

STAGES OF IMPLEMENTATION OF THE OBJECT OF INTELLECTUAL TRANSPORTATION SYSTEMS (SERGELI MEGAPOLIS OF TASHKENT)

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Abstract: This article recommends developing intelligent assessment models quality level of the public transport services provided.

Thus, the statistics for the parameters the functioning of the urban public transport system can serve as input variables when experts draw up rules for fuzzy expert systems. By entering the values of the input variables it is possible to simulate the assessment process and, possibly, efficiently assess the state of the urban public transport system.

It was revealed that the use of the developed assessment methodology service quality of UPT based on FES allowed to reduce the time vehicle waiting by 30% on average along the route.

Keywords: Urban public transport, intellectual management information system, fuzzy expert systems, transport, transport vehicle, automobile

Introduction. Implementation of intelligent systems management city public transport at the present stage of their functioning, it is logical continuation of existing methodological approaches and provisions in managing the passenger transportation system in a large city.

The multidimensionality of each specific situation affecting the profile management systems urban public transport, whether it be difficult terrain, entering and outgoing traffic flows, transport planning features, condition of roads and transport infrastructure in general the city, acts as a fundamental factor affecting the configuration of the transport network of a large metropolis and used management model city public transport.

The city of Tashkent is of great importance within the country, being a link in many domestic and foreign directions. In the city of Tashkent there are: two directions of railways, transport highways of Republican significance, international transport corridors, an airport - the transport system of the city of Tashkent carries out 1/3 of the freight turnover of the Republic of Uzbekistan. Thus, the solution of transport problems in the city of Tashkent is of national importance.

To predict demand, impact on the operation of the transport network and assess the feasibility of implementing a new ITS facility (Sergeli megapolis), using the example of the city of Tashkent, it is necessary to solve the following tasks:

- Analysis of the current state of the transport network in Tashkent;
- Forecasting the development of the transport system in Tashkent in the planned direction;
- Correction of the existing state of the road transport system:
- determination of territories and boundaries of influence of the object "Sergeli megapolisi";
- development and comprehensive assessment of options for using Sergeli Megapolis to ensure passenger traffic, selection of the best option;
- development of proposals for ensuring the interconnection of road sections for the highest quality service to the city's population.

To solve the listed tasks, the following research works were carried out:

- analysis and conclusions on socio-economic, urban planning, transport and planning indicators and characteristics of city development based on data from various transport and road companies, social surveys of the population, etc.;
- study of the transport network in Tashkent in order to determine the composition, size and speed of traffic flow, throughput of various sections of the transport network, identify the most problematic areas (traffic congestion, road accidents)
- compilation of correspondence matrices based on the processing of materials from the main sections of the population (mahalla) (in order to determine the resettlement of the working population in relation to places of employment), conducting a questionnaire survey of city residents;
- a comparative analysis of Tashkent city with different cities of the world with a similar transport structure;
- development of proposals for the development of the city's transport system for the estimated period, the organization of traffic and the interaction of sections of the transport network;
- modeling of changes in the operation of the transport network using the Aimsun software, conclusions about the feasibility of the object.

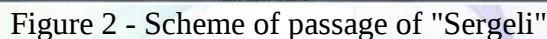
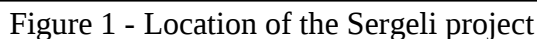
Implementation strategy of the ITS object "Sergeli megapolis"

Being of great importance within the country, Tashkent is an important intellectual, economic, scientific and political center of the country, therefore, the current difficult transport situation in the city of Tashkent requires a solution to form a transport system that would contribute to the prosperity of the city. The development of the transport system should be aimed at creating such a street and road network that would satisfy the existing volumes of traffic flows, comply with the established standards of quality indicators. Also, in order for the transport system to correspond to the constantly growing level of motorization, an even distribution of the population and places of employment is necessary.

