

**SUCCESSFUL ACHIEVEMENTS AND PROBLEMS IN ROAD SAFETY IN  
UZBEKISTAN**

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**Abstract:** The article analyzes the reforms being implemented in the field of road safety in Uzbekistan and their results. The increase in the number of road accidents, population density and urbanization processes increase the need for safety, and the measures being taken in the country are reviewed. The article analyzes reforms in key areas such as improving the regulatory framework, improving the quality of infrastructure and vehicles, introducing digital technologies and artificial intelligence elements, strengthening the driver training system and legislation. It also identifies the main problems in the field of road safety - the human factor, infrastructure, vehicles, the legislative and control system, technologies and weather conditions - and makes proposals for their elimination in the future. The article is written in an analytical and scientific direction and indicates effective measures to develop road safety in the republic.

**Key words:** Road safety, traffic accidents, infrastructure, human factors, vehicles, digital technologies, artificial intelligence, prevention, legislation.

Road safety plays an important role in the socio-economic development of any state. The increase in the number of vehicles, population density and urbanization processes make the issue of ensuring road safety urgent. In Uzbekistan, large-scale reforms have been carried out in this area in recent years, achieving certain positive results.

The development of road transport in Uzbekistan and the increase in the number of road accidents have forced the country's government to develop potential measures. In recent years, a number of reforms have been implemented to ensure road safety: improving the regulatory framework, introducing digital and intelligent systems, administrative measures and promotional activities [1].

In Uzbekistan, in recent years, the reconstruction and repair of highways in the republic has been significantly intensified. New modern roads have been built, and existing ones are being overhauled.

In particular:

- roads of international and local importance have been expanded;
- dividing barriers have been installed in dangerous areas;
- special pedestrian crossings and bridges have been built;
- modern traffic lights and road signs have been installed.

These measures serve to prevent road accidents.

The concept of "Safe Road" is being implemented on the basis of an integrated approach to ensuring road safety. This approach considers the road, driver, vehicle and control systems as a single system. As a result, ensuring safety is carried out not only through punitive measures, but also through preventive and engineering solutions [2].

Modern information and communication technologies, including the introduction of digital technologies, play an important role in ensuring road safety. In the republic:

- photo and video recording cameras;
- automated control systems;

- elements of artificial intelligence;
- “smart traffic lights” system was introduced.

These applied technologies enable automatic detection of violations, reduction of the human factor and limitation of cases of corruption [3].

Improving the system of training motor vehicle drivers is a key element in ensuring road safety. Therefore, the driver training system has also been reformed:

- examination processes have been automated;
- tests have been transferred to a transparent system;
- great attention has been paid to practical driving skills.

These measures implemented serve to increase the number of qualified and responsible drivers.

Also, the legislative framework in the field of road safety, aimed at strengthening the legislative framework, has been further improved. In particular:

- fines and penalties have been strengthened;
- a points system has been introduced;
- responsibility for drunk driving has been increased.

These measures taken serve to strengthen driver discipline.

In terms of international experience and cooperation, Uzbekistan, in cooperation with international organizations, is introducing advanced practices aimed at improving road safety. In particular:

- the experience of developed countries is being studied;
- decisions are being made based on statistical analysis;
- scientific approaches are being applied.

This serves to increase efficiency in the field.

As a result of the ongoing reforms, the number of road accidents is decreasing, the rate of deaths and injuries is decreasing, and the legal culture of road users is increasing (Table 1).

Table 1

r	Yea	Number of accidents	Deaths	Injuries	Trend
0	202	less	less	less	Pandemic impact
1	202	10 000	2 426	9 230	Growth
2	202	9 902	2 356	9 606	Stable
4	202	9 364	2 203	8 901	A slight decrease
5	202	9 226	2 188	8 901	Priority reduction

At the same time, the public's attitude towards safety is also changing in a positive direction.

The reforms being implemented in Uzbekistan to ensure road safety are of a comprehensive and systemic nature. Significant results are being achieved through the development of infrastructure, digitalization, strengthening legislation, and attention to the human factor [4].

As a result of the reforms in the field of road safety in Uzbekistan, a systemic approach has been formed, preventive measures are being strengthened, digitalization is bearing fruit, and human life is becoming a priority value.

Although great achievements have been made in the field of road safety in Uzbekistan, a number of important problems have not yet been fully resolved [5]. They can be analyzed in the following main areas:

1. Problems related to the human factor.

Low driver culture:

More than 80% of road accidents are still related to the human factor. This includes violations of the rules, negligence, and drunk driving [6].

Poor pedestrian discipline:

crossing the road at an unmarked place, ignorance of the rules and lack of information are still important issues.

Incorrect driving:

new drivers lack practical skills, especially on small roads and in difficult weather conditions.

2. Problems with infrastructure.

Some roads still have:

insufficient information and lighting for drivers;

absence or malfunction of road signs;

old bridges and tunnels;

the network of motorways and internal roads in cities still requires expansion.

3. Vehicles and technical condition.

Some of the vehicle fleet is old and dangerous:

barriers, braking and lighting systems do not work;

the cabin is not equipped with seat belts and modern automatic systems;

there is insufficient special road infrastructure for electric vehicles and small vehicles (scooters, motorcycles) [7].

4. Legislation and control system.

Although a points system has been introduced:

not all violations are monitored;

the importance of punishment is not fully explained to the public;

corruption and shortcomings in local implementation also remain.

5. Technology and digitization.

Although photo and video cameras have been introduced:

they are not available in all cities and roads;

AI systems operate only on important roads and in central cities;

“Smart road” technologies have not yet been widely implemented.

6. Weather and natural conditions.

In winter and rainy seasons, waterlogging and snowfall increase the risk due to the inoperable drainage system of roads;

Special signaling and preventive measures in dangerous areas are insufficient.

Great achievements have been made in ensuring road safety in Uzbekistan, but the main problems are:

The human factor – low discipline of drivers and pedestrians.

Infrastructure – old roads, lack of signs and lighting.

Technical condition of vehicles – old and dangerous cars.

Legislation and control system – effective monitoring on all roads is lacking.

Technology and digitalization – artificial intelligence and "smart road" solutions are not yet widespread.

Therefore, future measures in this area should focus on the human factor and prevention, modern technologies, and infrastructure improvements. In the future, even greater results can be achieved in this area by implementing tasks such as the widespread introduction of innovative technologies, strengthening public awareness, and improving transport culture.

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