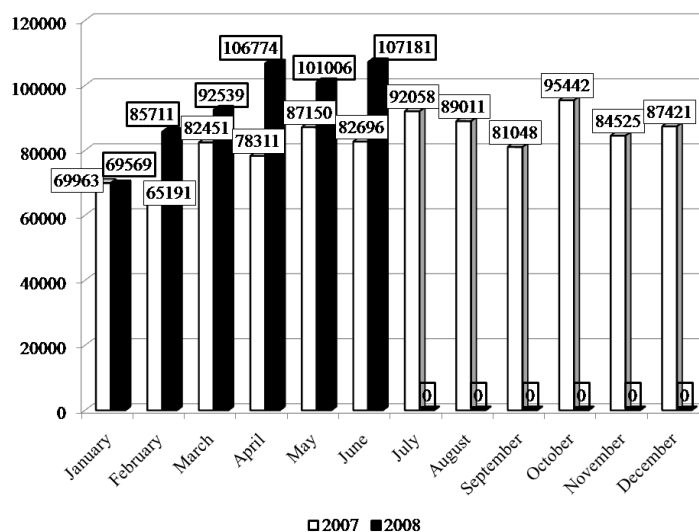


Diagram no.1: Number of used cars imported to Poland in 2007 and 2008.

Source: own study in relation to information from Internet <http://www.samar.pl> (03.02.2010).

The term ‘active safety’ in relation to cars is understood as a combination of such properties which enable the driver to reduce or avoid the risk, and consequently minimize the possibility of a road accident. A typical example of ‘active safety’ device is the brake system including devices supporting its effective functioning²⁷. ‘Passive safety’ elements in cars aim at reducing the consequences of an accident. Such ‘passive safety’ devices are air bags, safety belts, headrests.

²⁵ 320010 new passenger cars were sold in 2009 in Poland (in 2008 – 320007). Source: own study.

²⁶ Increasing level of import seems to deny the thesis that the increase of petrol prices is one of basic reasons hindering market development. This factor plays a significant role in Western European markets, in case of developing markets its significance is slightly different. In Poland, petrol prices, important in respect of current costs, do not influence the car sales and import. Essential role still plays the cost of purchasing a car, including the costs of a loan or leasing – most popular financial tools in Poland. Source: Internet <http://www.samar.pl> (03.02.2010).

²⁷ Such devices are among others: ▪ anti-lock brake system (ABS); ▪ traction control system (ASR); ▪ sudden braking support system (BAS); ▪ electro hydraulic brake system (EHB); ▪ electronic stability control system (ESP); ▪ speed blocks ▪ radar distance control systems ▪ automatic driving system; ▪ navigation systems ▪ other devices increasing safety. Source: A. Herner, H.J. Riehl *Elektrotechnika i elektronika w pojazdach samochodowych wyd. 1* (transl. Wendrychowicz A.), Warsaw 2003, p. 460.

Used cars import Structure
January – June 2008

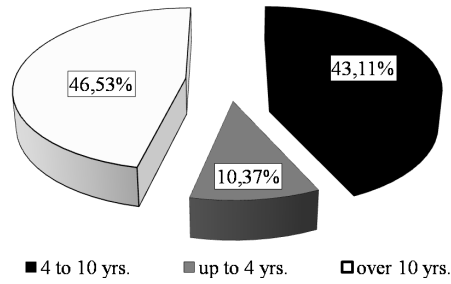


Diagram no. 2: “Age” of imported used cars.

Source: own study in relation to information from Internet <http://www.samar.pl> (03.02.2010).

Accident rate and traffic safety are phenomena whose description requires taking a great number of causes and circumstances of accidental events into account. The following illustration presents the most important groups of factors influencing road traffic safety.