Currently, measures to improve the transport system of the city of Tashkent are based on the city plans, target programs, and other decisions in the field of transport that have already been adopted for execution and include the following:

- complex interconnected development of all types of passenger transport while maintaining the priority in the development of mass types of urban passenger transport;
- development of a backbone road network system, providing high throughput and the implementation of high-speed ground transport links;
- creation of a system of high-speed off-street transport, as the basis of the city's transport system, primarily the subway, modernization of railways in urban and suburban-urban traffic, as factors that hinder the use of a personal car for urban travel;
- ensuring effective interaction between systems of urban, suburban and external transport, public and individual transport;
- increasing the level of development of transport links between Tashkent and settlements of the agglomeration, recreation areas of the Tashkent region;
- improving the urban passenger transport management system, using the achievements of scientific and technological progress.

As mentioned above, the main problem in Tashkent is the difficult communication between the center and Sergeli residential area - the low capacity of certain sections of the road and road environment negatively affects the movement of traffic flows between these areas. As a solution to this problem, an alternative to the existing highways in the direction "South - North" and for unloading it is proposed to introduce a project - a paid transport corridor "Sergeli Agglomeratsi".



It is planned that the Sergeli Megapolis object will have the following technical characteristics (Table 1):

Table 1 - Characteristics of the implemented object

Characteristic	unit of measurement	Index
Corridor length	km	about 2.5
Number of lanes	stripes	4
Tunnel capacity	bus / day	60 000
Design speed	km / h	60-80
Estimated cost of project implementation (10% of the cost - design and estimate documentation)	bln UZS	8,5
Estimated project implementation time	years	6-7

The construction of a (paid) automobile corridor provides for:

- creation of an alternative highway;
- a significant increase in the capacity of the road network in the central part;
- increasing the capacity and safety of the international transport corridor "South-North";
- relocation of transit traffic passing through the street network of the central business district outside its boundaries;
- increasing transport accessibility of the Sergelinsky residential area;
- reduction of travel time by 6 times in the direction of the Center - Sergeli residential area in comparison with the use of existing alternative highways

- reducing the cost of transportation and the level of transportation costs for shippers;
- optimization of budgetary expenditures at the stage of construction of the facility by attracting non-budgetary sources of funding;
- optimization of budgetary costs at the stage of facility operation by transferring to the concessionaire some of the costs of maintaining and operating the automobile corridor;
- increase in budget revenues at all levels due to the formation of additional tax revenues at the stages of construction and operation of the facility;
- reducing the level of negative impact (harmful emissions, noise) on the environment by unloading the street network of the city's busiest transport routes, as well as transferring part of road transport under (above) the ground.
- the possibility of increasing the revenues of the local budget by making a profit in the form of a fixed percentage of payments subject to mandatory payment to the Grantor, in the event that the Concessionaire receives excess profits from the paid operation of the corridor.

Considering the special importance of the implementation of this project, as well as the development of the road transport infrastructure of Tashkent, and the international transport corridor "North-South", the administration of Tashkent can initiate the implementation of an investment project for the design, construction, operation of the automobile corridor "Sergeli », Using the mechanism of public-private partnership, by concluding a concession agreement with the investor.

The selection of investors is planned to be carried out in the form of an open investment competition.

Conclusions:

1. Solving the problem of traffic congestion in congested areas transport network may be looking for a possible increase in the capacity of sections of the road network. The goals of the development of the road network as a part of the urban transport system are: to provide the necessary traffic capacity, to meet the needs of passengers and the city economy in fast, safe and convenient connections between different areas of the city. It should be noted that in many cases it is impossible to ensure continuous movement. Vehicles with an estimated speed due to the expansion of the carriageway, with existing buildings along the roads. Thus, the way out of this problem can be the introduction of objects of intelligent transport systems.

2. To predict demand, the impact on the functioning of the transport networks and assessing the feasibility of implementing a new ITS facility, it is necessary to solve the following tasks: analysis of the existing state of the transport network; forecasting the development of the transport system in the planned direction; correction of the existing state of the road transport system: determination of territories and boundaries of the object's influence; development and comprehensive assessment of options for using the ITS facility to ensure passenger traffic, selection of the optimal option; development of proposals for ensuring the interconnection of road sections for the highest quality service to the city's population.

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