



**SCIENTIFIC AND PRACTICAL VIEWS TO IMPROVING TRANSPORT SERVICES
BASED ON LOGISTICS APPROACH**

Sharofat Kadirova, Nilufar Maxmudova

Tashkent State Transport University
Tashkent, Uzbekistan

Abstract: The article provides a theoretical basis for the methods used to assess the quality of transport services, analyze their actual level and study the impact on the development of railway infrastructure.

Keywords: Transportation, infrastructure, railways, transportation services, competition, transportation and logistics services, container transportation, transport logistics, conveyance, eco-friendliness, thoroughness.

The service sector in the modern economy includes various types of activities aimed at providing services that are not related to changes in the properties of objects or their physical essence. It is believed that such activities have value for consumers, which is determined by the objective significance of the work performed.

It is necessary to study the experience of transport transportation in countries with market economies, since market mechanisms, the formation of the market for transport services and the growth of competition among carriers require detailed analysis. The increasing importance of logistics management in the field of transport services is an observable trend.

To improve the quality of transport services, based on the principles of logistics management, it is important to search and select a variety of alternatives. This requires conducting market research, identifying current and potential customers in various industries, analyzing their economic relationships, and studying promising and challenging areas. The goal is to organize the provision of transport services so that they satisfy customer needs at minimal cost, without reducing the volume and quality of services.

Thanks to an active investment policy in the transport sector, significant investment and infrastructure projects with economic and political significance were implemented, including:

- construction and electrification of the Jizzakh-Yangier railway line with two-way traffic, as well as the Yangier-Farhod line with one-way traffic;
- launch of high-speed trains on the Tashkent-Samarkand-Navoi-Bukhara and Tashkent-Samarkand-Karshi sections;
- construction of the electrified Angren-Pop railway line;
- laying the Bukhara-Miskin railway line;
- construction of the national highway of Uzbekistan;
- modernization of the activities of the Termiz river port, which serves cargo transportation to Afghanistan along the Amu Darya;
- reconstruction and construction of 11 international airports;

- renovation and modernization of the Tashkent bus station;
- electrification of the sections Pop-Namangan-Andijan, Bukhara-Urgench-Khiva, Marokand-Navoi;
- construction of a new Shavat-Karauzyak railway line and a bridge across the Amu Darya for rail and road transport;
- construction of a ground metro in Tashkent;
- construction of a modern civil aviation complex on the basis of the Tashkent-Vostochny airfield (stage 1).

Currently, the Republic has laid the institutional foundations for planning and development of the transport system. The Ministry of Transport has been created, joint stock companies operate in all areas of transport, and a sufficient personnel reserve has been formed to provide high-quality transport services.

In recent years, there has been a dynamic development of transport services, reflecting constant changes in market demand. The share of transport services in the gross national product is significant and continues to increase.

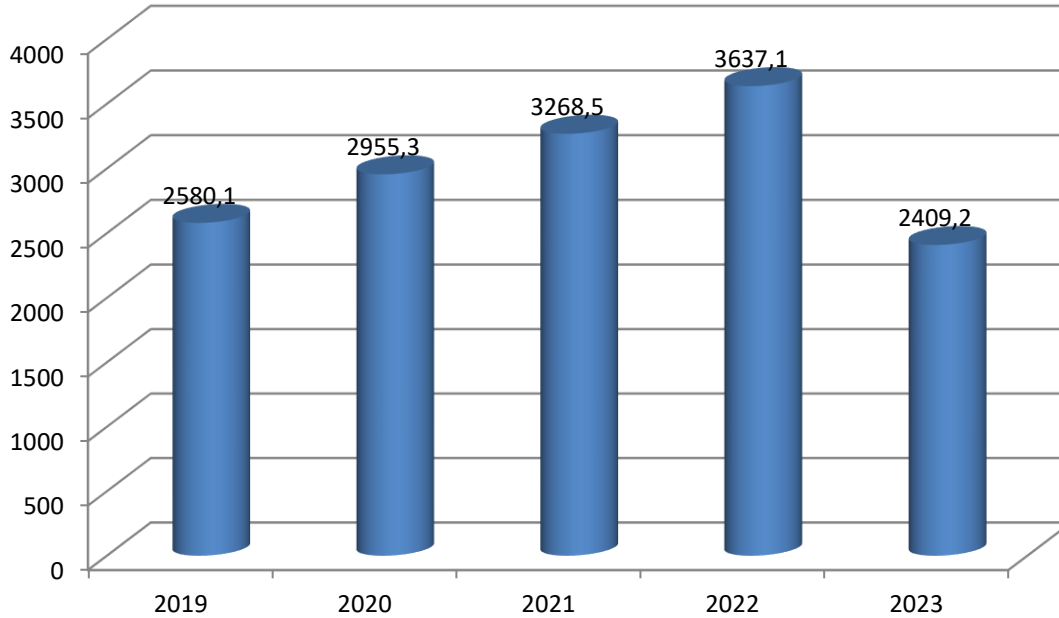
Table 1.

