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ANALYSIS OF THE STATE AND THE MEASURES OF IMPROVING THE TRANSPORT AND LOGISTICS SYSTEM OF UZBEKISTAN

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ABSTRACT:

The article gives a profound analysis of the state of the transport system of Uzbekistan. In spite of a number of positive moves in the establishment and improvement of the transport system of Uzbekistan, a number of problems reducing its general efficiency and attractiveness are given in the article. Without their solution the transport sector will not be able to satisfy the growing demand from the economy and population for freight transportation of relatively low in costs, but at the same time prompt and reliable in terms of time. One of such solutions is the introduction of contrailer transportation systems. The introduction of this type of transportation in the nearest future can solve the problems that the Ministry of Transport of Uzbekistan and the whole country are facing on the way to its sustainable development.

KEYWORDS: transport, logistic system, container, terminal, cargo transportation, contrailer system.

INTRODUCTION:

The transport sector is a significant component of the economy and a major tool of development around the world. Due to historical, geographic, and geo-economic factors, the transport sector also plays a special role in Uzbekistan's economy. During the years of independent development, the Republic of Uzbekistan made considerable investments into the transport, i.e. automobile, railway and aviation infrastructure, and into the development of international transport corridors. The transport communications architecture created in the past did not provide for transit use until the country's independence. This required the formation and the development of its own transport routes by different means of transport in order to diversify the country's foreign economic relations, including for the reduction of transport costs. Under the conditions of implementing new transportation systems in the transport sector of Western countries, Uzbekistan also needs to organize the transportation process through modern logistics technologies, as the country's economy is growing and will continue to grow at a dynamic pace in the long term. GDP growth by 2035 will be 6.6% annually on average and by 2035 it will increase by three times compared to 2018 [1].

Under these conditions, the demand for quality transport services from the economy and population of the country is growing. Is the transport sector ready to meet these challenges?

From my point of view, it may be ready formally, but if we take into account the practical component, then the transport sector of Uzbekistan is not yet ready for that, and that

is why I consider it necessary to move to practical actions aimed at modernizing the transport sector of our country. These practical actions should be complex, based on the synchronized development of all types of transport and logistics sector, based on long-term forecasting and planning on the part of government institutions that form and implement the transport policy of the country. And all of this should be implemented taking into account the growing competition from the transport sector of countries, both in the Central Asian region and extra-regional governments.

TASK SETTING:

In accordance with the "Strategy for the development of the transport system of the Republic of Uzbekistan until 2035", the following measures have been determined to address the challenges in the field of freight transportation:

- Determining the optimal need for freight rolling stock fleets to use efficient transport technologies ensuring the necessary volume and quality of transport services in the field of freight transportation;
- Motivating the transport enterprises to renovate (reduce the age) the freight rolling stock fleets - wagons, locomotives, public transport vehicles, river and air vessels.
- Upgrading of vehicles and transport infrastructure facilities with the purpose of reducing their negative impact on the environment.
- Upgrading existing container terminals and developing a network of related facilities. Within the framework of the national transport and economic balance, the task of combining 5-6 largest terminals at border transport hubs with similar facilities within the country may be set;
- Implementing a program of expanding the container fleet and volume of container transportation by all types of freight transport.

I would particularly like to note the main directions of increasing innovativeness of the transport sector:

a) implementation of a unified and complex scientific and technical policy of the transport sector by the Ministry of Transport based on the support of innovative technologies and strengthening of the system for training scientific and research personnel;

b) stimulation of domestic developments and introduction of innovative transport and logistics technologies, rolling stock, technical means and systems ensuring the increase of cargo transportation accessibility and quality;

c) creation and introduction of intellectual transport systems for increasing the quality of freight transportation and the implementation of highly efficient freight transport and logistics technologies with the use of modern information and telecommunications technologies and global navigation systems such as GPS and GLONASS, vehicle and flow management technologies;

d) Formation of the legislative and regulatory framework stimulating the processes of introduction of innovative technologies and digitalization of the whole cargo transportation network.

