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## Conditions and Current Trends for Improving Road Safety in Federal Highways in Russia

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### Abstract:

The article refers to the issues of transport infrastructure development in Russia and studies the methods and mechanisms of traffic safety management in federal highways. The authors suggested economic and other methods of traffic safety management. Economic methods have been further subdivided into providing methods. It is shown that most traffic accidents are caused by a human factor and one of the mechanisms for improving driving discipline is smart insurance and intellectual transport systems which integrate monitoring systems and modern traffic flow management systems.

This article searches for solutions to improve traffic safety and studies conditions and current trends for development of intellectual transport systems using unmanned aerial vehicles for real time monitoring.

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*Key words:* Methods, mechanisms, traffic safety, smart insurance, intellectual transport systems.

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### 1. Introduction

Traffic safety issues in federal highways are critical and require immediate attention from the state and society. Every minor detail is important here: state institutions accuse civilians and transport operators of being irresponsible, the civilians as traffic users, in turn, criticize the state by saying that traffic is poorly managed, including pedestrian

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crossings, missing traffic lights, etc., insufficient funding of actions to ensure traffic safety in federal highways. The transport operators in their turn are dissatisfied with the condition of highways, quality status of regulatory framework in this area, irresponsibility of pedestrians.

As a result it comes to a vicious circle which slows down the process of problem solving in this area. The state has obviously all the tools and methods to maintain order and develop regulatory framework because it has special control and law reinforcement mechanisms which can establish law and order in a particular territory.

According to Federal Law dd. 10.12.1995 N 196-FL “On traffic safety”, traffic safety is an activity to prevent the causes of traffic accidents happening and mitigate their consequences.

Traffic safety depends on many factors: status of law and order, level of auto mobilization, specific features of interaction between man and machines, improvement of roads and populated areas, traffic management, raising the living standards and social culture. Traffic safety today is ensured by several public mechanisms of state regulation (licensing, certification, standardization, qualification) which integrate different sectors of economy and legislation institutions.

At present there are different methods and mechanisms of traffic safety which can be divided conventionally into economic ones – those which require funding for their development and implementation – and organizational ones – those which require no financing either from the state, or from other parties of this process (Fig.1).

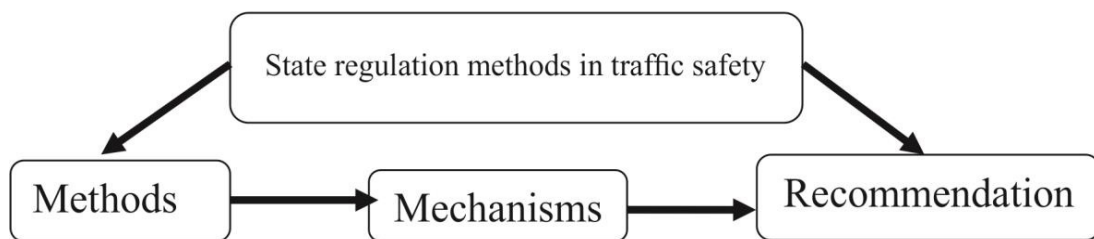


Fig. 1. State regulation methods in traffic safety.

The authors of the article have narrowed the scope of the research to economic aspects of traffic safety, because they help to track the dependence of economic losses of the country economy on the quality of traffic safety.

## 2. Main part

According to the calculations made in the National Research University “Higher School of Economics”, the economic loss due to death and injuries in traffic accidents in 2014 accounts to 269.4 bln. RUR, in 2013 – 303.6 bln. RUR, including 252.6 bln. RUR due to death of people.

So we can distinguish several mechanisms applicable for economic and organizational methods:

- legal regulation;
- financial provision;
- provision of information and interaction between traffic users and personnel managing the traffic flow;
- special state monitoring.

Let's consider each of the above mechanisms separately.

1. Article 71 of the Constitution of the Russian Federation includes economic development, federal transport and communications, defense and security to the scope of the Russian Federation. Article 72 includes law reinforcement, public safety, environmental safety, mitigation of calamities including transport area to the common scope of the Russian Federation and subjects of the Russian Federation.

By now quite a good number (about 630) of regulatory acts have been approved or revised (Table 1) in this area. The Code of the Russian Federation on Administrative Violations has been thoroughly revised in order to optimize

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