

## THE CURRENT STATE OF URBAN PUBLIC TRANSPORT AND ENSURING ITS ACCESSIBILITY FOR PASSENGERS WITH DISABILITIES ON THE EXAMPLE OF TASHKENT

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**Abstract.** *The article provides a detailed overview of the operation of the urban passenger public transport system in Tashkent and outlines the existing problems of this industry, for each of which scientific and practical solutions have been developed, as well as presented.*

**Keywords:** *public transport, bus, route, minibus, road, stop, interval, delay, congestion, innovation.*

Today, 5 million people live in Tashkent (3 million permanent residents, 1.5 million daily visitors, 0.5 million temporary residents), of which the mobile population averages 3.5 million people.

According to the analysis, the daily number of trips of the mobile population of the capital is on average 9 million, of which 6 million are made by transport.

Public transport (bus, metro) accounts for 1.7 million (28%) flights operated by public transport, while passenger cars account for 4.3 million.

The length of 73 main streets of the capital, along which transport is constantly moving, is 472 km and is designed for an average capacity of 380-400 thousand cars.

Over the past 2 years, the number of buses has doubled. Their intermediate interval has been reduced by 2-3 times and now amounts to 8-10 minutes. Daily passenger traffic reached 1 million people, and the time required for entering the capital to get to the city center was reduced from 45 to 30 minutes [1].

There are 3 types of public transport in Tashkent, which are metropolitan, bus and directional taxi routes.

There are 256 cars under the jurisdiction of Tashkent Metro.

There are 1,891 buses under enterprises within "Toshshahartransxizmat" JSC. Of these, 202 are Bygined King Long buses (18 meters), 322 are Yutong electric buses, 500 are Yutong CNG buses, 321 are MAN buses, 244 are Mercedes Benz LF buses, and 302 are SAZ LE buses.

There are 534 minibuses under the ownership of private enterprises serving directional taxi routes.

Number of routes available:

Tashkent Metro has 31 underground and 19 surface metro stations in 4 directions.

In recent years, the length of the metro tracks increased from 38.2 km to 70.5 km, the number of stops from 29 to 50, the number of cars from 196 to 256, the number of daily passengers increased by 2.4 times (from 275 thousand to 650 thousand).

There are a total of 165 bus routes in Tashkent, served by 9 bus enterprises on these routes. Of these, 8 are bus palaces in the "Toshshahartransxizmat" JSC system and 1 (Avtosantransservis LLC) is a private enterprise.

Currently, 1,661 buses are operated daily to 165 bus routes, with 25,181 services operated, and an average daily average of. passengers are served.

The 54-lane taxi routes are served by 37 private carrier businesses. Daily minibuses are 480, services are 5,760, daily passengers are 41,000.

Information on the procedure for establishing a public transport route and its requirements:  
- how to set off:

The organization of new routes is carried out in accordance with the decree of the Cabinet of Ministers of the Republic of Uzbekistan No. 482 of November 4, 2003 "on approval of the rules for the transport of passengers and baggage in the Republic of Uzbekistan and requirements for ensuring the safety of passenger transportation on buses".

In Annex 1, Chapter 2, paragraph 9 of this resolution, it is established that the organization (opening) of new routes will be carried out in the following manner as defined in the legislative acts:

- a) routes within cities, suburbs and regions - by territorial units of the Ministry of transport of the Republic of Uzbekistan;
- b) interprovincial-Interurban routes-by the Ministry of transport;
- c) international routes - carried out by the Ministry of transport in agreement with the Competent Authority of foreign countries in the field of transport.

For each newly opened and used routes, the route passport will be developed and approved (including electronically) by the Ministry of transport or its territorial units according to the belonging of the route, and it will contain:

- a) title sheet along with the main indicators of the direction;
- (B) the route scheme (the scheme specifies stop addresses, traffic hazards, rail crossings, cross roads over the crossing, and so on). In the schemes of inter-provincial and international routes, in addition, places of recreation, catering points are indicated;
- C) distance measurement protocol and vehicle travel time chronometer;
- g) the vehicle's route traffic schedule;
- D) fare tariffs.