In spite of a range of positive steps taken in the creation and improvement of the transport system of Uzbekistan, there are still a number of problems that reduce its overall efficiency and attractiveness. If not addressed, the transport sector will not be able to meet the growing demand from the economy and population for comparatively low cost, but at the same time prompt and reliable freight transportation. The basic problems in the

development of the transport system of the Republic of Uzbekistan at the current stage are as follows:

- **Insufficient effectiveness of institutions that form and implement transport policy**

The key reason for the insufficient effectiveness of the system of institutions in the transport sector was due to the absence until 2019 of a single authorized government body, represented by the Ministry of Transport, responsible for the development and implementation of a unified transport policy of the country. This led to the fact that a single complex Strategy for the development of the transport system based on the analysis of the needs of the growing economy of the country, the need to ensure spatial connectivity of the country's regions and the availability of quality transport services for the population and the economy was not formulated. In many ways, the types of transport developed separately from each other, focusing on narrow domestic development goals and objectives.

- **Low level of quantity and quality of transport services, insufficient availability and promptness of transport services for the economy**

As a result of the poor quality of services rendered to the population and economic entities, represented by entrepreneurs-producers, who have a demand for transportation of their products with the lowest expenses and exactly in time, one can observe a weak growth of freight transportation volumes.

- **Insufficient pace of containerization of freight transportation**

One of the most promising areas of transport expenses optimization is increasing the level of containerization of transportation. While transporting cargoes by containers, especially as a part of container trains, members of foreign economic activity have an opportunity to reduce transport and logistics costs, thus increasing the competitiveness of their products in the world markets. Thus, the cost of transporting a cargo of 1 ton in the direction of international ports by a large-capacity container is on average 10-12% cheaper than that of wagon transportation.

In the meanwhile, the rate of containerization of freight transportation in Uzbekistan significantly lags behind the rate of development of global container transportation, which is conditioned by the lack of containers, specialized terminals, logistics capacities, as well as a small share of transit transportation.

There is a serious and yet underused potential for transporting export and domestic goods in containers by motor transport. That is mainly due to the lack of modern containers and truck-containers. Thus, in the road transport sector of the country, the share of container trucks is only about 3%. In this connection, the majority of small businesses have to resort to the services of caravans to export their products, including perishable ones.

- **High level of negative impact of transport on the environment**

With the growing attention to environmental factors, reducing the negative impact of transport on the environment is of great social importance and can have a significant impact on economic development and urbanization dynamics in the country. The transport sector remains one of the main sources of negative impact on the environment due to insufficient systematic work to improve the environmental performance of the transport sector.

At present, all types of automobile transport in the country are the main pollutant of the air basin (up to 80 percent of total emissions). Its share in environmental pollution reaches 60%, which is more than three times higher than in developed countries (18% in developed countries). Only 55.9% of motor vehicles in the Republic use compressed and liquefied gas [1].

- **The rates of innovation development of the transport industry remain low, and the lack of implementation of innovations and digitalization in all modes of transport is evident**

Transport is a crucial area where digitalization should ensure the growth of all transport sector indicators. These include issues of electronic control and regulation of road traffic, increasing the speed of transport and logistics operations, reducing the level of pollution from transport and ensuring safety in transport. The formation of a "smart transport" system based on the widespread introduction of ICT in the transport sector should become the most important direction of the country's transport development strategy in the medium and long term. As a result, Uzbekistan lacks bold, innovative solutions in the transport sector [1].

METHODS OF SOLVING THE PROBLEMS:

Based on the above-mentioned problems, one conclusion can be drawn. It is necessary to introduce an innovative solution, which would cover all these complex problems of transport infrastructure of Uzbekistan.

One of such solutions is the introduction of contrailer transportation systems. The introduction of this type of transportation in the nearest future would be able to solve the problems that the Ministry of Transport of Uzbekistan and the whole state are facing on the way of sustainable development.

Thus, let us consider in detail how the contrailer transportation systems can solve the above mentioned problems:

Problem № 1 - Insufficient effectiveness of institutions that form and implement transport policy.