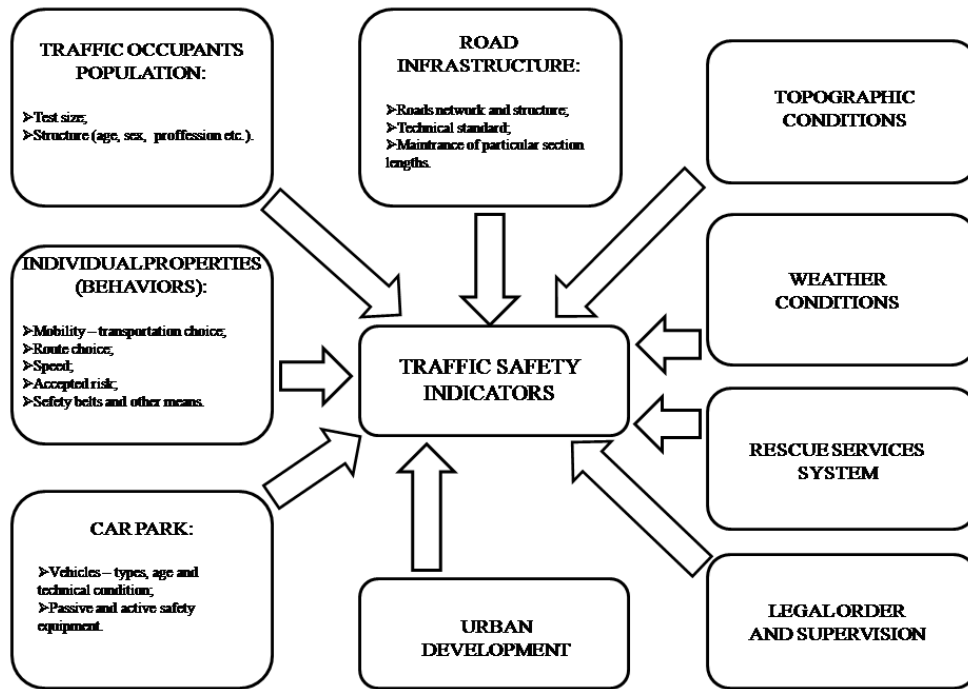


Illustration no.6: The most important groups of factors influencing road traffic safety.

Source: own study.

Summary

According to the European Transport Safety Council²⁸:

- in EU countries about 40.000 people are killed and 3.5 Mio. people get injured on roads yearly;
- up to 2020 road accidents will be the most frequent cause of premature death;
- every third EU citizen will be hospitalized because of a road accident;
- 1 in 20 EU citizens will die or will be severely injured in a road accident;
- on average, EU citizens' life will be shortened by 6 months because of car accidents.

Comparing the number of car accidents in Poland and in other countries, it ought to be noted that the risk of dying in a road accident in this country has been the highest in Europe²⁹ for a couple of years.

It is a misjudged opinion that a large number of car accidents and their casualties are mainly caused by dynamic motorization development.

There are countries like Great Britain or Germany, where motorization indicators are considerably higher than in Poland and the citizens' death risk (the number of people killed / 100.000 citizens) is much lower.

In most countries, despite the motorization growth, the numbers of accidents and casualties drop. What conclusions should the Poles draw? Judging from other European countries' experience, it turns out that the most effective way to reduce dangers on roads is to introduce systematic, multidisciplinary (education, law, control and engineering) actions performed accordingly with a long-term traffic safety improvement program. Presently we observe how motor industry development and a rapid increase of number of cars on roads resulting from mass travelling between countries gradually make road traffic safety an international problem.

²⁸ Source: Internet <http://topics.europeanvoice.com/topic/organisation/European+Transport+Safety+Council> (03.05.2010).

²⁹ To compare the road accidents rate in other countries it is necessary to present some illustrative base data (from 2007) concerning, among others, country surface (in km²), population (in thousands) and road lengths (in km): Austria – 83871/8299/106855 ▪ Australia – 7692024/21017/815739(2006) ▪ Belgium – 32545/10585/153088 ▪ Czech Republic – 78860/10287/55585 ▪ Denmark – 43098/5474/73487 ▪ Finland – 338145/5277/78161 ▪ France – 551208/61538/1042996 ▪ Spain – 504750/43984(2006)/? ▪ the Netherlands – 41528/16358/? ▪ Japan – 377930/127771/1197008(2006) ▪ Canada – 9984670/32976/? ▪ Luxemburg – 2586/474/? ▪ Germany – 357039/82366/644480(2006) ▪ Norway – 323873/4640(2006)/92863(2006) ▪ New Zealand – 269122/4228/93576 ▪ Poland – 322577/38116/383053 ▪ Portugal – 92631/10570(2006 r.)/? ▪ USA – 9631418/309983/? ▪ Switzerland – 41285/7509/? ▪ Sweden – 450295/9113/213000 ▪ Turkey – 767604/71893/? ▪ Hungary – 93033/10064/? ▪ Great Britain – 229898/58846/398350 ▪ Italy – 301328/60054/?. Source: Road Transport Institute in Warsaw, Road Traffic Safety Centre.

Table no.1: Road accidents number in chosen countries (1970, 1980, 1990, 2000, 2006, 2007).

KRAJ	2007	2006	2000	1990	1980	1970
AUSTRIA	41096	39884	42126	46338	46214	51631
BELGIUM	49794	49171	49065	62446	60758	76968
CZECH REPUBLIC	23060	22115	25445	21910	18326	55738
DENMARK	5549	5403	7346	9155	12334	19782
FINLAND	6657	6740	6633	10175	6790	-
FRANCE	81272	80309	121223	162573	248469	235109
SPAIN	100508	99797	101729	101507	67803	57968
NETHERLANDS	25819	24527	37947	44915	49383	58883
IRELAND	5990	5628	7757	6067	5683	6405
ISRAEL	16018	35903	40278	27668	17881	19526
JAPAN	832454	886864	931934	643097	476677	718080
STH. KOREA	211662	213745	290481	255303	83711	-
GERMANY	335845	327984	382949	389350	412672	414362
NORWAY	-	7776	8440	8801	7848	-
NEW ZEALAND	12043	11291	7830	12818	10728	13297
POLAND	49536	46876	57331	50532	40373	41813
PORTUGAL	-	35680	44159	45110	33886	22662
USA	-	1785000	2107000	2540946	2074257	1774612
SWEDEN	18548	18213	15770	23834	25649	28651
SWITZERLAND	21911	21491	23737	16975	15231	16636
HUNGARY	20635	20977	17493	27801	18994	23225
UK	182115	189161	233729	265600	257282	272765

Source: own study according to Road Transport Institute in Warsaw, 2008.

