

## RESEARCHES LOOKING FOR MINIMIZING ROAD TRAFFIC ACCIDENTS INVOLVING SEVERE INJURIES – OBJECTIV OF U.E.

**Dănuț CIUBOTARU<sup>1</sup>, Vasile NECULĂIAȘA<sup>2</sup>**

*E-mail: danutciubotaru@yahoo.com*

### Abstract

After the year 1990, the car park and also the number of drivers have almost tripled, being in a complete contradiction with the slow development of the infrastructure, leading to an increase in the percent of material and human damages as a result of traffic accidents.

As far as Romania is concerned at the level of the European Union, during 2001-2010 recorded a 25% increase of the number of deceased persons, which places our country on the last but one place in the European top.

**Key words:** deceased, seriously injured, traffic accidents

The continuous increase of the motorization indices together with the increase of the number of drivers as well as the various infrastructure rehabilitation sites for national and European roads led during the last years to the blocking traffic, therefore influencing the behaviour of certain traffic participants and implicitly the accidents dynamics evolution in Romania.

The present project tries to draw attention over the increasing number of accidents with several victims and also their severity.

### RESULTS AND DISCUSSIONS

#### THE TRAFFIC ACCIDENTS REPORT RECORDED AT THE WORLD LEVEL, EUROPEAN UNION AND ROMANIA IN 2009

a) At the world level, the traffic accident holds the first position among the causes of violent deaths (Asandei, C., 2001; Avramescu, N. etc., 2002):

- over 1.26 million deceased people – 3200 every day;
- over 35 million injured people – 50.000 every day;
- over 10 million handicapped people as a result of the accident;

The most traffic events are recorded in developing countries and in transition countries, although they have only 32% of the total number of vehicles.

b) At the European Union level, the situation of the traffic events is as follows:

- over 50.000 deceased people;
- 1.5 million injured people;
- over 160 billion Euro for social costs;

Most of the experts consider that “roads can be described as being far the most dangerous and exposed to accidents of all means of transport” (Curt Rich, 1999).

The absence of a strong and well-defined strategy of supervision and control encumbers the development of a safety culture of the traffic leading to an idle violent attitude among the traffic participants.

c) In Romania the number of the traffic accidents reported to the number of inhabitants, vehicles, holders of driver licenses is well above the EU average as follows:

- over 2400 deceased people annually;
- over 6000 people seriously injured every year;
- road traffic acquired a special significance in the last 20 years as follows;
  - the car park developed from 2.2 million vehicles in 1990 to 5.323.960 in 2009;
  - the number of drivers increased from 3.3 million in 1990 to 6.063.410 in 2009;
  - the road infrastructure has remained at the same parameters as in the 90's.

The contradiction between the dynamics of the above mentioned components and the slow development of road infrastructure, unable to ensure the fluency and safety conditions of the crowded traffic, increased the threat of traffic events.

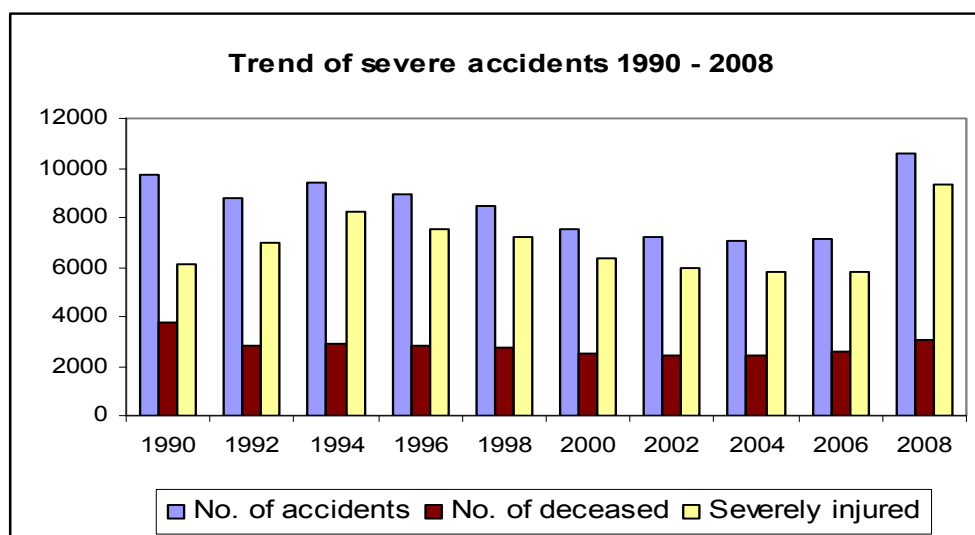
<sup>1</sup> Ministry of Domestic Affairs and Administration, SPCRPCIV, Botosani, Romania

<sup>2</sup> „Gheorghe Asachi” Technical University, Iasi, Romania

Table 1

**The evolution of serious traffic accidents during 1990 – 2008**

Year	No. of accidents	No. of deceased	Severely injured
1990	9708	3782	6137
1992	8781	2816	6960
1994	9381	2877	8198
1996	8931	2845	7504
1998	8457	2778	7221
2000	7555	2499	6315
2002	7236	2411	5976
2004	7068	2449	5775
2006	7164	2587	5780
2008	10592	3053	9350

**Figure 1 The evolution of serious traffic accidents during 1990 – 2008**

Total:

Accidents: - 158.025

Deaths: - 52.351

Severely injured: - 131.572

The outburst of road traffic after 1990 led to the doubling of the number and consequences of the accidents with victims compared to those before 1989, offering another dimension to this phenomenon.