Solution - Implementation of this system will allow to develop two modes of transport simultaneously (automobile and railway) not separately, as it was until 2019, when they were focused on narrow tasks. With the help of this system, we will achieve the cooperation that we have not had for many years. After that, there will not be such a big difference in cargo turnover between automobile and railway transport, which will contribute to the development of transport and logistics infrastructure and improvement of economic indicators.

Problem №2 - Low level of quantity and quality of transport services, insufficient availability and promptness of transport services for the economy.

Solution - There is one thing to admit. Nowadays, customers trust the transportation of goods by automobile transport, and the railway transport represented by "The Uzbekistan Railways" JSC cannot provide a competitive system that would be beneficial to both parties. The quality of the services provided by the JSC, however, is far from satisfactory. In support of my words, I want to quote some figures. According to the statistical data of the Strategy for the Development of Transport System of Uzbekistan until 2035, the freight turnover for 2019 on the railway transport was -

74 million tons, while on the automobile - 1353 million tons [1]. I suppose, the difference is obvious. With the help of contrailer systems, it will be possible to level these figures in the future, as the system of intermodal transportation will operate, and the carrier will have both a wagon fleet and automobile, and

any transportation will be carried out by two types of transport, regardless of the form of ownership of the carrier. This constitutes the basic condition.

Problem №3 - Insufficient pace of containerization of freight transportation

Solution - In Uzbekistan the subject of containerization lags behind the global ones. This is a fact that is recognized in the very Strategy for the Development of the Transport System of Uzbekistan until 2035. In this connection, the majority of small businesses have to use the services of caravans to export their products, including those that are perishable. I want to focus attention on caravans. With the introduction of the "Flexiwaggon" system, the need to increase the containerization of transportation automatically disappears, as cars will act as containers in the "Flexiwaggon" system, which will provide the client one of the main rules of logistics – "door to door." It may not seem appropriate, but I will give only one argument. Uzbekistan has enough trucks, they are universal, and many of them meet international standards, while the production of containers is not yet established at the proper level. So, why should we spend money for what will soon be in the past? We need to invest in the future, namely in contrailer transportation systems, moreover, having at our disposal a ready-made fleet of trucks.

Problem № 4 - High level of negative impact of transport on the environment

Solution - We know that automobile transport is the main air pollutant of all types of transport. Exhaust emissions are harmful to our nature. The introduction of the "Flexiwaggon" system will allow us to convert most of our cargo turnover to railway transport, which in turn will reduce the amount of harmful emissions into the atmosphere by reducing the mileage of vehicles.

Problem №5 - The rate of innovation development of the transport industry remains low, and the lack of implementation of innovations and digitalization in all modes of transport is evident.

Solution - The "Flexiwaggon" contrailer transportation system itself is a bold innovative solution that promotes the development and digitalization in the transport sector by introducing new payment systems in the sphere of freight transportation. In its turn, it will increase the level of customer service; increase the speed of transport and logistics operations, which will become a kind of a magnet for business entities in need of transportation, which provides for: the time of delivery of goods, their safety, the safety of transportation at the lowest cost.

We can thus see that contrailer transportation is suitable for the objectives specified in the Strategy for Transport System Development until 2035. Now, we will take a closer look at what contrailer transport and the "Flexiwaggon" system are.

Contrailer transportation is an intermodal symbiosis of automobile and railway freight transportation, where the enlarged cargo unit is a contrailer (loaded car, trailer, van), which is loaded on the railway section of the track on a railway platform.

In the global practice of freight transportation by contrailer transportation of goods is understood as economically advantageous combination of two modes of transport. At present, this system of transportation is gaining popularity in Western countries [3].

Contrailer transportation has many technologies that combine various types of cooperation and not all of them are suitable for the conditions that we have in Uzbekistan. Therefore, considering the peculiarities of our transport and logistics infrastructure, I would

like to highlight the most economically and technically targeted technology "Flexiwaggon."

The "Flexiwaggon" technology does not imply the construction of terminals for loading and unloading of vehicles, but is fully focused on the use of a specialized platform that allows you to perform loading and unloading of trains almost anywhere.

