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IMPROVEMENT OF TRAFFIC MANAGEMENT METHODS IN THE REPUBLIC OF UZBEKISTAN

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Abstract

This article examines current traffic management issues in the Republic of Uzbekistan and proposes modern methods for their improvement. It analyzes the causes of road accidents, the condition of road infrastructure, and the effectiveness of existing road safety measures. Particular attention is paid to the implementation of intelligent transport systems, improved traffic regulation, and improved road user awareness. Recommendations for improving transport policy and enhancing the effectiveness of traffic management are developed.

Key words

traffic management, road safety, transport infrastructure, intelligent transport systems, road accidents, transport policy.

Introduction.

The development of transport infrastructure is one of the key factors in the economic and social development of the state. The increase in the number of vehicles, urbanization, and increasing traffic volumes necessitate improved traffic management methods. In recent years, the Republic of Uzbekistan has seen an increase in the vehicle fleet, necessitating the implementation of modern traffic management methods [1].

Traffic management is a key element of the state's transport policy, determining the safety, mobility, and economic efficiency of transportation.

In recent years, the Republic of Uzbekistan has taken significant steps to modernize its regulatory framework, infrastructure, and technologies in the road safety sector, aiming to reduce the number of road accidents, improve road safety, and optimize urban mobility [2].

From 2022 to 2025, the government will focus on digitalization (implementing cameras and intelligent systems), changing regulations, and introducing a penalty point system for drivers. This article examines the background and progress of the reforms, analyzes their impact on road safety, and offers recommendations for further development [3].

The motorization rate in Uzbekistan has increased by 45% over the past five years. Vehicle growth is outpacing the development of road infrastructure, leading to a reduction in average speed in cities to 15–18 km/h during rush hour [4].

Traffic management is a complex of organizational, technical, and legal measures aimed at ensuring the safe and efficient movement of vehicles and pedestrians.

Despite ongoing reforms, the problem of road accidents remains a pressing one. The main causes of road accidents are driver violations of traffic rules, poor infrastructure, and poor road user behavior.

According to official data, a decrease in key accident rates was recorded in Uzbekistan in 2025: 9226 road accidents occurred (1.5% less than in 2024), resulting in 2188 fatalities and 8901 injuries. The road accident mortality rate decreased slightly compared to the previous year, despite a significant increase in the number of vehicles, and a decrease in accidents involving children was also noted [5].

Therefore, improving traffic management methods is an important objective of state transport policy.

Traffic management is a system of measures aimed at managing traffic flows and ensuring road safety. The main elements of a traffic management system are:

- road infrastructure;
- vehicles;
- road users;
- traffic control systems;
- legal framework.

The primary objective of traffic management is to ensure maximum road capacity while maintaining a high level of safety.

Key traffic management methods include:

- traffic control using road signs;
- road markings;
- traffic lights;
- interchanges;
- implementation of intelligent transport systems.

Effective traffic management reduces accident rates, increases road capacity, and reduces travel times.

In recent years, Uzbekistan has seen a significant increase in the number of vehicles. The growth of motorization is having a serious impact on the country's transportation system [6].

The main problems in traffic management are:

1. Increased traffic volume: the increase in the number of vehicles leads to road congestion, especially in large cities.
2. Insufficient Road infrastructure: in many cities, the road network does not meet modern traffic load requirements.
3. Traffic violations: approximately 45% of road accidents occur due to driver violations of traffic rules.
4. Low level of traffic culture: failure to comply with traffic rules by pedestrians and drivers is also a cause of accidents.
5. Insufficient automation of traffic control: many cities lack modern traffic monitoring and management systems.

Uzbekistan is implementing a number of government programs aimed at improving road safety. One of the important areas is the implementation of the “Safe Road” program, aimed at reducing accident rates and increasing the efficiency of transport system management.

A special “Safe Road” index is also being introduced, which assesses the condition of road infrastructure and the level of traffic safety in the regions.

The main areas of state policy include:

• road infrastructure development;
• modernization of traffic control systems;
• improving driver training;
• implementation of digital technologies in the transport system.

To improve the efficiency of the transport system, it is necessary to implement modern traffic management methods.

Intelligent transport systems (ITS) enable automatic traffic flow management, traffic situation monitoring, and accident prevention.

The main elements of ITS:

- automatic traffic light control systems;
- video surveillance;
- motion sensors;
- traffic flow analysis systems.

The use of cameras that record violations can significantly reduce the number of traffic violations [7].

The main automation tools include:

- speed cameras;
- automatic fine systems;
- traffic flow monitoring systems.

Developing public transportation helps reduce the burden on the road network.

Measures for public transportation development include:

- modernization of bus routes;
- developing the metro;
- introducing environmentally friendly transportation.

Infrastructure improvements include:

- construction of interchanges;
- expanding highways;
- construction of pedestrian crossings;
- creating bicycle paths.

To improve the efficiency of traffic management in Uzbekistan, the following measures must be implemented:

The use of data analysis systems will enable more efficient traffic management.

The use of modern management algorithms will reduce congestion.

Penalties for traffic violations must be strengthened.

Educational programs can improve the public's transportation culture.

The use of environmentally friendly transport must be encouraged.

Conclusion.

Traffic management is an important element of the state's transportation system. With the growth of motorization, improving traffic management methods is becoming a key objective of transport policy.

Analysis has shown that the main traffic problems in the Republic of Uzbekistan are increasing traffic volumes, insufficient infrastructure development, and traffic violations.

To address these issues, it is necessary to implement modern transportation management technologies, develop intelligent transportation systems, modernize road infrastructure, and improve the public's transportation culture.

Comprehensive implementation of the proposed measures will significantly improve road safety, reduce the number of road accidents, and improve the efficiency of the country's transport system.

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