### **THE CATEGORIES OF COSTS RELATED TO TRAFFIC ACCIDENTS**

- medical costs, material damages and losses for the society;
- administrative costs (insurance policies, police etc);
- the evaluation of personal sufferings;
- damages as a result of some slight accidents, with small material losses, which are not recorded in the police statistical reports;
- the life value reported to the value of the average life time;

In most countries the first two categories are taken into account.

There are two evaluation modalities:

Approximate evaluation and estimated evaluation.

### **The approximate evaluation**

In the formula used at the European level, the following definitions have been taken into account:

“dead” - when the decease occurred during the first 30 days after the accident;

“seriously injured” - the injure which requires an immediate hospitalization;

“slightly injured” - the other categories that are not included in the above-mentioned categories;

According to these conditions, we have the formula:

$$C - \text{PNB} (25.1D + 1.64R + 0.25r) \quad (1)$$

PNB – the gross domestic product for each inhabitant;

D – the number of people deceased in accident;

R – the number of people seriously injured in accident;

r - the number of people slightly injured in accident;

### **The estimated evaluation**

Although it is not so accurate, it shows a larger degree of precision than the approximate evaluation due to the additional information introduced in the formula.

$Epd - PNB (Vv - X) + 12 Cu (Vm - Va) + CMS (2)$

Where:

PNB - the gross national product;

Vv – years length of life expectancy;

Cu – the monthly pension rate due to the heirs;

Vm – age at which the pension is paid to those entitled.

Va – the age of the entitled people when they received the first pension;

CMS – medical costs as a result of the accident.

Romania wastes every year a billion Euro for the traffic accidents, “direct social costs” calculated by the World Bank.

## THE NATIONAL STRATEGY FOR ROAD SAFETY 2011-2020

The road traffic national strategy for 2011-2020 represents a public policies document on a long term which proposes the creation of a new public policy related to road safety, taking into account the poor results of the actual policies. During 2001-2008 Romania recorded a 25% increase of the number of deceased people, which ranks our country on the last but one place in the European chart, according to figure 2.

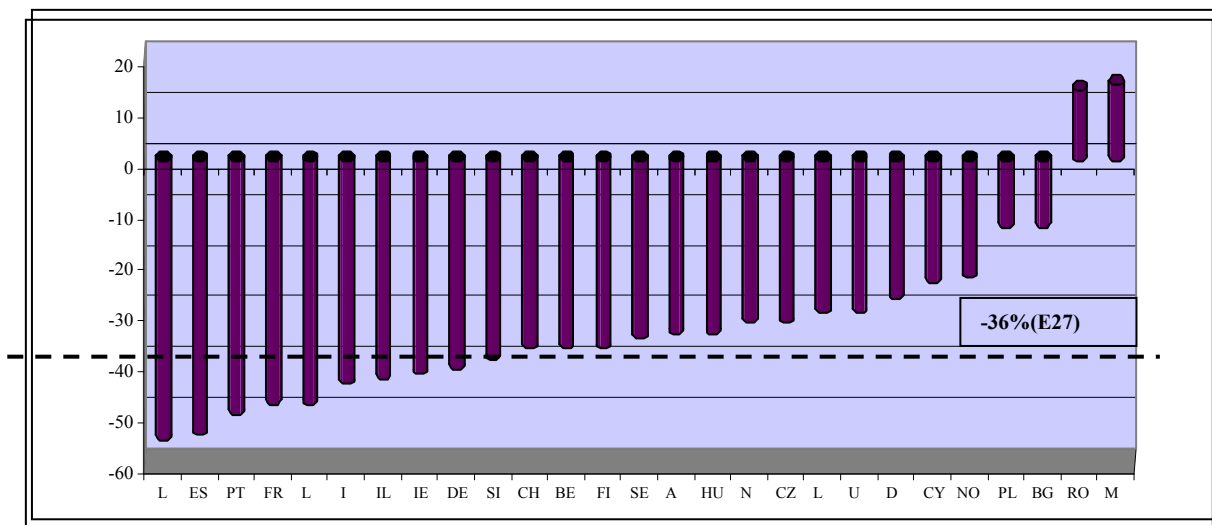


Figure 2 Increase the number of death

## CONCLUSIONS

After examining the statistics we concluded the following:

Most of the drivers do not acknowledge the relationship between the traffic rules and the safety of the road traffic, being willing to break the rules if they consider that this does not endanger their safety at that moment.

The slow development of road infrastructure in contradiction with the number of vehicles and holders of driver licenses which almost tripled after 1990.

In this situation and in the context of adopting a new Plan of road safety actions for 2011 – 2020 by the European Commission, plan which has as objective the 50% number decrease

of injured people and victims from traffic accidents at the level of the European Union, Romania has to adopt a long term strategy which should aim to stop the increase of the number of victims and attaining the European objective.

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