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INTELLIGENT TRANSPORT SYSTEMS

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Transport system is an integral part of people's life. All of us use transport directly or indirectly every day: to get to the right place, or to deliver something. To ensure uninterrupted traffic flow we should get rid of traffic jams, reduce the number of accidents and simply make conditions for drivers and pedestrians more comfortable. Intelligent transport systems (ITS) are used for this purpose in majority of modern countries.

According to ERTICO (European Association of ITS), ITS will increase the capacity of the road network by 20% without reconstruction and construction of new structures, significantly reduce the number of accidents, reduce CO_2 emissions, and reduce the loss of time when traveling during each person's lifetime by one year [1].

An intelligent transport system is the instrumentation used to equip roads with traffic lights, "smart stops", surveillance cameras, information boards, and software that combines this equipment into a single system and allows it to be controlled. The history of ITS begins from the 80s of the twentieth century in countries such as the USA, Japan and a number of other countries. In the 90s, after Europe had implemented Intelligent transport systems and European Commission had adopted the concept of ITS development, three main ITS development centers appeared in Europe, USA and Asia [2].

Today in South Korea a lot of attention is paid to 5G and Vehicle-to-everything (V2X). Initially, this system was used to reduce the number of accidents on the road. But in November 2022, the Koreans switched to experiments with autonomous vehicles. At the moment, self-driving buses travel along the roads of Seoul. And although there is still a driver there, it is planned to abandon it in the future [3].

Sitraffic Fusion, an adaptive traffic management solution, has been operating in London since 2020. It is part of a larger traffic optimization system Real Time Optimiser (RTO) that controls city traffic lights.

Previously, RTO relied on SCOOT, a system of simple transmitters hidden in the road that could detect approaching traffic. The new cloud solution uses more data sources, including those from connected vehicles, and flexible algorithms. This allows you to minimize delays and waiting times at traffic lights.

As for the Republic of Belarus, if we compare the ten-month period for 2023 and the same period in 2022, there is a decrease in the number of accidents by 6.8%. And these are changes only in a year. Over the period from 2015 to 2023, the death rate in road accidents decreased by 34% [4]. The intelligent transport system of Minsk is currently represented by such subsystems as an automated traffic management system, an automated public transport dispatch control system, a video surveillance system in places of people mass gathering, a speed camera system, an accident control and route guidance system, a freight transport traffic management system, and a parking space management system.

Based on all the above it can be said that ITS has an extremely positive effect on the road situation, and the development of such systems did not stop a dozen years ago, but continues successfully to this day.

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