



Improving the Management of the Number and Composition of Buses in the City of Fergana

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ABSTRACT

It is necessary to systematically organize transportation services for passengers in the city of Fergana. There are few bus routes in the city of Fergana due to the lack of proper selection of vehicles to provide transport services to the population, development of bus transport services in densely populated areas and quality implementation of transport services to the population. This is one of the pressing issues today.

Keywords:

Bus route, traffic flow, traffic structure, traffic flow density, transport service, intercity transportation, intracity transportation

Introduction

In the last 5 years in the Republic of Uzbekistan, there have been quite positive changes in the field of transport in terms of improving the quality of passenger service in road transport, effective provision of vehicle service, and road service. and measures are being taken.

In this regard, according to Decree No. PF-5647 of the President of the Republic of Uzbekistan Sh.M. Mirziyoyev of February 1, 2019 "On measures to fundamentally improve the state management system in the field of transport" based on the Road Transport Agency of Uzbekistan The Ministry of Transport of the Republic of Uzbekistan was established [1-4].

Methodology

As noted at the press conference held at the National Press Center of the Ministry of Transport of Uzbekistan dedicated to the discussion of the work carried out in the field and future tasks, President Shavkat Mirziyoyev's January 10, 2017 "Transport service provision to passengers and travel by

buses in cities and villages" The decision "On measures to further improve the passenger transport system" serves as an important program in this regard [5-12].

With this decision, the program for the further development of motor transport services in cities and villages in 2017-2021 was approved. It envisages the establishment of new bus routes, construction and reconstruction of existing bus stations and bus stations, and strict adherence to the traffic schedule [13-24]. Also, in the republic in 2021, the volume of passenger transportation transport was 5.8 billion passengers (108.6 per cent), and passenger turnover was 129.6 billion passengers/km (109.5 per cent) [25-36].

Results

Currently, the financing of the construction of bus stations and bus stations in regions, cities, and districts of the Republic of Uzbekistan is entrusted to the Ministry of Transport. There are indicators of the motor transport development fund. We can see information about this for 2018-2021 in the table below.

Table 1. Automobile transport development fund

№	Indicators	total	Including by years:			
			2018	2019	2020	2021
	Source of formation	361,4	72,4	83,2	95,7	110,1
1	State tax for issuing a license for vehicle transportation	289,7	58,0	66,7	76,7	88,3
2	The amount of the fine charged by the inspectors of the agency "Uzavtotrans"	71,7	14,4	16,5	19,0	21,8
3	Other sources not prohibited by law	-	-	-	-	-
	Planned expenses	376,1	72,1	90,9	105,2	107,9
1	Construction and repair of bus stops and stops	75,8	13,1	16,8	25,4	20,5
2	Build fleets, buy buses and trucks	211,3	28,0	54,1	60,8	68,4
3	Implementation of ICT implementation projects	89,0	31,0	20,0	19,0	19,0
	Increased stay	-14,7	+0,3	-7,7	-9,5	+2,2

*Billion soums

Buses, regardless of their ownership, mainly run on predetermined routes and provide passenger transport services [37-48].

The concept of the route is important in setting and solving issues of organization and management of passenger transport processes. A bus route is a road network that connects certain starting and final destinations, stopping at specified intermediate destinations along this road network to pick up and drop off passengers. includes a set of objects that organize the processes of bus loading and moving a bus loaded with passengers along city streets (motorways) connecting all destinations [49-59].

An example. The capacity of the bus is $q_n = 50$ passengers, the round trip time in the normal direction is $t_{ayl,q} = 100$ min, the stop time at intermediate stops is $t_{ob} = 1$ min, and the stop time at the last stop is $t_{oxb} = 5$ min. Let the maximum value of passenger flow in peak hours be $Q_{max} = 375$ passengers/hour.

1. The number of buses required to transport passengers on a normal route and the running interval are found as follows

$$A_y = \frac{Q_{max} * (t_{ayl} - 5)}{q_n} = \frac{375 * 100}{50 * 60} = 12 \text{ bus}$$

$$I = \frac{t_{ayl}}{A_y} = \frac{100}{12} = 8,3 \text{ min}$$

2. Due to the establishment of an express route, the bus will pass without stopping at 5 intermediate stops. In that case

$$3. A_y^{tezkor} = \frac{375 * 90}{50 * 60} = 11 \text{ bus}$$

$$I = \frac{t_{ayl}}{A_y} = \frac{90}{11} = 8,2 \text{ min}$$

4. When an express route is established:

$$A_y^{ekspr} = \frac{375 * 80}{50 * 60} = 10 \text{ bus}$$

$$I = \frac{t_{ayl}}{A_y} = \frac{80}{10} = 8 \text{ min}$$

5. When a shortened route is established, it is necessary to determine how many passengers will be transported on the shortened route and how many on the regular route, as well as the round trip times of the buses on the shortened route.

6. For example, if $Q_{max} = 375$ passengers are transported per hour on the route, of which $Q_{short} = 255$ passengers are transported on the shortened route.

Let the round trip time in the normal direction be $t_{ayl,q} = 100$ min, and in the shortened route $t_{ayl,q} = 64$ min. Then the number of buses

needed in a normal route:

$$A_y^{oddiy} = \frac{120 * 100}{50 * 60} = 4 \text{ bus}$$

The number of buses on reduced routes:

$$A_y^{qisq} = \frac{255 * 64}{50 * 60} = 5 \text{ bus}$$

Calculations show that 3 fewer buses are needed to transport passengers than the normal route. As can be seen from the example, the organization of shortened routes during peak hours is very effective. But this method has some disadvantages. They can be shown the following.

Conclusion

Today, improving the efficiency of public transportation remains one of the most important issues. Therefore, the main goal is to establish new bus routes, reconstruct and build existing bus stations and bus stations, and ensure strict adherence to the traffic schedule. Construction of 6 new bus stations is planned in the Fergana region based on the 8th appendix of the President's decision PQ-3589 of March 6, 2018 "On measures to further improve the vehicle transport management system". According to the decision, new bus stations were built and put into operation in 6 districts of the region, in particular, in Beshariq, Yozyovon, Uzbekistan, Uchkoprik, Koshtepa districts and the city of Kuvasoy.

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