Indicators	The value of the transport services indicator				
	2019 y	2020 y	2021 y	2022 y	2023 y
Volume of transport services, billion sums	54473.5	53662.9	67238.6	83985.6	108 477,7
The share of transport services in the total volume of services, %	28.1	24.4	23.6	22.9	23.1
Share of transport services in GDP volume%	10.2	8.86	9.10	9.36	10.17

From 2019 to 2023, various changes and dynamic traffic methods were broadcasted. And in 2020, the resulting death rate is 1.5% due to the pandemic, which spread not only to Uzbekistan, but also to many other countries. However, in 2021, the volume will increase by 25.3%, in 2022 - by 24.9%, and in 2023 - by 29.1% compared to the previous year.

Changes in the volume of transport services provided within the framework of the general services market are determined not only by the state of market supply, but also by the presence of a

modern transport fleet among carriers.



One of the key reasons for the decrease in the number of privately owned freight vehicles in 2023 compared to previous years was the tightening of regulations on the use of environmentally friendly vehicles in the Republic of Uzbekistan and other countries that meet global environmental standards.

The quality of transport services also depends on the condition of public roads. Characteristics of public transport routes are reflected in Table No. 2

Table 2.

Indicators	Value of indicators				
	2019 y	2020 y	2021 y	2022 y	2023 y
Operating length of public railway tracks, thousand km	4735,1	4737,2	4732,8	4726,1	4727
Length of public roads with hard surface, thousand km	42073	42290	42299	42307	42310

The operational length of public railway tracks reaches 4,727 thousand km, of which 1.9 thousand km are electrified. From 2019 to 2023, a change of 0.17% was recorded, due to the optimization of railway networks. The length of paved roads in the republic is 42,310 thousand km, including 3.9 thousand km of international importance. The change in this segment was 0.56%, which is associated with the reconstruction of road infrastructure.

One of the practical disadvantages of the transport system is the lack of guarantees of timely shipment and delivery of goods, as well as cases of postponement or cancellation of orders. This leads



to a deterioration in the quality of transport services in the country. It is important not only to increase the number of transport services provided, but also to improve their quality.

In the process of improving the work of the Uzbekistan Railways Holding, it is necessary to focus on adapting services to the specific needs of clients, as well as on developing standards for transport services and the efficient use of the existing transport fleet. Different groups of consumers should receive a service that meets their individual requirements, since they will independently choose the types and volumes of transport services they need.

To meet the client's needs for cargo delivery, the proposed transport service should be considered as a process aimed at ensuring the necessary transportation of goods and passengers in space and time.

The development strategy of the transport system of the Republic of Uzbekistan until 2035 highlights several key problems. Among them are the low quality of transport services provided by enterprises and the population, as well as the lack of a developed competitive market for transport and logistics services.

To address these challenges, the service sector must strive to meet customer service needs in both quantity and quality, while minimizing costs. However, establishing a comprehensive quantitative method for assessing the quality of transport services remains a challenge. This is due to the following reasons:

- difficulties in determining the results of services as products;
- inclusion of consumers of transport services in the process of their provision;
- lack of opportunity for the consumer to become the owner of the service;
- the impossibility of inspecting or monitoring the service before payment, since it is an organizational and technical process;
- the process of providing a service may include a number of actions, the assessment of which is made by their total amount.

Research and analysis of the transport services market have revealed that the key factor determining consumer demand for the quality of these services is accuracy in the dispatch and delivery of goods. Consumers are looking for ways to reduce shipping costs, making this criterion a priority among their requirements.

Improving the quality of delivery is important not only for consumers, but also for all participants in the logistics chain, where transportation costs occupy a significant share of the overall structure of production costs. To guarantee high quality transport services, it is paramount to determine the requirements and standards that consumers place on cargo transportation. This involves conducting surveys among consumers, finding out their preferences, developing questionnaires and analyzing various assessments, that is, understanding how their expectations from the quality of transport services are formed and changing. It is also critical to take into account specific market factors.

Consumer requirements for the quality of transport services can be classified into two categories depending on the source of information:

- internal information collected by various divisions of transport companies;
- information from consumers and other external sources, including scientific research and marketing organizations, as well as government agencies.

