



DIRECTIONS FOR IMPROVING THE FINANCING MECHANISM OF TRANSPORT AND LOGISTICS INFRASTRUCTURE

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ABSTRACT	KEYWORDS
This article analyzes the theoretical and practical aspects of improving the financing mechanisms of transport and logistics infrastructure. Under the conditions of the modern economy, the sustainable development of the transport and logistics system serves as a key factor in promoting economic growth, expanding foreign trade, and strengthening interregional integration. The study examines the existing sources of financing for transport infrastructure, including state budget allocations, public-private partnership (PPP) projects, loans from international financial institutions, foreign direct investment, and the application of innovative financial instruments. Furthermore, the experience of developed countries is analyzed, and the prospects for adapting these practices to the conditions of Uzbekistan are evaluated. The research identifies the major challenges hindering the efficiency of the current financing system and develops scientific and practical recommendations aimed at overcoming these constraints. In particular, the study proposes the introduction of infrastructure bonds, the expansion of green financing mechanisms, the promotion of private sector participation, the improvement of digital monitoring systems, and the reduction of investment risks as effective measures to enhance the financing of transport and logistics infrastructure.	Infrastructure, financing, investment, public-private partnership, logistics, digital transport, logistics efficiency.

Introduction

Transport and logistics infrastructure is considered one of the strategic sectors ensuring the sustainable development of a country's economy. The advancement of modern transport networks, logistics centers, multimodal terminals, and digital logistics systems contributes to improving the efficiency of production and trade processes, expanding export potential, and strengthening the country's competitiveness within international transport corridors. Therefore, the formation of sustainable and efficient financing mechanisms for the development of transport and logistics infrastructure represents one of the most pressing issues. In international practice, the financing of transport and logistics infrastructure widely involves not only public budget resources but also public-private partnerships (PPPs), loans from international financial institutions, investment funds, infrastructure bonds, and various forms of private capital. Under the conditions of Uzbekistan, the need to introduce innovative financing mechanisms is increasing due to the growing demand for modernizing the transport and

logistics system, establishing new logistics centers, and improving existing infrastructure facilities. The effective mobilization and allocation of financial resources are essential factors in ensuring the long-term sustainability, competitiveness, and efficiency of transport and logistics infrastructure development.

The development of transport and logistics infrastructure plays a crucial role in ensuring sustainable economic growth, increasing regional competitiveness, and strengthening international trade relations. However, the expansion and modernization of transport networks require significant financial resources, which makes improving the existing financing mechanisms one of the most important priorities of economic policy.

One of the main directions for improving the financing mechanism of transport and logistics infrastructure is the diversification of funding sources. Excessive dependence on the state budget limits the implementation of large-scale infrastructure projects. Therefore, it is necessary to expand the use of alternative financing instruments, including public-private partnerships (PPP), infrastructure bonds, concessional loans from international financial institutions, and private investment funds. These mechanisms allow attracting additional financial resources while reducing the financial burden on the government.

Another important direction is the introduction of modern approaches to project financing based on efficiency and investment attractiveness assessment. Before implementing infrastructure projects, comprehensive economic analysis, cost-benefit evaluation, and risk assessment should be conducted. This will ensure the rational allocation of financial resources and increase the effectiveness of investment decisions.

The improvement of institutional and regulatory frameworks is also essential. Creating favorable conditions for private investors, ensuring transparency in infrastructure financing, and strengthening mechanisms for protecting investors' rights can significantly increase investment activity in the transport and logistics sector. Digitalization of financial management systems will further improve monitoring, control, and accountability of infrastructure projects.

An important aspect of financing improvement is the effective utilization of international financial cooperation. Cooperation with organizations such as development banks and international investment institutions provides opportunities to attract long-term and relatively low-cost financial resources. These funds can be directed toward the modernization of railway networks, road infrastructure, logistics centers, and multimodal transport corridors.

Furthermore, developing green financing mechanisms represents a modern approach to infrastructure development. The introduction of green bonds, climate investment funds, and environmentally sustainable projects can contribute to reducing the negative environmental impact of transport activities while improving energy efficiency.

Analysis and Results

In the context of ongoing globalization, transport and logistics infrastructure is considered one of the most important components of a country's economic development. The efficient functioning of the transport system ensures the continuity of production processes, trade activities, service provision, and interregional economic relations. Therefore, the development of transport and logistics infrastructure and the improvement of its financing mechanisms are regarded as one of the priority areas of economic

policy. In particular, the establishment of modern transport networks, logistics centers, terminals, and warehouse infrastructure requires significant investment resources.