Annex 2, paragraph 68 of the Cabinet of Ministers of the Republic of Uzbekistan Resolution No. 738 of December 6, 2021 "on measures to electronically organize open tenders for passenger transport routes in road transport" establishes that it is not allowed to open directional taxi routes with a repeater bus in the distance range of more than 50 percent in cities according to their total length.

Requirements and number:

In accordance with the decree of the Cabinet of Ministers of the Republic of Uzbekistan dated March 18, 2023 No. 116 "on measures to establish a new system of public transport

financing", the regulation on the procedure for organizing and financing passenger transport on a regular bus route is approved by the brutto-contract.

In addition, by this decision, the procedure for connecting routes to carriers by the Ministry of transport of the Republic of Karakalpakstan, the regions and the Transport Departments of the city of Tashkent;

requirements for carriers carrying out regular passenger transportation and for the implementation of such transportation;

mandatory conditions for the implementation of regular passenger transportation on the line and the obligations and responsibilities of the carrier;

brutto-the procedure for determining the volume of work performed under the contract and the amount of payment to the carrier.

How much is available and general information about the favorable environment and unobstructed conditions for persons with disabilities in existing public transport:

- how many of the requirements are taken into account persons with disabilities?

"Toshshahartransxizmat" JSC organized conditions for persons with disabilities on buses being disposed of by bus palaces:

- all 1,891 of the buses are low-floor buses.

- 1 1,647 units (87%) of aabus are equipped with ramps for citizens with disabilities.

- the wheelchair seating area is available on all 1,891 buses.

- special equipment for fixing carriages and placing them folded is available in 1647 buses.

- special seats for people with disabilities are available on all 1,891 buses, at least 4 per bus.

- system for voice announcement of arriving and subsequent stops

Introduced in 1,214 buses, the remaining 677 are now also undergoing implementation of this system;

- the system of showing the arrived and subsequent stops on the monitor based on the record was introduced in 1 214 buses, currently the work is underway to introduce this system in the remaining 677 buses [2].

Public vehicles and the requirements for them:

In accordance with the law of the Republic of Uzbekistan "on urban passenger transport", the movement of urban passenger transport is organized by the carrier in accordance with the schedule of movement approved by the City Passenger Transport Management Authority.

At all stops, at the final and stop-pass addresses, an information plaque about the name of the route, the ordinal number and the interval time of movement is placed.

The interval time for the movement of trains at Metropolitan stops is determined by special rules.

Currently, the operating interval times of buses on the routes in the city of Tashkent are 10-12 minutes. In accordance with the current regulation, the intermediate interval times on the routes are determined by the times between rush hours and rush hours of the day and by the flow of passengers.

To determine the intermediate interval times of buses during peak hours, the route is determined by commuting and returning times from the first last stop to the second last stop, and dividing the Times assigned to stop at the last stops by the number of buses running on the route.

Requirements for public transport managers, procedures for the use of special equipment:

In accordance with the "traffic rules", a public transport managing driver must have a Class D driver's license to operate a bus, have reached the age of 21, have a medical certificate in uniform 083.

Bus drivers undergo training qualification exams and practical training at the Enterprise before they are allowed to transport passengers.

The driver must know the following:

-employment contract, "rules of etiquette", internal order and direction-transport discipline requirements;

- traffic, machinery, fire safety, passenger and baggage transportation, sanitary regulations, labor protection, work and rest time procedures;

- brutto-terms of contract and obligations and responsibilities;

- route scheme, timetable, separate road conditions along the traffic route, stopover and final stop location;

- payment terms for road access, automated payment, remote control (GPS) system operation procedure;

- the procedure for reporting in cases of damage to the life and health of passengers, the occurrence of terrorist situations, the occurrence of a traffic accident, methods of providing first aid;

- knowing the order of operation of this system when there is a system for declaring the name of stops. When the system is not available, the driver will go to the station name himself.

