

## Development Analysis of the Rail Transport Network

**DSc. Fayzullaev Javlonbek Sultanovich**

*Professor of Tashkent State University of Economics*

*abdurahmonamirxon@mail.ru*

**Abstract:** In this article, the main directions determining the development of the organizational and economic foundations of the railway transport system, the main tasks of the economic development of the railway transport system, the principles of strategic integration of railway transport and the imitation model of the development of the railway transport system are proposed.

**Key words:** Organizational and economic basis of the railway transport system, imitation model, delivery of goods, hierarchy of tasks, transport complex, railway transport infrastructure.



This is an open-access article under the [CC-BY 4.0](https://creativecommons.org/licenses/by/4.0/) license

### INTRODUCTION

The sustainable development of international economic relations is largely determined by transport Activities. The length of transport routes in the world is 50 million. stabilization of more than kilometers has been recorded. According to the World Bank, "the international transport market is currently estimated at 2.2 trillion (6.8% of GDP)". In most countries of the world, the share of transport in GDP is 4 - 9 percent, and in population employment-3-7 percent[1]. On the one hand, the transport system reflects the level of development of the national economy, on the other hand, the level of security of the country.

Extensive scientific research is carried out on the effective development of the transport system in the world. In particular, in the research carried out on the complex approach to the issues of economic development of the railway transport system, the formation of economic approaches that ensure the effective development of the railway transport system, positive influences on the development of the railway transport network were noted, nevertheless, a comprehensive opinion on the direction and scale of these influences was not formed. It follows from this that further research should be carried out on the economic development of the railway transport system.

As an important branch of the economy in our country, special attention is paid to the rapid development of transport communications. In this regard, in 2022-2026, the new Uzbekistan development strategy also set priorities such as "development of the market and infrastructure of transport and logistics services, 60% of the level of electrification of railway infrastructure and the rapid development of the highway network, "green corridors" for foreign trade in the transport sector, expansion of transit opportunities and increasing transit cargo capacity by 15 million tons"

[2]. the president of the Republic of Uzbekistan in his address to the Supreme Assembly noted that "we need to develop the transport and logistics sector in order to bring our products to the domestic and foreign markets and reduce the cost of ulur" [3]. This in turn represents the feasibility of conducting scientific research on the effective use of the country's transport and transit potential and modern delivery technologies, as well as improving the model of economic development of the railway transport system.

## LITERATURE ANALYSIS

The development of railway transport has led to the fact that it has become one of the most important railway communication hubs. According to English economist Anthony Venables, a transport complex is understood as a set of traffic flows that occur when goods are moved between endangered settlements [4].

According to D. Bowersox, anti-scientific methods have made it possible to identify the relationship between multimodal and intermodal flows in the speech of native speakers, as well as to identify the relationship between multimodal and intermodal flows of native speakers. At the same time, the transportation industry, transportation services, and transportation companies generally support the transportation system [5]. According to Samadov, A. Zokhidov, A. Gulamov and M. Ravshanov, "transport flows are a combination of transport flows and infrastructure, that is, a combination of transport sectors interconnected by transport resources. in order to save the state on all types of transport" [6].

## RESEARCH METHODOLOGY

The results of scientific research of national and foreign scientists engaged in the analysis of the problems of the effective development of the railway transport system served as the theoretical and methodological basis of this study. In the preparation of the article, abstract and analytical observation, comparative and factor analysis, indicative, sampling observation, comparison, economic-statistical and other methods were used.

## ANALYSIS AND RESULTS

Of particular importance in the effective development of the economy of World States is the transport complex, which acts as the main "circulation". An effective transport system optimizes the movement of Hosh-materials and products in the domestic market, thereby increasing the economic competitiveness of the country in foreign trade, giving the world market the opportunity to accelerate the processes of integration. The large-scale development of the country as a whole is directly related to the effective functioning of transport infrastructure in a broad sense, as well as the high pace of interregional economic relations [7].