In recent years, Uzbekistan has been implementing large-scale reforms aimed at modernizing the transport and communication system, improving the quality of logistics services, and ensuring the effective utilization of international transport corridors. However, the need to further improve existing financing sources and mechanisms for infrastructure development remains a pressing issue. In this regard, alongside state budget resources, the involvement of private investment, loans from international financial institutions, public-private partnership (PPP)-based projects, and innovative financial instruments plays a crucial role. Therefore, improving the financing mechanism of transport and logistics infrastructure, diversifying investment processes, ensuring the efficient allocation of financial resources, and increasing the economic efficiency of infrastructure projects represent significant challenges

The priority directions for the development of the transport and logistics system include the following: Diversification of foreign trade routes through the expansion of international and regional cooperation, elimination of existing barriers, reduction of cargo delivery times to external markets, and optimization of transport and logistics costs;

Development of the logistics services market based on the principles of multimodal transportation, including the promotion of large national transport operators specializing in providing 3PL and higher-level logistics services;

Full realization of the country's transit potential, including attracting additional transit cargo flows through the implementation of flexible tariff policies and simplification of customs procedures;

Comprehensive and accelerated development of transport infrastructure through the expansion of domestic and external financing sources, the application of innovative technologies, and the formation of a modern network of transport and logistics centers based on the main points of cargo generation in different regions;

Creation of national logistics platforms integrated with international information systems, widespread implementation of digital and innovative technologies in international freight transportation, and improvement of the system for training and retraining specialists in the logistics sector.

The volume of transit cargo is an important indicator reflecting the national and regional significance of a transport system. The volume and structure of transit cargo transported through the territory of the Republic of Uzbekistan demonstrate the efficiency of transport infrastructure, the ability to manage cargo flows across various routes, and the sustainability of the logistics system. During 2024–2025, the share and volume of transit cargo transported by railway and road transport will serve as key factors in shaping national transport policy and planning strategic development directions.

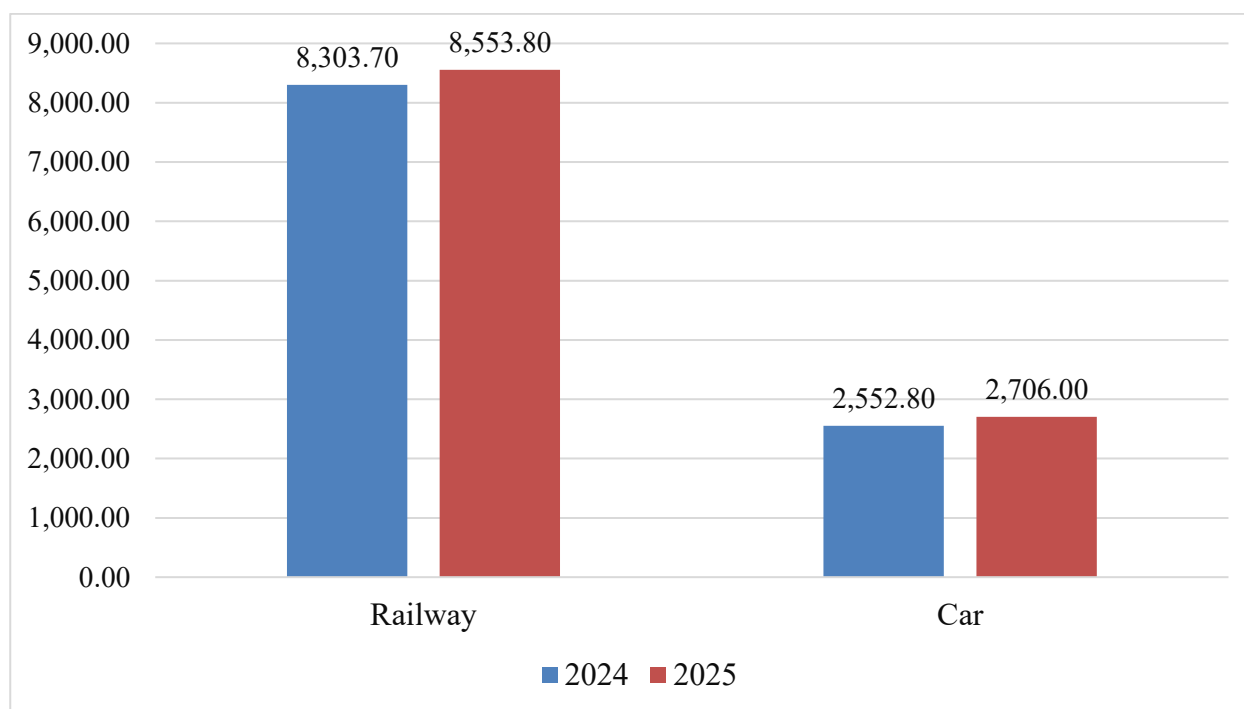


Figure 1. Volume of transit cargo transported through the territory of the Republic of Uzbekistan (thousand tons)¹

