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Problems and Prospects of Developing Railway Infrastructure in New Uzbekistan

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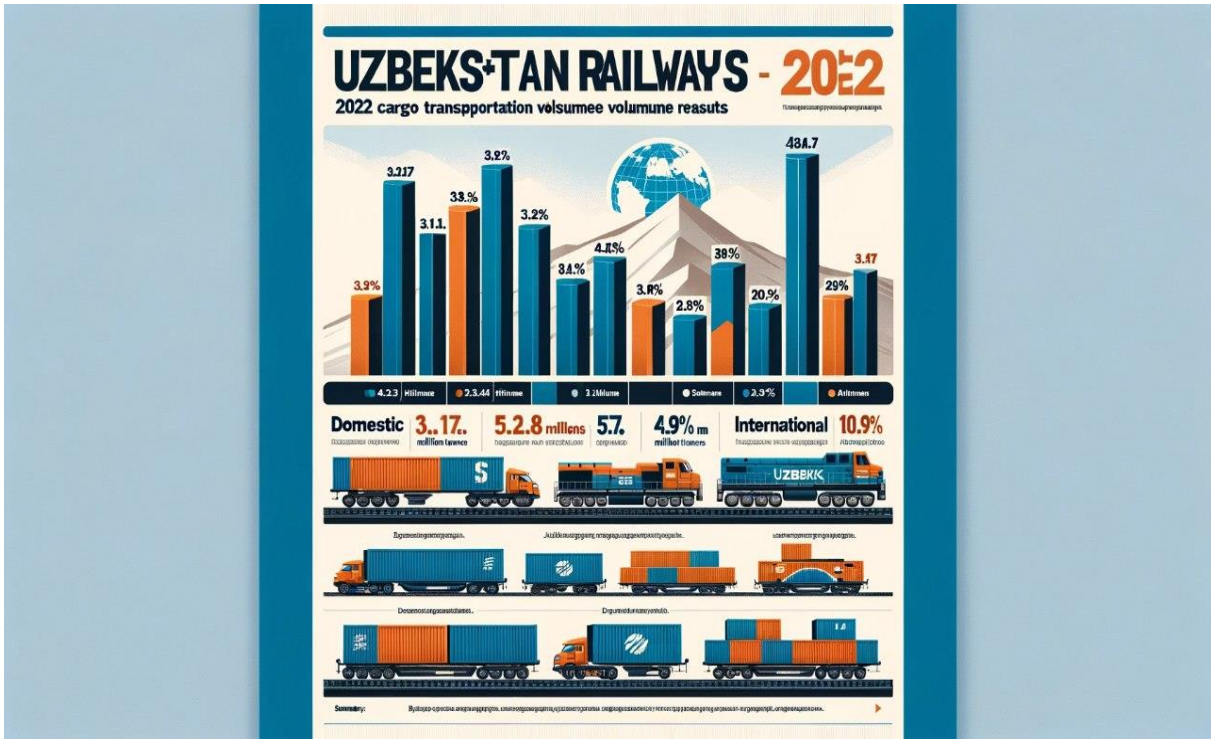
Abstract: In this article, we discuss the importance of railway transportation in New Uzbekistan, which remains a fundamental transport type and is expected to maintain its role in the foreseeable future. The significance of railway transit is increasing due to the growing movement between China, Russia, and the Central Asian states, especially with Uzbekistan's landlocked position and China's active development of the "New Silk Road" initiative. Therefore, it is crucial to examine the problems and prospects of developing the railway infrastructure in our country. Trends in the development of railway transport and quality theory in this field have been studied and reviewed. The efficiency of transportation processes and their impact on production and living standards were analyzed. Proposals were made to improve the economic efficiency of railway transport divisions' production and economic activities.

INTRODUCTION

As we discuss the importance of railway infrastructure for New Uzbekistan, we need to consider that the regional railway infrastructure requires serious improvement. "The use of modern transport technologies in New Uzbekistan's transport infrastructure lags behind, and technological renewal is needed," it is recommended. Increasing the volume of freight transport between China and the European Union, as well as Central Asian states and Russia, is of critical importance. New Uzbekistan plays a vital role as a transit hub for such cargoes and then connecting them to the European railway network through Turkmenistan, Iran, and Turkey as part of the "New Silk Road" transport system, which is deemed appropriate to increase the volume of transit container shipments.