Radical economic reforms in rail transport necessitate the development of an optimal model for its development. Accordingly, the need arises to develop a new system of views on the economic development of rail transport. This is explained by the fact that there is no effective communication between management at all levels of the railway production system, including the provision of the transportation process, the presence of a sufficient amount of relevant rolling stock, road quality, optimal turnover of wagons, effective planned repair, logistics, marketing, etc., as well as the lack of a goal of cooperation

Rail transport enterprises are engaged in the implementation of current interests that outweigh the interests of a promising network and society. This indicates the need to introduce targeted approaches to the effective development of the railway transport system and develop a general model that will harmoniously cover the entire organizational and economic system and theoretically and methodically substantiate its important features. Today, the problem of developing a new strategy and model of state regulation of rail transport is relevant on the basis of the concept of proportional activities of all participants in the transport market. The new system of

views on Quality Management provides for strengthening the influencing market factors, which provides for the development of a new management strategy and model based not only on state regulation, but also on the principles of Public-Private Partnership and on the concept of active cooperation as subjects of market relations.

Assessing the position of the railway network in the country's economy, determining the prospects for the development of the network and conducting research on the study and forecasting of its trends serve as the basis for determining the need for the development of material and technical resources, labor and financial situation and developing its long-term strategy, directly affecting the medium and long-term strategy

The level of development of rail transport has a direct impact on the development of the country's economy, since the cost of transportation in the composition of the final price of the product and the possibility of ensuring timely delivery are an important competitiveness factor of domestic enterprises.

Therefore, the study of the main indicators of activity of the railway transport system, the stages of development of transport and logistics infrastructures, and the development of recommendations to eliminate existing problems in the system are one of the main issues today. In Uzbekistan, the share of local freight traffic is 5.3%, and the share of transit traffic is 92.5% for rail transport.

The main commodity products offered for transportation include coal, grain, oil, ore, mineral fertilizers and other large-volume spillable and liquid loads (Table 1). Table data shows that the bulk of the freight transported by rail transport falls on the products of the mining industry (coal, oil and petroleum products, ferrous and non-ferrous metals, ores).

**Table 1. The volume of transportation of some types of railway transport exceeded one thousand tons**

<b>Specification</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Toshkomir	3 971,0	3 712,7	442,9	5 632,6	5 231,0	4 459,2	5 673,8
Oil and petroleum products	10 773,9	10 661,4	10 961,9	6 769,4	6 156,2	5 951,6	5 372,2
Black and non-ferrous metals	959,5	887,2	812,7	1 079,3	1 280,9	1 113,2	1 054,9
Chemical and mineral fertilizers	4 304,2	4 381,3	4 049,8	3 451,4	3 602,6	4 210,9	4 641,7
Building goods	7 728,7	6 690,3	6 329,4	5 475,3	5 575,5	4 071,9	5 607,7
Cement	5 325,7	5 514,1	4 846,4	4 866,4	5 112,0	5 044,5	4 582,1
Wood products	46,3	21,2	18,9	27,1	31,2	19,7	23,0
Cereals and cereals	1 266,9	1 269,6	1 662,4	1 737,1	1 645,2	1 898,6	2 000,4
<b>Total</b>	<b>34 376,2</b>	<b>33 137,8</b>	<b>29 124,4</b>	<b>29 038,6</b>	<b>28 634,6</b>	<b>26 769,6</b>	<b>28 955,8</b>

Due to the fact that the Yukaghir princes did not want to recognize the authority of Muhammad over all settlements, the Mazdak Emir Temir Khan Shura appointed his protege, the Samarkand Emir of Samarkand, to these positions. Sei: Table 2 shows data on certain types of activities related to the use of smart work, activities, and activities.

**Table 2. Indicators of the work of rail transport in Uzbekistan<sup>1</sup>**

Specification	2016	2017	2018	2019	2020	2021
Locomotive productivity, a thousand tkm brutto per day	947	1015	1056	1110	1190	1200
Freight car productivity, TKM netto per day	30	30,4	30,8	31,1	32	32,2
The average speed of the freight train on the plot is, km-hour	32	31	30,6	31,3	30	31
Technical speed of freight train, km-hour	39,3	39,7	40,4	40,7	41,1	41
Average rotation time of the freight car, sutka	4,6	5,78	4,2	4,1	3,84	3,9

