The Current State and Prospects of Development of the Network of Public Roads of Uzbekistan

Aslidin Urokov¹, Rakhimjon Soataliev², Bakhodir Kasimkhodjaev³, Alisher Mamatomuinov⁴
¹Doctor of Technical Sciences, Professor, Tashkent State Transport University
²Doctoral student, Tashkent State Transport University
³Senior lecturer, Tashkent State Transport University
⁴Assistant teacher, Tashkent State Transport University

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Corresponding Author: Aslidin Urokov

ABSTRACT

This article examines the current state of the road network of Uzbekistan. The state of the road network of Uzbekistan in relation to various countries of the world in terms of density, the specific weight of paved roads and the specific weight of gross domestic product (GDP) per capita is analyzed. The dynamics of funds spent on the public road network in Uzbekistan is considered. Conclusions and proposals for the development of the road network are presented.

KEYWORDS: Road Network, GDP, Network Condition, Road Found, Maintenance, Road Database, Monitoring

INTRODUCTION

A highway is a complex of engineering structures designed for the movement of vehicles, ensuring their uninterrupted and safe movement with a given speed, weight, dimensions, as well as land plots provided for the placement of this complex and space within the established limits above the complex [1].

The highway network is a strategic object that is important for the economic and social development of any country [2]. Sufficient formation of the road network, the presence at a normal level of transport and operational indicators characterizing the state of the network, lead to a reduction in time and costs to reach a certain destination, as well as to a decrease in the number of road accidents caused by a malfunction of the road. This, in turn, will avoid losses that are significant for road users and the state economy.

MAIN PART

The relative density of paved roads per million inhabitants can be considered as an indicator of economic development [3, 4, 5]. As an example, Table 1 below provides data on the number of paved roads in the structure of the road network [6] in developed and developing countries and one of the main indicators showing their state economic condition, the volume of gross domestic product (GDP) [7] per capita.

| №  | Country name | GDP (per capita, USD) | Length of road network, km | Paved roads, km | Population | Density of pavement roads, km / 1 million. population |
|----|--------------|-----------------------|-----------------------------|-----------------|------------|---------------------------------------------------|
| 1  | Tajikistan   | 839                   | 30000                       | 18000           | 9878907    | 1822                                              |
| 2  | Kyrgyzstan   | 1224                  | 34000                       | 22740           | 6695496    | 3396                                              |
| 3  | Venezuela    | 1627                  | 96155                       | 32908           | 28440608   | 1157                                              |
| 4  | Uzbekistan   | 1901                  | 209469                      | 120289          | 34235982   | 3514                                              |
| 5  | Poland       | 13871                 | 423997                      | 291000          | 37953180   | 7667                                              |
| 6  | Czech        | 24539                 | 130687                      | 56000           | 10641034   | 5263                                              |
| 7  | Germany      | 44680                 | 650169                      | 656074          | 82658409   | 7937                                              |
| 8  | USA          | 56939                 | 6703479                     | 4300000         | 325084756  | 13227                                             |

From the above data in Table 1, we see that currently developed countries, including the USA, Germany and the Czech Republic, along with a higher share of paved roads in the network, occupy 5th, 17th and 41st places, respectively,
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in the world ranking in terms of GDP per capita. The density of paved roads in Uzbekistan, Kyrgyzstan, Tajikistan and Venezuela is lower than in the USA, Germany, the Czech Republic and Poland and in these countries you can also see a difference in GDP per capita. One of the main reasons for this discrepancy is the fact that Tajikistan, Venezuela and Kyrgyzstan occupy 70, 119 and 122 places respectively among 130 countries in the World Economic Forum road quality rating [8]. This rating does not contain information about the roads of Uzbekistan. Currently, the only official information on the state of the road network of Uzbekistan is presented on the official website of the Committee of Highways under the Ministry of Transport [9]. According to this information, today there are a total of 209469 km of highways in the republic, and the density of the road network is 47 km per 100 km² of area. The road network consists of public highways (42869 km), local roads and streets (141882 km) and departmental (24745 km).

The length of the highway network is 209,496 km.

Public highways—roads included in accordance with international treaties of the Republic of Uzbekistan in the international network of highways, providing transport links between the administrative centers of regions and districts, cities of regional subordination, cultural and industrial centers, as well as connecting these centers with roads of international importance, airports, railway stations, ports and ship repair plants, and also with the twin cities of the participating states of cities, villages and villages with the administrative centers of the districts, as well as roads, connecting the city with roads of national importance [1]. These roads today serve as the main means of transportation of goods and passengers at both international and local levels on the territory of our republic.

We can see data on the state of the public road network, its length, classification according to various characteristics (technical category, type of pavement, number of lanes) in studies conducted in recent years [10, 11]. The main part of the public road network of the Republic was formed until the 90s of the XX century, and in 1991-2022 certain changes were made to the network. As of January 1, 1991, the length of the public road network was 39,828 kilometers [12], and by 2022 it will reach 42869 kilometers.

RESULTS AND DISCUSSIONS
Over the past 10 years, a total of 32 trillion UZS have been allocated from the state budget for the construction, reconstruction, repair and maintenance of public roads about rubles were spent. We can see the distribution of allocations by year in Figure 1.2 below.
Consider that in 2013-2022 the Central Bank’s discounting rate will average 12.3%, the amount of funds allocated for the development of public roads, compared with 2013, will look as follows [Fig.1.3].

Based on the data shown in Figure 1.2 above, at first glance it seems that the funds allocated for public roads in 2013-2022 will amount to 1.9 trillion. of these, 4.8 trillion. we can conclude that it has been done. In fact, this condition, without taking into account the refinancing rate, the amount decreased from 1.9 trillion. UZS up to 1.7 trillion. UZS (see Fig.1.3). This circumstance does not remain without influence on the state of the road network. Insufficient allocation of resources for the development of the road network, maintaining its condition at a normal level leads to an increase in the proportion of roads that cannot be repaired in the network.

To date, according to the results of studies conducted by a number of authors, in the data on the state of the public road network of Uzbekistan, roads that cannot be repaired account for 65-70% of the total network [13, 14]. But according to the analysis of official data provided by the Committee on unified technical policy in the field of highways, this figure is 17% (Fig.1.2). In addition, based on the data of the Committee of Highways, it can be seen that of the 141882 km of on farm roads available in Uzbekistan, 74219 km (52%) are under repair.

Figure 1.2. Funds allocated for the development of public roads in 2013-2022

Figure 1.3. Allocations for the development of public roads in 2013-2022 (excluding the refinancing rate in relation to 2013)
An abstraction of the real state of the road network can be seen from contradictory data such as the above.

**CONCLUSION**

The current real situation and the level of development of the road network in Uzbekistan necessitate the development of concrete and effective measures in all areas of the road economy, the implementation of additional measures aimed at a qualitative change in the state of the road network in accordance with the needs of the economy and the population. This, in turn, means the need for research on the technical assessment of the real state of the road network and effective planning of repair work.

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