The European Union has implemented directives concerning road traffic occupants' life protection which aim at reducing by a half the number of fatalities until 2013 as well as reducing the number of the so-called severe road accidents. Poland is seen by its partners as a threat to achieving the European goal of reducing the accidents by 25.000 in 2010.

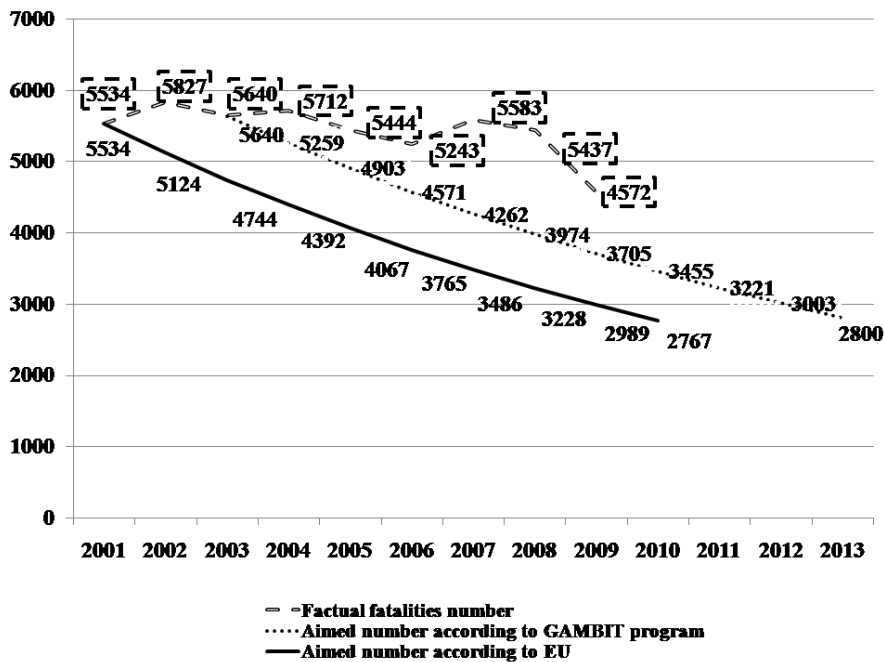


Diagram no.3: The number of fatalities in Poland in 2001-2013 (factual and expected values).

Source: own study according to – Internet www.cbrd.pl (03.02.2010)³⁰.

³⁰ On the 8th of May 2001 Polish government accepted the National Road Traffic Safety Improvement Program (RTS) „GAMBIT 2000”, which anticipates implementing a range of actions in years 2001-2010 in Poland, aiming at the road traffic safety improvement. The program includes two groups of actions: system tasks as well as tasks implementing means of RTS improvement in the scope resulting from the RTS analyses and available financial means rate. System tasks include: RTS structure management reformation aiming at novelization of legal acts and creation of relevant local and regional structures; RTS system development; implementation of auditing system aiming at systematic road infrastructure planning, designing and building control; education of staff which will enable fulfilling the above mentioned tasks. In the second group of tasks, problems concerning issues defined in complex analysis of RTS condition in Poland which the „GAMBIT 2000” program is to resolve there are: the problem of excessive speed which is the most frequent cause of car accidents in our country; the problem of the so called ‘juvenile drivers’ (aged 18–24), who are the most frequent car accidents perpetrators because they are characterized by lack of experience and proneness to risk and recklessness; the problem of unprotected road traffic occupants: pedestrians (particularly children, elders and the handicapped), cyclists and motorcyclists who constitute 50% of road fatalities; the problem of drunken road users; the severity of road accidents – causes are among others too much time of waiting for the rescue services after the accident, excessive speed, road infrastructure which requires modernization, bad road surroundings infrastructure (ditches, trees, lamp posts); the problem of pedestrian crossings on national and regional routes going through small towns – the essential drawback is overlapping of local and long-distance traffic and differences in speed of the vehicles related to it; the problem of accidents’ concentration spots – such places (more than 4 accidents on the 1 km distance within 1 year) converge about 20–30% of all road accidents. Source: Own study.

In motorized countries, road accidents are a serious social problem in regard to a large number of casualties and too small effectiveness of undertaken actions aiming at reducing the casualties' number. Therefore, road traffic safety as a complicated and economically and socially significant issue should be treated seriously on both international and local levels. Apart from people's suffering, the society also bears other visible costs resulting from road accidents. The larger half of casualties are aged 15-44. It is the age range in which people are particularly productive and contribute to their families' uphold and development of communities they live in. The loss of a principal earner has great influence on the material safety of casualties' families. Apart from huge material losses connected with rescue costs, treatment, rehabilitation, loss of production and property damages, road accidents cause pain and suffering. Young people pay for their thoughtlessness and recklessness with their health and lives. Living standards of many people drop drastically. EU experts claim that road traffic casualties should be treated as a social health problem and not only as a side effect of mobility.

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