Over the past five years, freight traffic volumes have increased by 27% and 86%, respectively, and the inventory of mainline locomotives used in freight transportation has decreased by 18.2%. The speed of SCR trains on the section decreased by 9.6% due to the fact that the movement of SCR trains became somewhat difficult on railway transport. In 2016-2021, the average speed of trains along the tracks and sections will be lower than the set speed, which, in our opinion, will not affect the speed of trains.:

SCR trains are late for the scheduled time;  
 technical media at the stations;  
 technological train travel time at stations;  
 time spent unloading media at the station;

In 2019, the volume of direct investments in the transport sector will grow by 6 percent in 2009 and 2.5% in 2016 to 24% in years 2017-2019, the SS has lost 18% (table 3). This may be due to the fact that in order to prevent a drop in demand for real estate, some pawnshops provide investments in real estate.

In 2021, Uzbekiston Temir Yildirim complained about the hype, claiming that the share of foreign loans in the capital of the Republic of Uzbekistan was 40%, and private funds-35%.

In our opinion, investments in the railway transport system should be aimed at ensuring that: foreign transport and logistics companies are interested in developing new modes of transport; Uzbekistan Temir Yildirim has already bought out assets and leased them out, as well as bought real estate.

In order to stimulate the development of the state property industry, it is necessary to use public-private partnership mechanisms that will combine the efforts of the state and business.

negative impact of working personnel associated with the movement of freight trains.

**Table 3. The volume of investments in the activities of Uzbekiston Temir Yildirim JSC is about one million dollars.**

<sup>1</sup> “Ўзбекистон темир йўллари” АЖ маълумотлари.

Project initiator and funding sources	Years					
	2016	2017	2018	2019	2020	2021
Community funding	379,28	386,77	251,40	252,99	212,05	205,64
Press the budget	109,88	85,11	61,64	72,92	66,28	68,04
Foreign loans under the guarantee of the Republic of Uzbekistan	212,12	133,61	126,86	81,91	126,55	226,99
Commercial bank loans	50,0	0,0	17,41	47,03	20,00	1,36
Direct foreign investment	0,0	12,60	29,78	61,48	53,66	51,25
Economy and development of the Republic of Uzbekistan	79,90	116,08	40,23	86,92	36,62	22,73
<b>Total</b>	<b>831,18</b>	<b>734,17</b>	<b>527,32</b>	<b>603,25</b>	<b>515,16</b>	<b>576,00</b>

The range of transport and logistics services and their quality can vary in wide ranges, depending on the type of services and their cost, including depending on the degree of their demand. logistics services are provided, says Muayan. There are no transport tours, data on the number of passengers transported is provided (Table 4).

If you have any complaints about the content of your account, you can contact the website administration with a request to unblock your account. For example, one standard wagon (weighing 60 tons) costs \$7.29 per kilometer of rail transport. The Khujand shihan cost \$4.24 in Uzbekistan, \$3.65 in Kyrgyzstan, \$6.83 in Tajikistan, and \$2.65 in Turkmenistan. This led to a sharp decrease in demand for international transportation [8].

**Table 4. Comparative analysis of shipping costs in Transport types<sup>2</sup>**

20 tons of cargo 1km.ga automatic transportation narhi (on the example of textile product)				
Uzbekistan	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan
2,45 \$	1,70 \$	1,55 \$	1,35 \$	0,92 \$
Book 1. you of the 1st standard wagons.in general, in quantity (K. 100.gache)				
Uzbekistan	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan
7,29 \$	4,24 \$	2,65 \$	6,83 \$	2,65 \$
Number of required procedure documents for export and import				
10/11	10/12	9/10	11/12	6/5

It should be noted that today the share of private companies in freight transport activities in the country is regularly increasing. The transportation carried out by the rolling stock of private companies was formed under the influence of the state tariff system. Accordingly, the most important conditions for the structural reform of rail transport were as follows:

ensure the safety of continuous operation and transportation process;

maintaining the integrity of the economic space and improving transport relations with other foreign countries;

conduct together in an acceptable way the mechanisms of state regulation and self-government of the market economy.