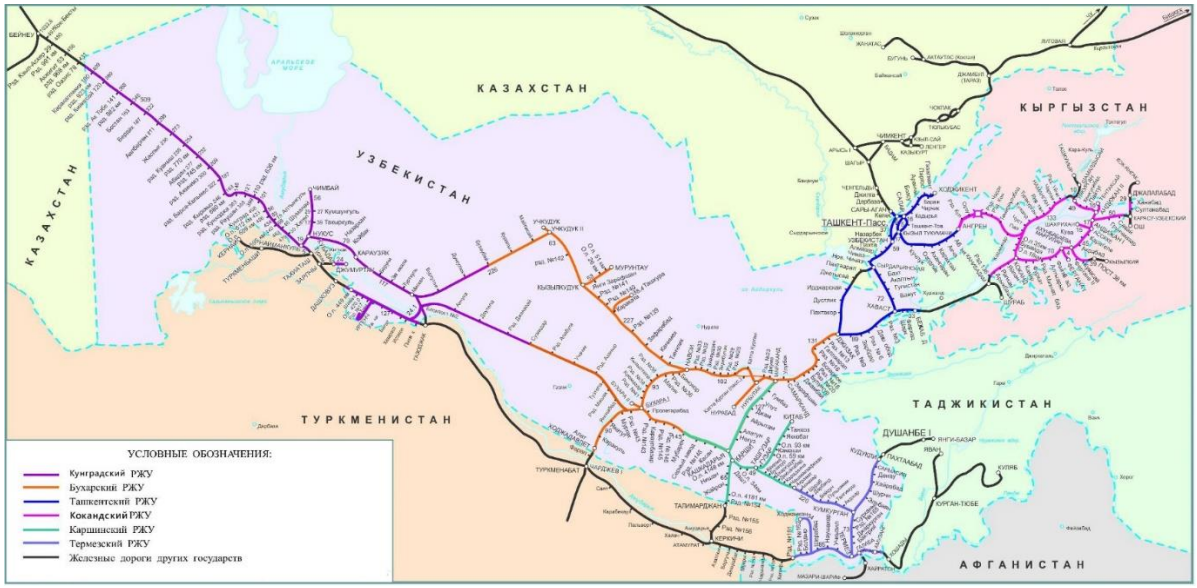


Picture 1

Our country does not have access to the sea. Therefore, such a position significantly brings additional difficulties. As highlighted in [19]: "The lack of territorial access to the sea, isolation from the world markets, and high transit costs continue to impose serious constraints on the general socio-economic development of landlocked developing countries." The same source emphasizes, "On average, LLDCs (landlocked developing countries) pay twice as much for transport costs through transit countries (exporting countries) and require more time to send and receive goods from foreign markets." This situation lends additional importance to the regional railway infrastructure.

Our country is located at the center of China's "New Silk Road" initiative. The construction of the China-Kyrgyzstan-Uzbekistan railway line may require a long time for Beijing, Bishkek, and Tashkent, and there are many debates about transport projects in all the republics of Central Asia, with everyone wanting to become the main transport hub. The 454-kilometer "China-Kyrgyzstan-Uzbekistan" railway project aimed to connect the railways of China and Uzbekistan through Kyrgyzstan, and then link them as part of the "New Silk Road" transport system through Turkmenistan, Iran, and Turkey to the European railway network. In 2003, China allocated 20 million yuan (2.4 million US dollars) to develop the technical-economic basis for the railway line. Chinese experts who developed the initial technical-economic basis for the railway noted several advantages of the new route: the new railway is 900 kilometers shorter than the existing transport route, and the construction of the railway would establish transport connections between the Central Asian countries and facilitate their access to sea ports.

According to intergovernmental agreements, the construction of the China-Kyrgyzstan-Uzbekistan railway was to be carried out by China's China National Machinery Import & Export Corporation (CNMIEC).



Picture 2

However, there are many issues that require special attention. Among them are primarily the obsolescence of the majority of the railway infrastructure built during the Soviet era, the lack of investment, the disparity between the locations of the existing railways built mostly during the Soviet era and the new economic realities, the shortage of skilled personnel, and poor management, along with increasing political tensions. These factors lead to a decline in revenues, compromised operational safety, loss of transit transport volumes, and shippers shifting to other modes of transportation, thereby reducing the competitiveness of local products and negatively impacting the country's economic development and its transport connections.

RESEARCH OBJECTIVES

Taking into account the issues mentioned above, this article is focused on identifying the challenges of developing the railway infrastructure in New Uzbekistan, exploring solutions, and studying the prospects for the development of the railway infrastructure.

