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ECOLOGY OF URBAN TRANSPORT SYSTEMS

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At least once a week, from different sources of media, we learn about the deteriorating health of the planet, as well as the inhabitants of the Earth themselves.

What caused the increase in diseases and premature deaths?

Taking into account the fact that half of the inhabitants of the Earth live in big cities, in which, in most cases, there is more noise and stress than in towns or villages, there is nothing to breathe at all, as the green spaces that exist cannot cope with such the amount of polluted air. In addition, cities often lack accessible green spaces, and people's levels of physical activity are below recommended levels.

Also, do not forget that most cities are built according to two main principles. First, a city with a very dense development of districts and roads, in which, often in the process of urbanization, transport and, as a result, environmental problems get worse. For example, a growing city does not change its central part, as a result of which cars arriving from remote areas increase the already huge number of vehicles that either move or park. A larger percentage of car use falls precisely on the latter, which leads to the fact that the amount of noise increases, the air becomes more polluted, and there are not enough parking spaces. The latter leads to the fact that drivers begin to park on the sides of the road, often driving onto sidewalks, already becoming an obstacle not only for vehicles, but also for pedestrians. By "transport" is meant not only personal, but also public. During rush hour, huge traffic jams occur, which leads to delays in public transport. Passengers do not have time to reach their destinations, which leads to

increased stress, which already affects a person not only emotionally, but also physically. It is also worth adding that not only passengers and drivers of public transport are nervous, but also drivers of personal funds. With an increase in nervousness, inattention also increases, which leads to an increase in the number of accidents, both minor and large-scale. A large number of cars also interfere with pedestrians, because, if we take into account the above, the risk of injury increases, the amount of noise (signals, endless traffic) also increases, as does the increase in ambient temperature and air pollution. At the same time, it is practically impossible to increase the amount of greenery in the city - all free space is given either for another building or for an increase in the number of parking spaces.

As for the second type of city development, it has a low building density, but an extensive road infrastructure. Most of these cities predominate in the United States. If in the first case not everyone has cars, since a public transport system is set up, then in the second case there is personal transport in every house, in some cases even several. This is due to the fact that the distances between destinations are long and local authorities would rather reduce the cost of fuel than improve the public transport system, which leads to an increase in the number of transport, environmental degradation, and again to traffic jams and accidents, since all these machines end up in the same place at the same time. There are certain areas of the city or the city where it is almost impossible to live without a personal vehicle, for example, Atlanta, Los Angeles, Melbourne. Although it must be said that in such cities there are a huge number of parks, gardens and boulevards, both in the center and on the outskirts.

What should be done to improve the situation?

As for cities with dense buildings, we can start by improving the public transport system by adding a lane for public transport only. It is also worth setting up traffic lights to prefer this particular mode of transport, as it was done in Lviv, which will facilitate the transfer of people from personal vehicles to public transport. You can also increase the number of routes or improve old ones so that passengers can get from any part of the city, even the most remote.

It is also worth increasing the cost of fuel or adding a transport tax, increasing the cost of parking fines or reducing the number of parking spaces for personal vehicles, etc., which will also help to transfer to public transport.

With a decrease in the number of cars, the number of parking spaces will decrease, and landscaping can be organized in their places. Also, to improve the environment, it is worth contributing to the “rejuvenation” of transport. Cars with the old modification consume much more fuel and its consumption is also slightly less. Ideally, you should switch to electric cars, or at least to hydrides, cars that use both fuel and electricity.

In some cities, such as Amsterdam, for example, residents prefer bicycles to personal transport and walking (according to statistics, there are more bicycles in the city than residents) or public transport. The popularity of cycling is determined by convenience, a large number of special paths, flat terrain, the relative inconvenience of using a car, and public transport has a well-developed public transport system: there is a subway, traditional and high-speed trams, a bus network and ferry crossings across the river. In terms of increasing cycling, it is also worth looking at the city Lviv, where at the moment there are already about 100 km.

As for cities with low building density, you need to add routes for public transport, perhaps they will not run very often, for example, not every 15 minutes, but every hour. Given the rate of urbanization in such cities, they will soon be fully built-up, and then it is worth applying the same above-mentioned ideas to them in order to prevent them from being reclassified as cities with dense buildings. But at the development stage, it is worth paying attention to the construction of multi-storey car parks, which take up much less space, which will lead to more green spaces, which will improve the environmental problem.

All this will lead to an improvement in the environmental and transport situation. Less transport - less emissions into the atmosphere, there will be fewer "heat islands". Fewer cars means less traffic, and therefore fewer traffic jams and accidents. Less traffic jams and accidents – less stress for drivers of private and public transport, as well as for passengers. Pedestrians will feel more secure. Their rightful places to move

will not be occupied, there will be less noise and pollution. Thus, emotional and physical health will improve, which will lead to better health in general, reduce the number of diseases and the number of premature deaths.

СЕКЦІЯ
ІНФОРМАЦІЙНІ ТЕХНОЛОГІЇ

INFORMATION TECHNOLOGIES IN TRANSPORT

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Information technologies have revolutionized the way we travel. From booking tickets to tracking our luggage, technology has made transportation more efficient, convenient, and safe. In this article, we will explore the impact of information technologies on transport.

One of the most significant benefits of information technologies is the ability to gather and analyze data. With the help of sensors, cameras, and GPS devices, customers can gather a huge amount of data to track the movements of vehicles in real time. Transport companies can use methods and approaches of big data to optimize routes, predict traffic congestion and improve safety using online tools or mobile apps. For example, airlines can use data analytics to optimize flight schedules and reduce delays. Some data such as location is a sensitive piece of information, and releasing it to unauthorized entities might pose security and privacy risks. Therefore, many types of information available in a pervasive computing environment, such as people location information, should be accessible only by a limited set of people. [1, 2]

Another area where information technologies have made a significant impact is ticketing and payment systems. Today these systems use technology to streamline the ticketing process and make it more efficient for both customers and businesses. For passengers it means that they can book tickets online or through mobile apps,