

INTELLIGENT TRANSPORT SYSTEMS: DEVELOPMENT PROSPECTS IN THE TRANSPORT COMPLEX OF UZBEKISTAN

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Telematic transport system (TTS) - automatic collection, processing, transmission and request of information about the location and condition of vehicles, information obtained on the basis of data for efficient and safe use of vehicles for various purposes. an information system that provides provision to consumers. goals and objects. Intelligent transport system (ITS) is a telematic transport system that provides the implementation of very complex functions for processing information and developing optimal solutions and management actions. Until now, there is no single opinion about what intelligent transport systems are. In modern conditions, the central problem of efficient organization of the transport process in many large cities and non-urban sections of the road network with heavy traffic is the optimization of the use of limited public resources road network

The relevance of the abstract is the study of telematic transport systems and intelligent transport systems. Control of the movement of goods is carried out in accordance with regulatory documents. There are special requirements for shipping owners. Thus, the most promising direction in the development of telematic transport systems is the creation of an integrated intelligent transport system, which, while solving individual TTS problems, increases the efficiency of the entire transport process. Systemic road traffic failures lead to a sharp increase in the time it takes to transport, an increase in fuel consumption, an increase in the number of traffic accidents, and a deterioration of the environmental situation. The analysis of the situation in large cities of Russia showed that the congestion of urban road networks is related to the combined effect of a number of factors of multidirectional movements [7]. Estimating transport efficiency is a complex problem. Thus, the construction of a transport system in the field of transport combines economics, urban planning, geography, ecology, sociology and psychology. Currently, there is no coordination between public transport

companies, electric transport companies, bus and taxi companies within the same city. Coordinated actions of the participants of the city movement, mutual consideration of the interests of each of them can create conditions for the successful development of the city transport system. The technical basis of the system is made up of GLONASS/GPS navigation modules and software-hardware systems actively implemented for vehicle monitoring based on the use of cellular network channels. As a result of the introduction of the system, it is planned to create a single network of information-analytical and sample support for decision-making processes in the transport sector. Currently, there are several navigation satellite systems in the world, but GLONASS, NAVSTAR GPS [8] are implementing a real global positioning service almost everywhere on the planet. GPS, GLONASS include the subsystem of space vehicles, SNS on-board receivers, i.e. monitoring and control of satellites, ground stations, consumer navigation equipment. The nominal constellation of the American GPS system consists of 24 satellites. The plane is equally placed in 6 planes with an inclination of 55° to the equator, separated by 60° longitude GLONASS, GPS orbital planes. The receiver receives a navigation signal that carries information about the coordinates of the satellites. Satellites and consumer receiver clocks are made by measuring the coincidence of finding the coordinates of the receiver, it is enough to calculate the distance to three navigation satellites. The clock readings entered into the consumer's navigation receiver differ from the readings of the clocks on board the navigation satellites. The difference between satellite navigation systems GPS and GLONASS signals is fundamental, GPS uses two types of coded signals Code P (precision - clear), code C / A (clear reception - easily determined). In the GLONASS navigation satellite system, the user's navigation equipment receives GLONASS signals, processes, measures and determines the radio navigation parameters, calculates the geocentric coordinates X, Y, Z and based on the geodetic coordinates and the height above the reference ellipsoid in PZ . -90 coordinate system, to system time and velocity vector components conversion to a relatively local time scale [11].

For the development of the GPS system, a program to increase the accuracy of the creation of new navigation satellites with improved civil navigation signal performance, planning and technical capabilities to implement spatially selective access is envisaged. Support for low-precision navigation in the world region is based on active work on the development of GPS system standards and adoption of international standards from the GPS system service area. The GLONASS constellation works, it is less affected by the Earth's gravitational field, which reduces the orbit correction. One of the most acute socio-economic problems in developed and developing automotive countries is the problem of the high level of accidents on the country's road network, the increasing number of deaths and injuries in road traffic accidents. In 2006, 32,724 people were killed and 285,362 injured in accidents on the roads of Uzbekistan. The lowest number of deaths in the last 15 years was recorded in

1997. At the same time, in 1998, the increase in the number of traffic accidents with serious consequences decreased by 12.4 percent, and in 1999 by 18.6 percent. % [10]. The number of accidents on the roads of our country is about 600 every day, 100 people die, and about 500 people are injured. About 60 percent of the dead are the active population aged 16 to 40, and 3,000 children become disabled. The tragedy of the situation is that many children between the ages of 7 and 14 are involved in accidents. A road traffic accident is an event that occurs as a result of a violation of the normal mode of movement of a vehicle and leads to the death and injury of people, damage to vehicles and goods, artificial structures, green spaces, and other material damage. According to the definition, an accident is characterized by the presence of factors of vehicle movement, human injury and death, and property damage. The cause of an accident is often a mismatch between one of the elements of the "man-vehicle-road-environment" system and other components. According to the "Consolidated resolution on the design of vehicles" and the consolidated resolution "On the design of vehicles for safety purposes" adopted by the Internal Transport Committee of the European Economic Commission, accidents are classified according to their structural features and social significance. [3]. . Thus, the development of new algorithms for calculation, mathematical modeling, conversion and processing of human injury indicators and the creation of an automated information-logistics system for intelligent assessment of the safety of the internal environment of vehicles is an urgent issue. international EuroNCAP program requirements. This reduces the financial and time costs of searching for optimal design solutions during the creation of new vehicles. There is no integrated automated information-logistics system in world practice without the destruction and use of expensive equipment and the threat of virtual testing of the vehicle to make an intelligent assessment of the safety of the internal environment of motor vehicles.

Modern railway transport is a very complex organizational and technical system, which is almost impossible to manage within the framework of previously established traditional approaches. The complexity of the transport infrastructure and facilities completely excludes the possibility of fully automatic operation. Currently, in many countries of the world, the European Union countries and Uzbekistan, the understanding of the importance of solving the global problems of transport complexes is growing. With the requirements to improve the safety and efficiency of transportation, with the increase in the mobility of society, to reduce the impact of transportation on the environment, etc. The most important place in solving problems is the creation and use of intelligent transport systems. Currently, there is no single opinion about intelligent transport systems. ITS is a change in the status of a transport unit from an independent, independent and somewhat unpredictable subject of action to an "active", predictable subject of a unified transport and information space. The contribution of telematics services to the stability of the transport system is aimed at

the development of the economy, safety and environment. The basis of the successful implementation of telematics systems to reduce the negative effects of mobility is the development of information systems for all types of transport [2].

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