



THE CONCEPT AND ESSENCE OF ROAD TRAFFIC AND ITS SAFETY THEORETICAL FOUNDATIONS

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ABSTRACT

This article provides a comprehensive scientific analysis of the theoretical and legal foundations of the concepts of road traffic and road safety. A comparative analysis of the scientific views of scientists from Uzbekistan, the CIS, and foreign countries in this field was conducted, and their advantages and disadvantages were evaluated. It also highlights the essence of modern international approaches to ensuring road safety, specifically the concepts of Vision Zero and Safe System, and substantiates the need for their gradual integration into national legislation. The author proposes a new scientific definition of the concept of road traffic based on a comprehensive, dynamic socio-technical and legal approach. Additionally, the regional characteristics of ensuring road safety were analyzed using the Republic of Karakalpakstan as an example, and scientific and practical proposals were developed for prevention, public participation, and the implementation of international standards into national practice.

It serves as an important scientific foundation for strengthening the administrative-legal foundations of road safety and ensuring socio-economic stability in our country. This field requires multifaceted approaches aimed at preventing road traffic accidents, protecting human life and health, and minimizing infrastructure and financial damage. The concept of security, encompassing legal, social, technical, and psychological factors, is systematically evolving in Uzbekistan and international practice, particularly within the framework of global strategies such as Vision Zero and Safe System.

The theoretical foundations of this field not only serve as a methodological basis for practical measures but also contribute to the formation of strategic approaches in harmonizing national legislation and international standards. For a deeper understanding of the above issues, the definitions of scholars on the concepts of road traffic and safety serve as an important source.

Interpretation of the concept of road traffic reveals the complex and multi-subject nature of the concept of road safety. N.U. Allayarov, when considering the issue of safety, defined it as follows: "Road safety is an integral part of public safety and is the state of protection of road users from hazards, traffic accidents, and their consequences that may arise during the movement process."

In our opinion, interpreting security as a "state of being protected" is a methodologically important scientific step, as it defines security not only as measures but also as an achievable result—that is, as a goal. However, in our view, this static approach does not fully reveal the dynamic nature of security. Security manifests itself simultaneously as both a status and a process: it requires constant monitoring, prevention, and prompt response. From this perspective, adding the phrase "continuously supplied" to this definition would reflect both aspects of security.

The interpretation of road traffic as a social relationship reflects an approach close to the legislation of Uzbekistan. In this regard, Sh.A. Khodjaev defines "road traffic as a system of social relations formed through the movement of vehicles and pedestrians, which is regulated by the state through legal rules."

In our opinion, this definition, which reinforces the socio-legal approach, ignores technical aspects and safety factors, highlights only one side of the system, and does not fully reveal its complex and dynamic nature.

Seeing the protection of human life and health as the primary goal of security is reflected in A.K. Kadyrov's definition. It defines "road safety as a set of legal and technical measures aimed at protecting human life and health during road traffic." This approach, which emphasizes the importance of the human factor, sheds light on factors such as social culture and public participation, limiting the breadth of the definition. It is clear here that security must be viewed not only within a legal or technical framework but also within a social one.

Focusing on infrastructure and rules reinforces the understanding of road traffic as a technical process. In this regard, F.R. Rakhmonov defines "Road traffic as the process of movement of road users based on special infrastructure and rules." This definition, which reflects a mechanical-technical approach, does not sufficiently cover socio-legal relations and safety factors, and does not cover the broader context of the system.

Focusing on the harmony of social and technical elements is defined by Z.M. Mirzaeva as "Road traffic is a state-regulated process formed as a result of the interaction of social and technical elements." This definition, reflecting a balanced approach, due to its general nature, does not sufficiently reveal security and specific legal mechanisms, and partially limits the dynamic nature of the system.

Describing road traffic as a complex of social relations, G.A. Kholmatova defines it as "Road traffic is a complex of social relations arising during the movement of citizens and vehicles along roads." This definition supports a socio-legal approach, but technical and safety factors are overlooked.

The view of safety as an activity aimed at minimizing risk factors is reflected in R.K. Karimov's definition: "Road safety is a systematic activity aimed at minimizing risk factors during road traffic." This definition, which corresponds to the interpretation of security as a process, does not clearly cover legal and social factors due to its general nature and limits its scope.

The definitions proposed by Uzbek scientists reflect socio-technical and socio-legal approaches. Rustambaev and Mirzaeva focus on the complexity of the system, while Allayarov and Umarov interpret security as a state or process. However, most of the definitions were

formed within the framework of national legislation, and global approaches, such as "Vision Zero or Safe System," were neglected. The lack of attention to the human factor and specific indicators requires a broader review of definitions to fully capture the essence of security as a state and process.