LITERATURE REVIEW

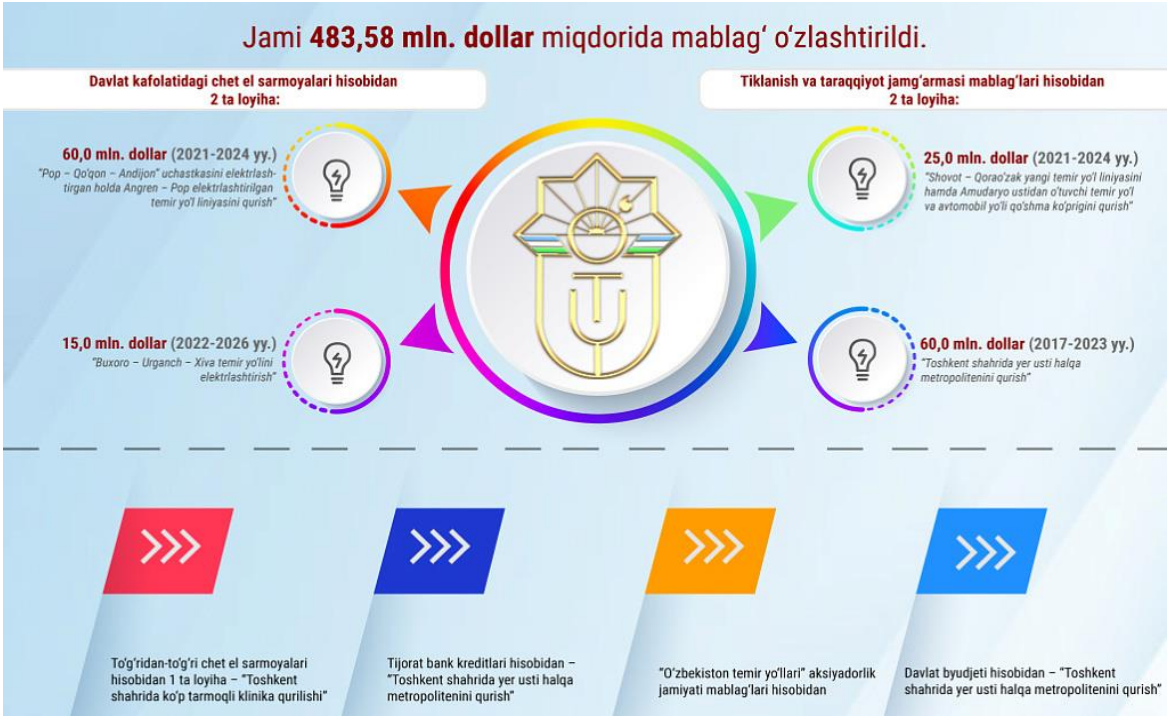
Unfortunately, topics related to New Uzbekistan do not attract much attention from the academic community. However, the author has managed to collect a number of literature sources related to the current research. Taking this into account, the author has utilized several working documents and reports prepared by international organizations operating in the region.

Development of Railway Infrastructure in New Uzbekistan

During the past period, significant efforts have been made to shape a modern road-transport infrastructure, open new routes to world markets, and create modern transport communications connecting our country with other regions of the world. In New Uzbekistan, significant attention has been paid to the construction of railways and the creation of a unified railway network. The first step was the construction of the Navoiy-Uchquduq-Sultonuvaystog-Nukus railway line, which is 700 km long, along with the only modern Combined Railway and Road Bridge in Central Asia along the Amudarya River, measuring 681 meters in length. This was followed by the construction of the Toshguzar-Boysun-Qumqo'rg'on railway line, which is 223 km long, reducing the distance for freight and passenger transport by 170 km and exempting it from transit fees.

In recent years, New Uzbekistan has expanded its new railway network by more than 1200 km, modernized and reconstructed over 3800 km of roads, and electrified nearly 1100 km of railway lines. As a result, the total length of the railway lines covering all regions of our country has

reached 6500 km. As rightly pointed out, "the main railway network is a strategic asset of New Uzbekistan." To meet the growing demand for rail freight in New Uzbekistan, nearly $483.58 million has been invested since 2022 in updating railway lines and rolling stock (Picture 3).



Picture 3

DEVELOPING TRANSIT POTENTIAL IN NEW UZBEKISTAN

The topic is becoming increasingly acute and this is reflected in various literary sources. It is appropriate to mention several studies here, such as [14, 16] and others. [20] provides important recommendations: "Capital investments... should be complemented with a broader set of interconnected measures, including government regulations, sector policies, and necessary reforms. A phased approach should be adopted to develop these intangible measures, including improving the market environment for private sector participation and supporting transport finance with dedicated revenues from the transport sector. This advice, which indicates the need to strengthen institutional development, is supported [14].

