

**THE EFFICIENCY OF BELARUS TRANSPORT
INFRASTRUCTURE FOR FREIGHT**

Mezga D.A., student

Denkevich K.A., student

Scientific supervisor – Slesaryonok E.V., senior lecturer

English language department №1

Belarusian National University of Technology

Minsk, Republic of Belarus

Transport infrastructure plays a crucial role in the economic development and effective operation of freight transport. In the case of the Republic of Belarus, a country with a favorable geographical location and transport route, it is important to consider the efficiency of its infrastructure for freight transport.

Belarus has a developed transport network, including roads, railways, airways, and waterways. Road transportation occupies a leading position in the country's transportation system, which explains the significant share of freight transport by road. The railway network is also widely used for transporting goods both within the country and for export.

One key indicator of the efficiency of transport infrastructure for freight transport is the accessibility and condition of roads. It is important to note that despite the large distances and favorable transport connections with neighboring countries, the quality of road surfaces and infrastructure requires further improvement. Various initiatives for road modernization and construction are already underway in the country, but they require further development and funding.

Another aspect of transport infrastructure efficiency is logistics. Effective management of freight transport, route optimization, coordinated interaction between different modes of transport, and the application of modern technologies and tracking systems all affect the speed and cost of freight delivery.

Freight transport also plays an important role in the economy of the Republic of Belarus, so the efficiency of transport infrastructure directly impacts the country's competitiveness and its possibilities in the international market. It is important to continue working to improve and develop transport infrastructure, as well as refine approaches to logistics and

freight transport organization, to ensure a stable and efficient transport system in Belarus. Measures to increase the efficiency of freight transport through road infrastructure improvement include not only road repair and construction but also the implementation of modern technologies and innovations. An important aspect is the use of traffic management systems, such as intelligent traffic signals, surveillance cameras, GPS systems, and smart road signs. These solutions help optimize traffic flow, prevent road incidents, and improve overall freight transport efficiency. In addition, the implementation of digital platforms and remote monitoring technologies can reduce time and costs in logistics operations, improve delivery time forecasting, and prevent possible delays. For example, a comprehensive solution - Smart road. Solutions for “Smart roads” allow to increase driver safety, manage traffic flows and road infrastructure efficiently, and provide data collection and processing from sensors and cameras. Additionally, smart road solutions utilize advanced technologies such as Internet of Things (IoT), artificial intelligence, and big data analytics to optimize traffic management, improve road conditions, and enhance overall transportation efficiency. The development of road infrastructure also requires attention to environmental aspects. The use of technologies that reduce harmful emissions, the use of alternative fuels, and the development of environmentally friendly transport vehicles contribute to improving the ecological sustainability of freight transport. The final step in increasing the efficiency of freight transport through road infrastructure improvement is the enhancement of the quality control system for road works and providing support and training for road workers and engineers. This will help improve the quality of road surfaces, prevent road transport incidents, and ensure the safety of freight transport.

Thus, an analysis of the state of Belarus' road infrastructure and its impact on the efficiency of freight transport allows for the identification of key issues and directions for further action. Through the integration of modern technologies, an ecological approach, and professional management, significant improvements can be achieved in the conditions for freight transport in the country, which, in turn, contributes to economic development and enhances competitiveness in the global market. Enhancing the connectivity of Belarus' road network with neighboring countries will also be a key to further improving trade relations and economic development in the region.