In 2024, the volume of transit cargo transported through the territory of Uzbekistan amounted to 8,303.7 thousand tons by rail and 2,552.8 thousand tons by road transport. These figures indicate that the majority of transit cargo is transported by railway, which is capable of efficiently handling long-distance and high-volume freight. In 2025, the volume of transit cargo transported by rail increased to 8,553.8 thousand tons, representing an increase of 250.1 thousand tons or 3%. The volume of transit cargo transported by road reached 2,706.0 thousand tons, increasing by 153.2 thousand tons or 6%. Thus, the growth rate of road transport exceeded that of railway transport, reflecting the increasing role of road transportation in short-distance transit and interregional freight movements.

The analysis demonstrates that the territory of Uzbekistan plays a strategically important role as a transit transport hub. Railway transport remains the primary mode for transit cargo transportation, while road transport is expanding its role by responding to growing transportation demand and contributing to the diversification of the logistics system.

During 2024–2025, the volume of transit cargo transported through Uzbekistan continued to increase: railway transit grew from 8,303.7 thousand tons to 8,553.8 thousand tons, while road transit increased from 2,552.8 thousand tons to 2,706.0 thousand tons. Railway transport continues to account for the largest share of transit cargo, whereas road transport is demonstrating steady growth by covering short-distance and interregional transit operations. Therefore, transport policy should focus on ensuring sustainable growth of transit cargo flows, optimizing railway and road transportation systems, and strengthening the logistics efficiency of the national transport network.

Mainline railway transport represents a strategically important freight transportation system for the national economy and for access to domestic and international markets. The volume, share, and growth

¹ <https://stat.uz/uz/> prepared by the author based on information.

rates of major cargo types transported in 2025 reflect the efficiency of the transport sector, the capacity to manage freight flows, and its impact on economic sectors. These indicators, including grain products, coal, petroleum products, ores, ferrous metals, and other types of materials, serve as important factors in planning national and export-oriented transportation routes.

Table 1 Indicators of the Main Types of Cargo Transported by Mainline Railway Transport in 2025²

	Volume, thousand tons	Share, in %	Growth rate, %
Total cargo	107 881,1	100,0	105,1
including:			
grain and milled grain products	8 421,9	7,8	110,9
coal	9 743,6	9,0	101,8
oil cargo	11 519,0	10,7	97,8
various ores	14 354,3	13,3	140,6
ferrous metals	6 671,9	6,2	166,4
ferrous metal scrap	457,4	0,4	72,4
timber cargo	2 564,8	2,4	112,8
chemical and mineral fertilizers	3 752,1	3,5	91,4
construction cargo	4 334,4	4,0	100,3
cement	2 479,9	2,3	127,8
potatoes, vegetables and	459,8	0,4	64,0
cotton fiber	3,4	0,0	22,8
other cargo	43 118,6	40,0	94,7

In 2025, the total volume of cargo in mainline railway transport amounted to 107,881.1 thousand tons, an increase of 5.1% compared to the previous year. Of these, the largest share is accounted for by “other cargo”, which is 43,118.6 thousand tons or 40%, with a growth rate of 94.7%. The volume of various ores amounted to 14,354.3 thousand tons (13.3%), with a significant growth rate of 140.6%, which indicates an increase in demand for mineral resources. The volume of ferrous metals amounted to 6,671.9 thousand tons (6.2%), with a growth rate of 166.4%, which is one of the highest growth rates in this transport segment.

Grain and milled grain products amounted to 8,421.9 thousand tons (7.8%), with a growth rate of 110.9%. Coal volume amounted to 9,743.6 thousand tons (9.0%), showing a growth rate of 101.8%. Oil cargo volume amounted to 11,519.0 thousand tons (10.7%), but the growth rate was 97.8%, reflecting a decreasing trend. Cement and wood cargoes showed significant growth with a growth rate of 127.8% and 112.8%, respectively. Cotton fiber (3.4 thousand tons) and potatoes and vegetables (459.8 thousand tons) showed the lowest growth rates, 22.8% and 64.0%, respectively. The analysis shows that mainline rail transport will continue to grow steadily with cargo diversification. The highest growth rates will be in the ores and ferrous metals sectors, reflecting increased demand from the industrial and construction sectors.