NEW UZBEKISTAN IS A LANDLOCKED COUNTRY

The lack of direct access to the ocean is a very serious issue for the country. Thus, several authors have addressed it using a gravity model approach to assess the impact of lack of sea access on trade for a panel data set. "The impact of internal infrastructure and lack of sea access on trade in Central Asia" was evaluated [10, 11]. "The cost of shipping a container from any city in Central Asia to Shanghai is five times more expensive than shipping by sea from Poland or Turkey." Generally, the development level of LLDCs (landlocked developing countries) is 20% lower than if they had sea access" [19]. The same source notes, "LLDCs pay twice as much for transport costs in transit countries (countries through which exports pass) and require more time to send and receive goods from foreign markets." Other studies have examined this issue in various contexts, including [2, 10] and others.

DATA AND METHODOLOGY

This study is based on the following collected data: 1. Review of various literary sources. Criteria for considering studies were their relevance to the topic, reliability, and impartiality. The same principles were applied in gathering information from market participants and representatives of the academic community.

The comments and recommendations received helped improve the quality of this article. Respondents who discussed the content of this work agreed that the selected methodological approach was appropriate for the research questions mentioned above.

The number of respondents is small. Thus, there are not many people knowledgeable about this topic. Initially, the author focused on selecting potential respondents, connecting with 32 transportation experts and people from academia.

RESULTS AND DISCUSSION

The instability of global economic processes, amid the problems of economic development of the country, underscores the urgency of improving the efficiency of economic entities. Regional integration and a consistent and coordinated regional policy can strengthen New Uzbekistan's transit connections and expand trade within the region, harmonize general regulatory policies, and enhance cooperation between border authorities and customs procedures. A phased approach to developing a cohesive, high-quality regional infrastructure is essential for expanding trade activities. Currently, Uzbekistan is relying more on higher technological levels of production and avoiding dependence on external trade resources. For instance, the task has been set to establish exports of processed cotton yarn and finished textile products. Selling internal resources in this more development-oriented approach yields greater benefits for the country's commodity trade. Despite existing restrictions in foreign trade, Uzbekistan is implementing effective measures to ensure economic development and growth. Over the past seven years, the economy's growth rate has remained stable at around eight percent. All available opportunities are being used to increase export volumes, with significant emphasis on regional cooperation and mutual trade [21-30]. During the state visit to Turkmenistan on March 6-7, 2017, the Presidents of Uzbekistan, Shavkat Mirziyoyev, and Turkmenistan, Gurbanguli Berdimuhamedov, signed a joint statement. They highly rated the opening of the Turkmenabat-Farab road and railway bridges, noting their use would enhance the transit potential of both countries and facilitate the transit volume through Turkmenistan, as well as increase the convenience of the Trans-Caucasus Transport Route to Southern and Central Europe, the Near East, and South and Southeast Asia. The implementation of agreements to develop the Uzbekistan-Turkmenistan-Iran-Oman international transport route, which equally meets the economic interests of all participating countries, was emphasized as crucial. President Mirziyoyev's state visit to Kazakhstan in March 2017 resulted in the signing of a joint declaration to deepen strategic partnership and strengthen good neighborliness between the Republic of Uzbekistan and the Republic of Kazakhstan. The declaration highlighted the priority of bilateral cooperation in the transport sector and the development of transit routes that ensure the shortest and most effective access to foreign markets. The parties noted that the mutual concessions and additional discounts established by the railway administrations of the two countries would significantly expand collaboration and attract large volumes of transit cargo. The reconstruction project of the Beyneu-Akzhigit-Uzbekistan border road, as well as other joint projects aimed at providing alternative access to international maritime communications and promising markets for the region, are of high interest. Uzbekistan's defined strategy confirms its intent to continuously develop state and regional platforms to ensure sustainable economic growth. Developing alternative routes of integration without sea access is a critical task for Uzbekistan, shaping its future as a landlocked country known historically as a crossroad between the West and the East on the Great Silk Road. Today, this ancient route continues to connect peoples in new forms. The current focus is on modernizing and renewing the country's economy, shaping new quality structures, and comprehensively developing regions through the improvement of transport communication systems. The methods for assessing the efficiency of railway transport operations are based on scientific and technical achievements, implementing new production methods, and refining the economic mechanisms of internal processes of railway transport in collaboration with external entities. Railway transport is a foundation of the modern economy, serving as an object of market relations and depending on the efficient operation of all sectors, enterprises, their associations, and complexes for growth and development. Despite its significant contribution to

