Causes of damage in the sector of transport in Albania

Edvin Bica
University of Tirana

Abstract

Road accidents represent a major problem around the globe. Besides the invaluable human tragedy for each disaster, accidents cause huge economic losses. While some of the costs are obvious, others can be distinguished with more difficulty. For example, medical treatment for a victim may continue for several years and in the worst cases even lifelong. Also, accidents and injuries will deprive the economy of resources and manpower. For disasters and serious injuries this will last for the entire life expectancy of the victims. Road accidents cost include the loss of economic resources. People cherish their lives and well-being more than pure economic losses.
In principle, they have a value on disaster risk reduction that can be expressed as a "value of life". Calculating the cost of accidents in monetary terms and the corresponding value of preventing accidents is necessary for various purposes like:

• to illustrate the importance of social and economic burden on society caused by road accidents;
• to calculate the potential monetary benefits of various security measures.

The first need lies in the overall level of resource planning to ensure that road safety gets the same importance as other investments. For this purpose, it is necessary to make sufficient calculations. To make such calculations, it is necessary to know the actual number of accidents/ disasters of various kinds and corresponding unit costs.
The second need is to ensure the best possible use of every investment in order to select appropriate activities. Benefits from road improvements, security schemes and projects are usually defined in terms of saving travel time, vehicle operating costs and reducing environmental impact. Such assessments would be incomplete if these effects are not considered. Benefits are usually expressed in monetary terms to enable direct comparison with the costs of their implementation. For this purpose, they require an accurate calculation of the costs of accidents. For economic evaluations, it is necessary to know the estimated reductions in the number of accidents/disasters of various kinds and monetary value.

Keywords: damage, injury, cost, human value, administrative costs.

Introduction

Calculating the total cost of accidents can be a very complex operation. The collection of necessary data is a difficult process, however comparisons between the methods used in different countries have shown many similarities. Usually, the total costs for the calculation of accidents is considered sufficient use of average unit costs for different levels of consequences of accidents/disasters.
A problem arising in the calculation of the total cost of road accidents is to determine the actual number of accidents and disasters of various kinds. In most countries, the

latter report does not reflect reality. In some cases the reporting of accidents is below the reality.

Another problem, when calculating the benefits of security activity is insufficient knowledge about the effects of different measures on the number of accidents and disasters. Some of the problems encountered when calculating unit costs of accidents/ disasters are:

- definitions of various consequences and seriousness of accidents;
- major changes within each level of seriousness of accidents and disasters;
- elements of costs to be taken into account;
- lack of data to determine the value of the different elements of the costs.

Valuation principles and the necessary data

To calculate the costs for accident/disaster consult statistical division of material subgroups as in the example below:

- categories of ages and genders;
- constraints and the respective positions of speed;
- types of accidents.

This division is made in order to facilitate more accurate calculations. If we have a homogeneous group, then the average values can be calculated taking into account the current reports of various subgroups.

Cost estimates should be updated regularly, for example using changes in GDP per capita or the Consumer Price Index (CPI).

Road accidents leading to loss of production in the year of the accident and in the years to come when serious injury or disaster occurs. In this case, the issue should be deducted to the present value of the future cost. Annual discount rate in many European countries is around 4-6 % (in Sweden is 4%). In addition it is important to take into account the growth rate in the future. Calculations of days for the lost years of persons can be found on the basis of statistics of accidents, hospital records, social security statistics and statistics of the population and life expectancy. For serious injuries, it might be an appropriate distinction between those who who remain injurd forever and those who don't. For light injuries,[1] it is advisable to distinguish between damage whiplash and other injuries. The monetary value of the lost years and days can be obtained from the use of a wage rate and state activity and forecasts of various instabilities (probably published by governmental authorities). It should be considered that in many countries a large part of the population is emloyed in agriculture or is self-employed. For these groups separate calculations should be made.

