DOI: https://doi.org/10.2298/SARH260910081A
UDC: 656.186.084:33(497.11)"2026"

LETTER TO THE EDITOR / ПИСМО УРЕДНИКУ

Three hours and four deaths – years of life lost as a measure of the burden of motorcyclist fatalities

Đorđe Alempijević

University of Belgrade, Faculty of Medicine, Milovan Milovanović Institute of Forensic Medicine, Belgrade, Serbia

SUMMARY
On September 6, 2026, four motorcyclists aged 17, 30, 31, and 46 years died in three traffic crashes in Serbia within a three-hour period. Using 75 years as the upper reference age, these deaths represented 176 potential years of life lost. Assuming a potential working life from 18 to 65 years, they also represented 135 potential working years lost. Valued illustratively at the average monthly gross salary for June 2026, the undiscounted value of lost future gross earnings was approximately RSD 269 million (approximately EUR 2.3 million). This excludes healthcare, emergency response, police and judicial costs, property damage, disability, unpaid work, and intangible family losses. Death counts alone therefore understate the public health and societal burden. Reporting potential years of life lost alongside conventional mortality indicators could support more proportionate prevention policies for motorcyclists and moped users.
Keywords: premature mortality; wounds and injuries; economic burden; accident prevention

Dear Editor,

On September 7, 2026, the Ministry of the Interior of the Republic of Serbia reported that four motorcyclists had died in traffic crashes during a period of only three hours on the previous day [1]. At 17:15, two motorcyclists aged 31 and 46 years died at the scene following a head-on collision between two motorcycles in the Ljig area; a 33-year-old passenger on one of the motorcycles sustained life-threatening injuries. Twenty minutes later, in the municipality of Temerin, a 17-year-old motorcyclist died after losing control of his motorcycle and striking a concrete post. According to the Ministry, he did not have a driver's license and was not wearing a protective helmet or other protective equipment. At 20:15, a 30-year-old motorcyclist died following a collision with a car in the Sremska Mitrovica area [1].

A count of deaths alone does not fully represent the health and societal burden of these events. Potential years of life lost give greater weight to deaths at younger ages and constitute a measure of premature mortality [2]. Using a simple model with an upper reference age of 75 years, the individual losses were 44, 29, 58, and 45 years. Thus, within a single afternoon, these four deaths accounted for a total of 176 potential years of life lost.

The economic consequence may also be expressed approximately as potential working years lost. Assuming, for operational purposes, a working life from 18 to 65 years, the individual losses were 34, 19, 47 and 35 years, amounting to 135 potential working years. If each year is valued, solely as a simplified human-capital indicator, using the average monthly gross salary for June 2026 of RSD 166,123 [approximately EUR 1,420 (converted using an exchange rate of approximately RSD 117.2 per EUR)] [3], the undiscounted value of lost future gross earnings is approximately:

135 × 12 × RSD 166,123 = RSD 269,119,260.

This amount, approximately RSD 269 million (approximately EUR 2.3 million), is not an estimate of the total economic cost of the crashes. It is only an illustrative estimate of lost gross earnings. It does not account for the probability of employment, future wage and productivity growth, discounting, unpaid work, emergency medical and hospital costs, police and judicial expenditure, property damage, long-term disability, or the intangible losses borne by families. The actual societal burden is therefore undoubtedly greater.

The event is even more alarming in light of the Ministry's report that, since the beginning of 2026, traffic crashes have killed 48 motorcyclists and three motorcycle passengers, as well as seven moped riders and two moped passengers. During the corresponding period of the previous year, 39 motorcyclists and one moped rider had died, with no deaths among motorcycle or moped passengers [1]. These figures indicate that deaths among users of powered two-wheelers should be treated as a priority public health problem, consistent with the Safe system approach, which acknowledges that people make mistakes but seeks to prevent those mistakes from resulting in death or serious injury [4].