One of the key indicators of the quality of transport services is the timely delivery of goods. Experts advise assessing the quality of services based on data obtained from the transport company's internal sources as follows:

Coefficient of compliance with deadlines and speed of cargo delivery

$$K_{sd}^t = \frac{t_d^n}{t_d^f},$$

where t_d^n , t_d^f – respectively the standard period and actual delivery of the cargo, calculated in accordance with the Transportation Rules, days.

It is also necessary to consider factors affecting the actual delivery time:

The methodology for calculating this quality indicator is a fairly simple method, but with its help it is difficult to achieve a complete result. Because to calculate real indicators, several factors must be taken into account.

When calculating the actual cargo delivery time t_d^f , which is calculated according to the Transportation Rules, all actions that make up this process must comply with the established requirements.

$$t_d^f = t_{n.op} + t_{dv.op} + t_{kon.op}$$

Initial operations, namely, factors influencing the speed of transfer of cars for loading, determine the commissioning of cars adapted for the transportation of this type of cargo in the shortest possible time, that is, within the specified time frame.

$$t_{n.op}^f = n_{nexc} + n_{neis} + r_{nekval} + N_{nexc} + N_{neis} + R_{neotv}$$

Unfortunately, this process is not always carried out on time. This is due to a number of negative factors:

- lack of wagons that can be used to transport a certain type of cargo, n_{nexc} ;
- car malfunction, n_{neis} ;
- insufficient qualifications of workers participating in the process, r_{nekval} ;
- insufficient quantity or malfunction of loading equipment, N_{nexc} , N_{neis} ;
- irresponsibility of the management team, which is responsible for initial operations, R_{neotv} .

To solve the problem of shortage of cars on short routes (up to 1000 km), you can reduce the number of cars on trains from 50-60 to 20-30, which will increase the speed of their turnover. In addition, it is important to develop methods for adapting the work of locomotive crews to these changes.

When workers performing primary operations do not have the necessary qualifications, this can lead to errors in cargo operations. To avoid such problems, it is important to conduct training workshops using experts to train employees involved in specific cargo operations.

One way to solve problems associated with shortages or breakdowns of loading and unloading equipment is for the railway company to cooperate with private firms specializing in loading and unloading operations. Such companies are already successfully operating in the republic.

The actual delivery time of goods may depend on the irresponsibility of management personnel responsible for primary operations. In some cases, abuse of power may occur. One method of preventing this is to create websites where customers can rate the performance of responsible employees.

All operations performed while driving

$$t_{dv.op} = t_{vn/day} + t_{pr.st} + t_{tech.st} + t_{tam.st}$$

Factors influencing travel time include the following: train movement in compliance with the standard daily speed $t_{vn/day}$, compliance with the standard train movement time at intermediate and technical stations $t_{pr.st}$, $t_{tech.st}$, as well as the time required to carry out customs operations. It is important to consider all of these factors when planning a train to ensure it is on time and efficient.

Issues such as the required level of the road, cooperation with transit countries, and reaching agreements on the transportation of goods and passengers on various international railways also play an important role in compliance with the daily standard speed. A lot of work is being done in the republic to increase the transport and throughput capacity of roads. Investment activity of the railway network is currently one of the most developed sectors in the republic in terms of attracting investment.

The standards established for work performed at intermediate and technical stations are determined mainly based on the power of this station. If you comply with all standards, such as automation of individual operations, full use of station capacity, technical and technological rules for working with freight cars at the station, you can achieve compliance with the duration of movement within the established time frame.

Periods of stay at customs operations are considered the main problems in the activities of railway transport. Because a lot of time is spent on these processes, and there are often cases of significant deviations from standard deadlines.

Final operations also consist of a number of operations, the implementation of which in the shortest possible time allows to improve indicators such as car turnover and cargo dispatch. The final operations consist of notifying cargo owners about the arrival of the cargo indicating the time $t_{uv.gr.po}$, transferring the wagon for unloading and unloading the cargo, $t_{vyg.gr}$ and sending the cargo to the owner $t_{otpr.gr}$

$$t_{kon.op} = t_{uv.gr.po} + t_{vyg.gr} + t_{otpr.gr}$$

Indicators of the quality of transport services are interrelated. One of the ways to improve the cargo delivery service is to increase the volume of combined transportation with the participation of the railway under the door-to-door scheme. Digitalization of operations is the main way to improve these indicators. Technological processes become more efficient, which leads to a reduction in service delivery time and an increase in delivery speed.

From this we can conclude that it is correct to evaluate the quality of transport services taking into account all the factors influencing it, as well as untapped opportunities. Assessing the quality of services of transport companies based on information received from clients brings the transport



company, especially railway transport, closer to clients and helps to implement the e-marketing and digital railway policies provided for in the railway transport development strategy.

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