The value of a statistical life and "human values"

Road safety is not just a matter of economics, it is welfare issues, which can be illustrated as follows. Gross economic output of pensioners can be calculated zero. Consequently, the resulting negative net contribution after deducting consumption. However, no one can suggest that the death of a pensioner in a road accident is

[1] General Directorate of transport services road http://www.dpshtrr.gov.al/

profitable. This shows the need to add a little "life value", or to reduce the risk of premature death. Many people are willing to pay large sums to reduce the probability of premature death. This shows the market price paid for vehicle insurance. Life-saving programs that will reduce the risk of risks is often expressed as "value of a statistical life" (VSL). A variable is similar "human values" defined as VH, minus consumption of missing victim. VH method relies on the basic condition that the decisions taken by the public sector in connection with the disbursement of scarce resources should reflect the preferences of those people who will be affected by these decisions. The value of a particular improvement in security (often a small risk reduction) is defined in terms of the total amount that people are prepared to pay.

VH value calculation is not simple. Various methods are used, which are often associated with complex questionnaires, where individuals are more or less directly asked about the amount of money which would have been willing to give in exchange for a lesser risk.

VSL calculated as VH divided by the absolute change in risk. For example, a survey might have shown that the drivers have been willing to pay an average of 3 euros for a reduction in risk in 500,000 killed in a certain trip. VSL would then be 3 X 500 000, which means 1,500,000 euro. It should be noted that the issue involves assessing the value of individual consumption lost due to premature death and disability for long. This should be considered in order to avoid duplication of calculations when assemble the various elements of costs (ie lost production should be in terms of lost production net).

Methods for extracting the value of risk (corresponding to VSL for disaster) of non-fatal accidents are often related to the value of a fatality. Some studies have shown that the value of the risk for serious injury to determine about 13 percent and light injuries VSL about 1 percent of a fatality.

Calculation of total costs

The total cost of road accidents should be calculated by multiplying the actual number of accidents and disasters of various kinds with the corresponding unit costs.[2] The total costs often are approximated to 1 to 2 percent of gross national product in sectors of the country. For some countries, this value may be higher and goes up to 3-4 percent. In Albania, the annual cost of road accidents could be between 90 million (2 per cent) and 180 million (4 per cent), a figure high enough for any country that is emerging. Such approximate values are often used to justify the funding of security activities.

In 2013 2075 road accidents occurred in Albania. From these 237 men and 58 women were killed, 478 people were wounded (of these 388 men and 90 women) and 2025 are wounded, where some of them will remain disabled for the rest of their lives and in some cases they will become financial burdens for their families.

Spending on road safety should be seen as a high priority and as an investment in time and space, and not just as a cost, so all must work together to resolve this urgent

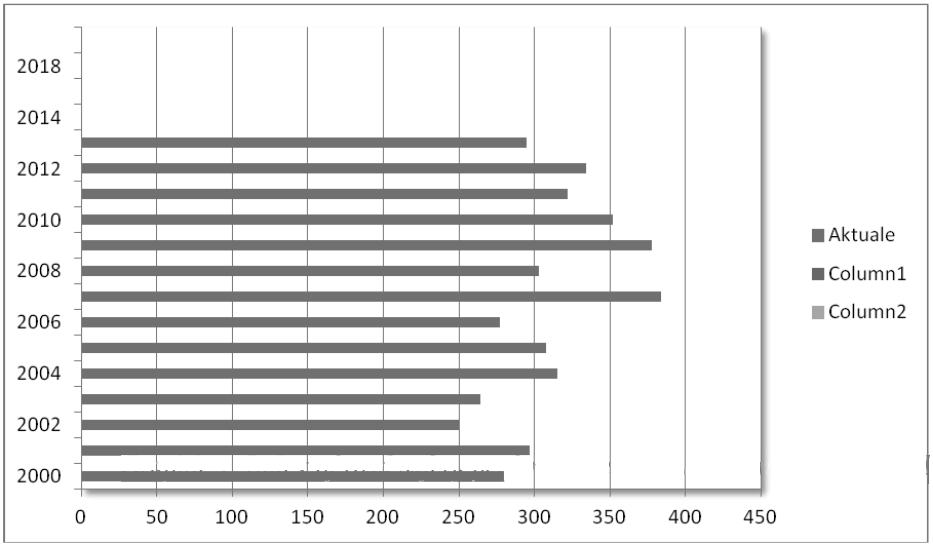
[2] Law no.10488, dated 05.12.2011 On amendments and additions to the law nr.8378, dated 22.7.1998 "Road Code of the Republic of Albania", as amended