The conception of traffic as a process is a common approach among CIS scholars. In this regard, V.V. Lukyanov defines "Road traffic as the process of movement of drivers, pedestrians, and passengers along roads based on special rules, with or without the help of vehicles."

The emphasis on infrastructure and organizational aspects is reflected in M.B. Afanasyev's definition: "Road traffic is a technical and organizational process of vehicle and pedestrian movement, provided by special infrastructure and rules." This definition, which corresponds to the mechanical-technical interpretation, limits the scope of the social factor and safety issues.

Describing road traffic as conscious and controlled movement, B.V. Rossinsky defines it as "Road traffic is the conscious and controlled movement of individuals and goods through space, serving to ensure the interests of society." In our opinion, this definition does not directly cover safety and technical factors; rather, it is general in nature and does not fully encompass the content of safety.

V.I. Mayorov from Belarus defined safety as "a complex activity aimed at ensuring safe conditions during road traffic." Azerbaijani A.B. Ibragimov characterizes road traffic as "a socio-technical process of the movement of vehicles and pedestrians regulated by the state." N.T. Tursunov from Turkmenistan defines safety as "a set of systemic measures aimed at protecting road users from dangers."

In our opinion, these definitions, which correspond to the interpretation of security as a process, partially reveal the social context and technical factors and seem to limit their scope. The definitions of CIS scholars are based on legal and technical frameworks. Lukyanov, Klinkovstein, and Afanasyev focus on technical and organizational aspects, while Shahrmanyan and Popov interpret security as a systemic process.

Based on the above analysis and opinions, it becomes clear that it is necessary to adapt global approaches to local conditions when developing definitions of road traffic and safety in our national legislation. It is advisable to gradually integrate the "no death" goal of Vision Zero and the infrastructure-behavioral harmony of the Safe System into national legislation, for example, by introducing specific indicators such as reducing road traffic deaths by 50% by 2030.

Also, a comparative analysis shows that the definitions of Uzbek and CIS scientists are based on a "state-centered" approach, while foreign scientists use a "system-centered" approach. In the first approach, the state is considered the sole responsible entity, and security is considered to be ensured through regulation. In the second approach, security is interpreted as a multi-stakeholder process in which the state, civil society, and individual citizens are jointly responsible. Combining the positive aspects of these two approaches in the development of Uzbekistan's road safety sector—i.e., expanding public participation while maintaining the leading role of the state—would be an appropriate strategy.

At the same time, to develop scientific and practical approaches, it is necessary to conduct an in-depth study of the causes of road traffic accidents using the example of the Republic of Karakalpakstan and to scientifically substantiate preventive measures. Increased coverage of social culture and public participation, for example, through driver and pedestrian education programs as exemplified in the city of Nukus, contributes to strengthening safety as a systemic approach. International experience, particularly cooperation with the World Health Organization and UN programs, will be an important step in bringing national definitions closer to global standards.

Based on the comparative analysis conducted, we propose defining road traffic as follows: "Road traffic is a complex of dynamic socio-technical relations arising during the movement of drivers, passengers, and pedestrians with the participation of vehicles within the framework of designated road infrastructure, regulated by the state through regulatory legal acts to ensure safety, and continuously developing under public control." This definition differs from other definitions in that it is more comprehensive than the definitions of scientists from Uzbekistan, the CIS, and foreign countries.

The novelty of this definition is that it: *firstly*, combines both technical (dynamic system) and social (social control) aspects of road traffic; *secondly*, recognizes the role of society alongside the state; *thirdly*, the term "dynamic" reflects the changing and adaptive nature of the system.

In conclusion, a comparative analysis of scientific definitions regarding the concepts of road traffic and its safety allows for the following main conclusions:

firstly, the concept of road traffic cannot be interpreted solely within a technical or legal framework - it requires a comprehensive approach as a socio-technical system.

secondly, road safety should be viewed simultaneously as both a process (measures) and a situation (result) - definitions that ignore both sides are considered incomplete.

thirdly, it is necessary to harmonize national definitions with global standards - Vision Zero and Safe System - but this process must be implemented in stages, taking into account local infrastructural, economic, and socio-cultural conditions.

fourthly, to ensure road safety within the territory of the Republic of Karakalpakstan, it is advisable to develop a special approach that takes into account the specific characteristics of the region - geographical conditions, infrastructure status, population density, and socio-economic indicators.

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