In this regard, it is advisable to carry out the following measures:

creation of a system of holistic legal and economic relations, which promotes the reduction of costs by each participant in the transportation process;

<sup>2</sup> Мавжуд маълумотлар асосида муаллиф томонидан шакиллантирилган.

ensuring legal liability between cargo carriers, rolling stock owners, cargo owners, as well as other organizations involved in the transportation process;

step-by-step separation of Monopoly and competitive activities;

differentiation of budgetary and extra-budgetary financial resources by methods of accounting and their use.

At the same time, certain types of rail transport activities, i.e. infrastructure, mainline rail network services, power supply systems and installations, locomotive farming, etc., retained their monopolistic character for technological reasons. The reorganization of railway transport of Uzbekistan created the initial conditions for the implementation of the quality management and optimal market structure of this network.

## CONCLUSIONS AND SUGGESTIONS

The taxonomy includes an imitation model of railway development, a set of interests of society and railway transport, combining various aspects: ecological, ecological and innovative. The measures proposed in the railway transport complex development model will strengthen the integration of outsourcing and outsourcing, expand strategic diversification, increase the competitiveness of the railway transport complex and ensure its further development.

Thus, the proposed simulation model for the development of railway transport in modern conditions does not provide for the development of a strategy for the development of railway transport. The simulation model of the complex's development makes it possible to increase the effectiveness of strategic nuclear missile weapons, increase their efficiency, increase the degree of security and increase the reliability of maintenance..

## LIST OF USED LITERATURE

1. <https://data.worldbank.org/indicator/is.air.good.mt.k1>
2. Ўзбекистон Республикаси Президентининг 2022 йил 28 февралдаги «2022-2026 йилларга Ўзбекистоннинг тараққиёт стратегияси тўғрисида»ги ПФ-60-сонли фармони. // [www.lex.uz](http://www.lex.uz).
3. Ўзбекистон Республикаси Президентининг Олий Мажлисга Мурожаатномаси. 24 январь 2020 йил.
4. Venables, A. J. (2007). Evaluating Urban Transport Improvements: Cost–Benefit Analysis in the Presence of Agglomeration and Income Taxation. *Journal of Transport Economics and Policy*, 41:173–188 p.
5. Коврижных И.В. (2016) Анализ и оценки эффективности управления в организации / И.В. Коврижных. – Барнул: АФ СибАГС – 86с.
6. Fayzullayev J.S. (2019) Improvement of Economic Efficiency of Development of Railway // *Asian Journal of Technology & Management Research (AJTMR)* ISSN: 2249 –0892 Vol9 Issue–2. [http://www.ajtmr.com/papers/Vol9Issue2/Vol9Iss2\\_P9.pdf](http://www.ajtmr.com/papers/Vol9Issue2/Vol9Iss2_P9.pdf)
7. Fayzullayev, J.S. (2021) "Economic-mathematical model of evaluating the efficiency of the transport system," *Economics and Innovative Technologies*: No. 1, Article 1. <https://uzjournals.edu.uz/iqtisodiyot/vol2021/iss1/1>
8. Зоҳидов А.А. (2018) Марказий осий транспорт тизимини самарали бошқариш механизмининг такомиллаштириши. Иқт. фан. док. ... дис. Автореф., Тошкент.
9. Frederick Starr S., Filat Yildiz, Martina reiser etc. The New Silk roads: Transport and trade in Greater Central Asia. (2007) Monograph Central AsiaCaucasus institute & Silk Road Studies Programm, Washington, D.C.: Johns Hopkins University-SAIS. – 514 p.

10. Fayzullayev J. (2020). Effectiveness of modern methods in the development of the integration transport systems. *Архив научных исследований*, 1(3). <https://tsue.scienceweb.uz/index.php/archive/article/view/3892>
11. Fayzullayev J.S. (2019) Theoretical Aspects of the Transport Logistics System Management // Asian Journal of Technology & Management Research (AJTMR) ISSN: 2249–0892 Special Issue–2,. [http://ajtmr.com/papers/SplIss2/SplIss2\\_8.pdf](http://ajtmr.com/papers/SplIss2/SplIss2_8.pdf)
12. Fayzullayev J.S. (2021) Problems And Status Of Efficiency Of The Transport And Logistics System In The Railway Network , Archive of Conferences: Vol. 13 No. : GTIMSC-2021, <https://www.conferencepublication.com/index.php/aoc/article/view/573>