matter.
The main reasons for the increasing number of accidents are:
• Increasing the flow of movement of vehicles on the main axes;
• Increasing the speed of movement above the permitted levels;
failure of traffic regulations by drivers of vehicles and other road users.
In Albania the number of accidents is considered alarming compared to the small number of the population and the low level of motorization.

Table 1: Performance indicator of road safety and the number of dead

Performance indicator of road safety	2009-2012	2013	Objective 2020	Estimated trend towards target
Number of Deaths	347	295	250	In line with the trend required

In 2013 the number of deaths is 295 persons, so it is 39 less than in 2012. Compared with the average for 2009 to 2012, the death toll has been reduced by 15 percent. In order to achieve the target set for 2020, it is necessary an annual decline of 2.2 percent in the number of deaths from road accidents.



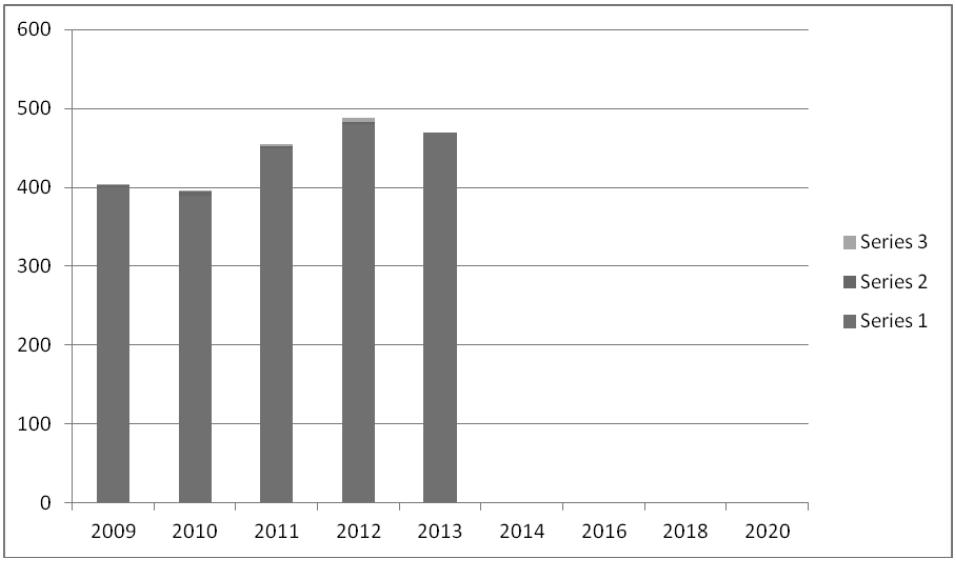
Serious injuries

The definition of a seriously injured person is someone who has suffered an injury that leads to at least 1 percent of medical disability in connection with a road traffic accident. The method for estimating the number of people seriously injured, however, is not yet fully developed and therefore levels for the number of people seriously injured may vary.

Table 2: Indicator of road safety performance based in the number of seriously injured

Performance indicator of road safety	2009-2012	2013	Objective 2020
The number of people seriously injured	418	478	260

Graphic 2: Index of road safety performance based in the number of seriously injured



The long term objective means that the number of people seriously injured may constitute a maximum of 260 in 2020, which is equivalent to a rate of 30 per cent decrease compared to 2009. By 2009, the number of people seriously injured suffered an increase of 27.8 percent, which is consistent with the trend looking.
In 2013 36 children aged between 0-15 years were seriously injured, which is about 22 percent more than the average of the years 2009 - 2012. Passengers are the group of road users who are heavy injured and make about 21 percent of all people seriously injured.
Motorcyclists also make up a significant part of those who are seriously injured and account for about 26.8 percent of people seriously injured in 2013.

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