the economy, railway transport faces challenges: the ongoing issue of physical and moral depreciation of primary assets has not diminished. The slowing rates of technical advancement of these primary assets decrease their reliability and the disparity between the quality parameters of cargo transportation reduces the competitiveness of railway transport in the market. The effectiveness, quality, and consequently, competitiveness of transport services are largely determined by the quality of transport processes and the reliability of technical equipment. Assessing the impact of technical equipment on key operational indicators is a promising direction for optimizing railway transport costs, developing and implementing measures to reduce inefficient expenditures in cargo and passenger transportation.

The following is a list of problems and potential solutions based on discussions:

Problem 1: The existing railway infrastructure requires serious modernization.

Solution: Although respondents recognized significant achievements in recent years, they acknowledged the problem. They emphasized the high dependence of New Uzbekistan's economy on this type of transport and the inevitability of addressing the growing railway transportation issues. Therefore, a new state policy focused on improving the existing infrastructure and adequately funded is necessary. They also stressed the need to strengthen cooperation between the governments of neighboring countries.

Problem 2: There is a significant need for new infrastructure development.

Solution: Respondents acknowledged this issue and recognized significant achievements in recent years. Generally, they advised that this issue is not as severe as the previous one and that the national government is seriously focusing on constructing new railways. They also suggested that the process of selecting new projects should be more transparent and involve representatives from freight forwarding companies, foreign transport companies, and other interested parties who are typically excluded from such discussions.

Problem 3: Insufficient funding for railway infrastructure projects.

Solution: Discussants proposed the following measures:

- Strengthening discipline and fighting corruption,
- Attracting foreign financing,
- Utilizing advance payments from large shippers to improve railway infrastructure.

The national railway company of New Uzbekistan, "Uzbekistan Railways" JSC, has been using this approach for several years.

Problem 4: A shortage of skilled personnel.

Solution: Respondents agreed that the issue is largely related to low wages. They unanimously supported proposals to increase the salaries of railway workers, especially in remote areas, understanding that this situation could significantly harm the future of the country's railway transport. They also highlighted the importance of improving the quality of higher and vocational education for railway specialists.

- They suggested considering partial (at least) privatization of the national railway, New Uzbekistan Railway, and attracting superior foreign management with support from government agencies.

Problem 5: Different rail gauges in New Uzbekistan and some neighboring countries. New Uzbekistan and other post-Soviet states use the Russian gauge of 1520 mm, while the majority of other countries use the European gauge of 1435 mm. This requires changing gauges at the borders between China and New Uzbekistan. If wagons travel further into regions with European gauges (European Union or Iran), they must change bogies again.**

Solution: The costs associated with bogie exchange are inevitable. To counter this, some large shippers plan and implement various projects that can reduce these expenses.

Conclusion

Despite all the problems mentioned above, railway transport remains and will continue to be a primary mode of transport for the country in the near future. The importance of railways for the economic and social development of New Uzbekistan necessitates the renewal of existing railway infrastructure and the construction of new ones. A thorough discussion of the recommendations is necessary. The confirmed actions must be implemented. This topic is significant for the country as fully leveraging its transport and transit potential supports national development.

The Republic of Uzbekistan occupies a strategic geographical position in Central Asia, serving as a center of geopolitical development in the region. The main transit routes connecting the North and South, East and West of the continent pass through the territory of the Republic of Uzbekistan. This is a decisive factor in planning development and identifying issues that need further development and optimization.

The goal of the development strategy is to continue shaping and developing the railway industry as an integral part of the economy of the Republic of Uzbekistan, to increase the country's transport and transit potential, to create new jobs, to increase the level of product localization, to conduct a coordinated policy in the fields of transport and technical regulation, and also to improve the safety and comfort level of train movements, and to enhance the investment attractiveness of railway transport.

The main principles of the complex development of the industry include:

- Railway transport is an integral part of the economy of the Republic of Uzbekistan;
- Planning the development of railway transport should be carried out in conjunction with the development of other sectors of the economy;
- Rapid development of the railway industry is key to the future stability of this sector of the country's economy;
- Attracting investments and increasing the level of product localization should be supported and ensured through state regulation;
- Further work to harmonize railway legislation and policy in the field of technical regulation should be carried out in cooperation with the involved ministries and agencies, based on the support of the state.

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