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INFLUENCE OF ENVIRONMENTAL FACTORS ON THE DEVELOPMENT OF STREET AND ROAD SYSTEMS

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ANNOTATION

This article discusses the issues of the influence of environmental factors on the development of street and road systems. An analysis was made of issues related to the arrangement and operation of road networks, to ensure the environmental safety of road transport, as well as to the use of alternative fuels.

Keywords: urban roads, road network, motorization, traffic noise, transport operation.

INTRODUCTION

Road network - a set of city roads, streets, driveways, including the main carriageway, lawns, sidewalks, outdoor lighting and other landscaping elements, as well as road surfaces of engineering structures. The maintenance of city roads, streets and passages is a set of works, as a result of which the transport and operational condition of the road, road structures, right of way, elements of the road arrangement, organization and traffic safety are maintained that meet the requirements of regulatory and technical documentation.

The street and road network of the city should not only provide the necessary modes and volumes of road transport, but also be the basis for the spatial and planning division of the residential area, ensuring the best functioning of all the necessary elements of work, life and recreation. The road and transport characteristics of highways and the entire network as a whole should be assigned in such a way that they determine not only the optimal modes of movement of cars, but also reduce the impact of transport on the environment. [1]

To this end, the following issues need to be discussed:

- Arrangement and operation of street and road networks, including ensuring the environmental safety of the development of the transport infrastructure of settlements, including networks of multi-fuel filling stations and related services;
- Ensuring the environmental safety of road transport;
- Handling of vehicle waste;
- Introduction of economic incentives for the production and use of alternative fuels;

- Creation of conditions for the production and use of vehicles, the design of which allows the use of alternative types of motor fuel.

Transport, along with other infrastructure sectors, provides the basic conditions for the life of society. It is one of the main tools for achieving social, economic, foreign policy goals. [1]

Increasing motorization also contributes to an increase in the number of accidents and an increase in negative environmental impacts. Atmospheric air pollution with toxic substances and the level of traffic noise are constantly growing. The proportion of the population located in areas with excess levels of vehicle noise is at least half of the population. Among the environmental problems also include the lack of a system for the disposal of old cars, their spare parts and waste generated during the operation of vehicles.

In recent years, motor transport has become the largest polluter of the environment of large cities. The amount of annual environmental damage (air pollution, noise, climate impact) from the operation of the motor transport complex is estimated at 1.5-2% of the gross national product. For example, in Moscow, where about 10% of the country's entire vehicle fleet is concentrated in urban areas, it accounts for more than 80% of all emissions into the urban atmosphere. In this regard, the issue of reducing the harmful effects of vehicles on the environment and human health in large cities should be considered as one of the main tasks of environmental policy and transport strategy. [3]

To reduce the harmful effects of transport, including road transport, on the environment and the resulting damage, it is necessary to:

• Reduce the harmful impact of transport on the environment and human health through the use of environmentally friendly types of vehicles;

• Expand the use of vehicles with high fuel efficiency, corresponding to the level of world standards;

• Stimulate the use of vehicles operating on alternative sources of fuel and energy resources;

• To ensure the environmental safety of transport by improving the technical level of vehicles, strengthening control over the technical condition of operated vehicles in terms of environmental indicators, limiting emissions of climatic gases and recycling waste from transport enterprises;

- Switch to global environmental standards for consumed fuel;
- Convert 50 per cent of the car parks in large cities to environmentally friendly alternative fuels;
- Encourage the modernization and renewal of the vehicle fleet, accelerating the decommissioning and disposal of old vehicles.

To achieve the above goals, mechanisms of economic and administrative incentives for decommissioning and recycling of old cars should be applied; production and operation of environmentally friendly vehicles, such as electric vehicles, vehicles equipped with hybrid power plants or engines running on alternative fuels; production and wide introduction of qualitatively new, environmentally friendly alternative types of motor fuel; use of environmentally friendly vehicles in the performance of transport services for the needs of the city. In addition, it is necessary to create a modern infrastructure for servicing and refueling vehicles using alternative types of motor fuel (creation of a developed network of multi-fuel filling stations). [3]

Discussing the development of the road network, the environmental safety of transport, close attention should be paid to another problem - the disposal of decommissioned vehicles, their components, as well as waste from the operation of transport. The need to solve this problem is due, first of all, to the fact that vehicles that are not properly disposed of have an adverse impact on the state of the environment, and also reduce the capacity of the road network. In addition, a retired car is a source of secondary material resources, the use of which will make it possible to implement the state policy of resource conservation.

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