In 2025, a total of 107,881.1 thousand tons of cargo were transported by mainline railway transport. The largest share of cargo fell to the category of “other cargo” with 40%, and the highest growth rate

² <https://stat.uz/uz/> prepared by the author based on information.

was recorded for ferrous metals with 166.4%. Cargoes of various ores, grain products, cement and wood and lumber also showed significant growth rates. Cargoes of cotton fiber and vegetables and potatoes showed minimal growth rates. This demonstrates the diversification of cargoes of the transport network, its integration into various sectors of the national economy, and the strategic importance of mainline railway transport.

Road transport is the main type of transport providing interregional and intracity passenger flows. The volume, share and growth rates of passenger traffic by region in 2025 reflect the efficiency of the transport system, the territorial distribution of passenger flows and the level of development of regional transport infrastructure. These indicators indicate the differential nature of the use of transport services by cities and regions, as well as the need for interregional balancing of transport policy.

Table 2 Indicators of passenger transportation by road transport by region in 2025³

	Volume, million passengers	Share, in %	Growth rate, %
Republic of Uzbekistan	6 989,0	100,0	105,2
Karakalpakstan	170,4	2,4	101,1
regions:			
Andijan	773,2	11,1	102,0
Bukhara	307,9	4,4	103,4
Jizzakh	101,3	1,4	105,2
Kashkadarya	384,3	5,5	108,9
Navoi	185,6	2,7	101,2
Namangan	524,1	7,5	103,4
Samarkand	516,1	7,4	108,3
Surkhandarya	318,9	4,6	102,8
Syrdarya	98,1	1,4	104,2
Tashkent	868,5	12,4	107,1
Fergana	729,5	10,4	100,4
Khorezm	506,4	7,3	103,1
Tashkent city	1 504,7	21,5	109,9

In 2025, a total of 6,989.0 million passengers were transported by road in the Republic of Uzbekistan, an increase of 5.2% compared to the previous year. The largest share fell on the city of Tashkent, which amounted to 1,504.7 million passengers or 21.5%, with a growth rate of 109.9%, indicating a maximum of traffic flow in the city center. Tashkent region was in second place with 868.5 million passengers (12.4%), with a growth rate of 107.1%. Andijan (773.2 million, 11.1%) and Fergana (729.5 million, 10.4%) regions also had a high share, but Fergana had a lower growth rate (100.4%).

Conclusion

The findings of this study demonstrate that improving the financing mechanism of transport and logistics infrastructure is a fundamental prerequisite for ensuring sustainable economic growth, enhancing national competitiveness, and strengthening integration into global transport and trade

³ <https://stat.uz/uz/> prepared by the author based on information.

networks. The effectiveness of transport and logistics infrastructure depends not only on the availability of financial resources but also on the establishment of a transparent, diversified, and sustainable financing system capable of responding to changing economic conditions.

The analysis indicates that relying solely on public budget financing is insufficient to meet the growing demand for modern transport infrastructure. Therefore, the diversification of financing sources through public-private partnerships (PPPs), foreign direct investment, loans from international financial institutions, infrastructure bonds, and other innovative financial instruments should become a strategic priority. At the same time, the implementation of digital financial management systems and performance-based monitoring mechanisms can significantly improve the efficiency, transparency, and accountability of infrastructure investment.

International experience confirms that countries with well-developed transport and logistics systems have successfully combined public and private financial resources while creating favorable institutional and regulatory environments for investors. In this regard, adapting international best practices to national conditions can contribute to increasing investment attractiveness, reducing financial risks, and accelerating infrastructure modernization.

Based on the research findings, it is recommended to strengthen the legal framework for infrastructure financing, expand the application of PPP mechanisms, promote green and sustainable financing instruments, improve project evaluation methodologies, and enhance digital monitoring throughout the project lifecycle. Furthermore, institutional reforms aimed at increasing financial transparency and improving investment governance should be considered essential components of future transport policy.

Overall, the proposed directions for improving the financing mechanism of transport and logistics infrastructure will contribute to the efficient allocation of financial resources, the development of modern and resilient transport networks, and the achievement of long-term sustainable economic development. These recommendations may also serve as a scientific and practical basis for policymakers, researchers, and investors involved in the planning and financing of transport and logistics infrastructure projects.

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