The wagon-platform is designed in such a way that it allows to turn the body of the wagon with the help of a system of hydraulic jacks and a special swivel mechanism, thus creating a kind of a gangway that provides conditions for the smooth entry of the trains. Loading and unloading are possible on either side of the platform, so there is no need for inconvenient reverse movement of the truck train during loading or unloading [2].

Fig. 1. Specialized wagon in the ready position for loading [4]

Just imagine, the procedure of loading and unloading the train takes no longer than 10 minutes. Besides that, the ease of the system operation allows the drivers of vehicles to perform loading and unloading on their own, without involvement of additional personnel, which results in additional savings. The system allows transporting both a separate trailer and the entire road train.

Additionally specialized wagon is equipped with a device for connecting the trailer or the car engine to the power supply. This service is especially in high demand during the cold part of the year, as well as for refrigerated trailers. Constructional load-carrying capacity of the wagon is 50 tons, maximum operating speed - up to 120 km/h.

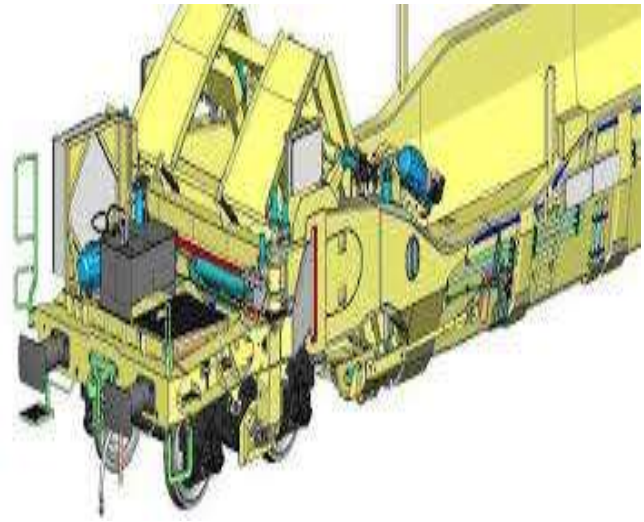

Fig 2. Internal arrangement of the devices of the specialized wagon [5]

The main advantages of the "Flexiwaggon" technology are:

- possibility to transport road trains, semi-trailers and containers on the same platforms;
- travel speed up to 120 km/h;
- no need to build a special terminal, possibility of loading and unloading at your own rail warehouse, not at a container terminal;
- ease of operation;
- no need to position the wagons at the front of loading/unloading;
- the possibility of quick loading and unloading of the whole train;
- high productivity

The main and only disadvantage of the "Flexiwaggon" technology is the high cost of special turntable platforms, but possessing so many advantages with the proper

implementation and operation of this system, the issue of payback will not be long awaited. Due to new transportation technologies, the industry will reach a competitive position in terms of specific transportation costs, safety, eco-friendliness, and the quality of transportation services. An increase in the commercial speed and timeliness of delivery of goods and the availability of transport services to the population will be achieved. The formation of a unified transport system of Uzbekistan on the basis of new logistics systems, its integration into the global transport system will ensure an increase in the efficiency of transport services within the country, the growth of their exports, more complete realization of transit potential, meeting the needs of the economy and society in quality and competitive transport services [2].

CONCLUSIONS:

The experience of other countries shows that it is impossible to stimulate the demand for innovative "green technologies" regardless of the technology selected. The participation of the Ministry of Transport, "The Uzbekistan Railways" JSC, the Committee on Motor Roads of the Republic of Uzbekistan as well as related legislative and executive authorities in the procedure of developing the regulatory framework and stimulating the demand for contrailer transportation is getting unprecedented. Moreover, creating the necessary methodological basis for the organization of contrailer transportation on the territory of Uzbekistan is possible by studying the international practice of operation of contrailer technologies. Summing up the aforesaid, I would like to conclude with one idea: our country has already been left behind in the process of transition to container transportation and, according to experts' forecasts, by 2035 the transport sector of Uzbekistan will become a system-forming industry with growing rates, outpacing the growth rates of national economy. This can be achieved by only one way - by introducing new advanced and innovative technologies in the field of logistics.

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