

УДК 551.588.74

Bugaeva D., Ladutska N.

The Issue of Transport and Environment

Belarusian National Technical University
Minsk, Belarus

Our life is getting faster and faster, and people want to be aware of everything. People prefer convenience and speed. After all, there's always very little time. People choose transport. It is difficult to imagine human civilization without a car today. In developed countries, it has become not only the main vehicle but also part of everyday life. The natural desire of a person for freedom of movement, the complication of functions in production activities and the service sector, finally, life itself in large cities, urban agglomerations — all this leads to an increase in individual cars and an increase in the volume of freight traffic. The level of motorization has long been one of the main indicators of the country's economic development, the quality of life of the population. At the same time, the concept of "motorization" includes a complex of technical means that provide traffic: car and road.

However, scientific and technological advances not only benefit people but also harm them. "You have to pay for everything," says ancient wisdom. Car fees are our health, our lives. This is the probability of traffic accidents, accidents. This is the inevitability of harm from environmental pollution by emissions of exhaust gases, transport noise, other physical impacts. They have to suffer all people, even those who never use a car. And not only people, animals, vegetation, that is, all nature. It creates these harmful effects on the environment, not the road, but the car and a number of substances that the car emits. The road protects the environment from the car. The

duty of the engineer, builder, operator is to make this protection more effective and cheaper [1].

Air pollution by automotive infrastructure is now considered the biggest health threat. Every year, air and atmospheric pollution cause 7 million deaths worldwide. Air pollution causes and exacerbates a number of diseases — from asthma to cancer, lung disease and heart disease. Transport is one of the most important sources of air pollution.

The problem of transport and the environment is paradoxical, as transport brings significant socio-economic benefits, but at the same time transport has a negative impact on environmental systems. This problem needs to be looked at from different sides, since transport has a number of positive and negative sides. The role of transport in the life of the planet, state and city is really important, because movement leads to progress.

The development of the country's transport system is one of the necessary conditions for the further structural reorganization of the economy, increasing the competitiveness of domestic goods and services in world markets, as well as integrating the country into a dynamically changing system of international relations. On the other hand, transport infrastructure has a significant negative impact on the environment, since transport is the main consumer of energy and burns most of the oil in the world [2].

In the transportation sector, road transport is the largest source of global warming. It is estimated that up to 10 billion meters of pollution sources arise worldwide every year. Emissions from burning petroleum products affect all animal species. However, transportation activities support the growing need for passenger and goods mobility. The growth of passenger and freight mobility has expanded the role of transportation as a source of pollutant emissions and their multiple impacts on the environment. Currently, the impact of

transportation on the environment is the most pressing problem of modern society.

The main sources of environmental pollution and consumers of energy resources include automobile transport and infrastructure of the motor transport complex. Polluting atmospheric emissions from automobiles are more than an order of magnitude greater than emissions from railroad vehicles. The exhaust gases of internal combustion engines contain more than 200 names of harmful substances and compounds, including carcinogenic ones. Petroleum products, products of wear of tires, brake pads, loose and dusty cargo, chlorides used as de-icers of road surfaces pollute roadside strips and water bodies.

Motor transport accounts for the greatest share (54%) of the global pollution balance, but this share varies from country to country, ranging from 13-30% to 60-80%. A total number of cars in the world has exceeded 500 million units. While driving 15,000 kilometres an average car burns 2 tons of fuel, about 26-30 tons of air, including 4-5 tons of oxygen which is 50 times more than human needs, at the same time it emits into the atmosphere: carbon monoxide - 700 kg/year, nitrogen dioxide - 40 kg/year, unburned hydrocarbons - 230 litres, solid substances - 2-5 kg/year [3].

The transport and road complex are an important component of the economy of the whole world. However, the functioning of transport is accompanied by a powerful negative impact on nature. The contribution of transport to its pollution should be assessed in comparison with other sectors of the economy for all components of ecosystems: the atmosphere, water, soil, plant and animal world. Transport is one of the main air pollutants. Its share of total emissions of pollutants into the atmosphere from stationary and mobile sources worldwide is about 70%, which is higher than the share of any of the industries. In my article, I have given all the examples

that motor vehicles are the most powerful source of environmental pollution, at the end I want to take stock of my work by responding to the tasks set out in the introduction. So, the number of cars in the world is increasing, although a third of the fleet is very worn out, and are subject to write-off. During the operation of engines, a large number of harmful substances are emitted into the environment, such as nitrogen, carbon monoxide, hydrocarbons, aldehydes, carbon black, sulphur compounds, lead. These problems will be exacerbated if they are not controlled in the most thorough manner. Before making a decision, careful analysis based on mathematical modelling methods is needed [2].

It is necessary to force the authorities to implement effective policies and sets of measures to solve environmental problems, including methods of administrative pressure for non-compliance with environmental standards by certain activities, the use of laws on civil offenses, for which environmental pollution is equated with a violation of public order, the use of penalties for dumping waste, the maintenance of a system of taxes and licenses for dumping waste.

References:

1. Global Environmental Problems [Electronic resource]. – Mode of access: https://link.springer.com/chapter_ – Date of access: 06.02.2021.
2. Ecology and transport infrastructure [Electronic resource]. – Mode of access: https://www.saferoad-cedr.org/en/saferoad/Research-1/Ecology-and-transport-infrastructure.htm_ - Date of access: 10.02.2021.
3. Effects of Roads on Ecological Conditions [Electronic resource]. – Mode of access: <https://www.nap.edu/read/11535/chapter/5>. - Date of access: 22.02.2021.