Prevention efforts must simultaneously address speed control, the use of helmets that meet applicable safety standards and

Received • Примљено: September 10, 2026
Accepted • Прихваћено: September 28, 2026
Online first: October 1, 2026

Correspondence to:
Đorđe ALEMPIJEVIĆ
University of Belgrade
Faculty of Medicine
Milovan Milovanović Institute of Forensic Medicine
Deligradska 31a
11000 Belgrade
Serbia
djordje.alempijevic@med.bg.ac.rs

other protective equipment, possession of the appropriate driver's license, safer road infrastructure, education of young riders, and the responsibility of those who make vehicles available to minors. Consistent enforcement of laws prohibiting the operation of motorcycles, mopeds, and other motor vehicles under the influence of alcohol or psychoactive substances is also required. This is stated as a general preventive measure and does not imply that any rider killed in the crashes described above was under the influence of alcohol or psychoactive substances, as the Ministry's statement contains no such information.

Four deaths in three hours are not merely four units in mortality statistics. They represent 176 years of life lost, at least 135 years of potential working contribution, and an economic loss that, even under a highly restrictive approach, amounts to hundreds of millions of dinars. Routine reporting of potential years of life lost alongside conventional road traffic mortality indicators could improve recognition of the burden of injury and help direct preventive measures more effectively.

FUNDING

This work was supported by the Ministry of Science, Technological Development and Innovation of the Republic of Serbia under the Agreement on the Financing of Scientific Research Work of Teaching Staff at the Faculty of Medicine, University of Belgrade, in 2026 (Contract No. 451-03-34/2026-03/200110).

Ethics: Not applicable. This letter is based exclusively on publicly available aggregate information and contains no identifiable personal data.

Conflict of interest: None declared.

REFERENCES

1. Ministry of the Interior of the Republic of Serbia. MUP na sve učesnike u saobraćaju da dosledno poštuju saobraćajne propise [Internet]. Belgrade: Ministry of the Interior; 2026 [cited 2026 Sep 10]. Available from: https://mup.gov.rs/wps/portal/sr/aktuelno/saopstenja/c8d3befc-a8e2-4703-aea1-2ffe1c075f43
2. Gardner JW, Sanborn JS. Years of potential life lost (YPLL) – what does it measure? Epidemiology. 1990;1(4):322–9. [DOI: 10.1097/00001648-199007000-00012] [PMID: 2083312]
3. Statistical Office of the Republic of Serbia. Average salaries per employee, June 2026 [Internet]. Belgrade: Statistical Office of the Republic of Serbia; 2026 [cited 2026 Sep 10]. Available from: https://publikacije.stat.gov.rs/G2026/Html/G20261228.html
4. World Health Organization. Global status report on road safety 2023. Geneva: World Health Organization; 2023. Available from: https://www.who.int/publications/i/item/9789240086517

Три часа и четири смртна исхода – изгубљене године живота као мера терета страдања мотоциклиста

Ђорђе Алемпијевић

Универзитет у Београду, Медицински факултет, Институт за судску медицину „Милован Миловановић", Београд, Србија

САЖЕТАК

Дана 6. септембра 2026. године, у три саобраћајне незгоде у Србији, у размаку од три часа, погинула су четири возача мотоцикла старости 17, 30, 31 и 46 година. Уз горњу референтну границу од 75 година, ови смртни исходи представљају 176 потенцијално изгубљених година живота. Ако се потенцијални радни век одреди од 18. до 65. године, изгубљено је и 135 потенцијалних година радног века. Када се оне, искључиво илустративно, вреднују просечном месечном бруто зарадом из јуна 2026. године, недисконтована вредност изгубљених будућих бруто зарада износи приближно 269 милиона динара (око 2,3 милиона евра). Процена не обухвата трошкове здравственог збрињавања, хитних служби, полицијских и судских поступака, материјалну штету, инвалидност, неплаћени рад и нематеријалне губитке породица. Овај прорачун показује да сам број погинулих потцењује јавноздравствени и друштвени терет саобраћајних повреда. Приказивање потенцијално изгубљених година живота уз уобичајене показатеље морталитета могло би допринети примеренијем планирању превенције страдања корисника мотоцикала и мопеда.

Кључне речи: превремена смртност; повреде; економски терет; спречавање незгода