- technical and operational characteristics of the vehicle under control;

- directions, including filling out electronic documents;

- Contact the central (duty) satisfaction service;

- unfavorable road, weather conditions, bus control at night time;

- methods of using personal protective equipment;

- filling the vehicle with fuel lubrication products, coolants, electric charge, carrying out current repairs if necessary, seasonal service procedures.

- the procedure for using existing equipment on public transport?

(procedures for using ramps)

According to the current regulation, when the status of a person with a disability having to board a bus in a carriage is determined, the bus must be placed closer to the Stop area by the driver and the person with a disability must open the ramp to board and get off the bus in a carriage.

Availability (availability, use in practice) of standards for facilities for persons with disabilities in public transport:

According to the decree of the president of the Republic of Uzbekistan dated December 1, 2017 No. 5270 "on measures to radically improve the state support system for persons with disabilities", as one of the main directions of further improvement of the state support system for persons with disabilities, strengthening the interaction of persons with disabilities with family, society and state, their, the task of creating the necessary conditions for the free use of social and other infrastructure facilities is established.

For the convenience of persons with disabilities, it is established to equip public transport with ramps, with separate places, with special tools such as stations and route announcers, electronic data tables, to gradually ensure their free use, to take measures to increase the effectiveness of social protection and adaptation of persons with disabilities.

In addition, this decree prohibited the purchase of non-adapted urban passenger vehicles for persons with disabilities from March 1, 2018.

"Toshshahartransxizmat" JSC organized conditions for persons with disabilities on buses being disposed of by bus palaces:

- all 1,891 of the buses are low-floor buses.
- 1,647 of the buses (87%) are equipped with ramps for citizens with disabilities.
- the wheelchair seating area is available on all 1,891 buses.
- special equipment for fixing carriages and placing them folded is available in 1647 buses.
- special seats for people with disabilities are available on all 1,891 buses, at least 4 per bus.

- system for voice announcement of arriving and subsequent stops

Introduced in 1,214 buses, the remaining 677 are now also undergoing implementation of this system;

- the system of showing the arrived and subsequent stops on the monitor based on the record was introduced on 1 214 buses, now the work is also being carried out on the implementation of this system on the remaining 677 buses.

It is taken into account that the requirements for new public transport to be purchased are made, which make it convenient and unhindered for persons with disabilities:

- public transport procurement procedure:

In accordance with the law of the Republic of Uzbekistan on state harids, the procedure for hariding buses is carried out as follows:

Determination of the required number of buses;

Development of a technical assignment on buses to be operated. Taking into account that, in accordance with the legislation, there will be the necessary facilities for persons with disabilities;

Clarification of the sources of financing bus hariding together with the Ministry of economy and finance;

Examination of project documentation;

Announcing a competition to harid buses;

Contract with the winner of the competition;

Harid buses in accordance with the specified requirement.

- requirements when purchasing public transport:

In accordance with the decree of the president of the Republic of Uzbekistan dated February 2, 2022 No. 111 "on additional measures for the further development of the public transport system of the city of Tashkent", in updating the structure of movement of public transport:

- the fact that the buses to be purchased are equipped with engines operating on compressed natural gas and/or electric power;

- intended to transport persons with disabilities;

- air conditioning,

- electronic scoreboards with written and voice announcements indicating stops and routes in the bus salon;

- video surveillance cameras for security purposes;

- it should be taken into account that the fare is equipped with validators and other amenities for payment using an automated payment system.

- taking into account persons with disabilities in public transport:

On the basis of the decision of the president of the Republic of Uzbekistan "on measures to reform the public transport system" of February 16, 2023, PQ-59, in 2023, a total of 1004 buses were allocated for public transport of the city of Tashkent. Of these, 200 are King Long buses with 18m bygins and 500 are Yutong CNG buslariamam and 302 are Yutong electric buslariisobbed. All of these buses are provided with the necessary facilities for persons with disabilities.

In what cases will contracts with the winners of the Route be terminated after public transport is established:

- procedures for termination of contracts and in what cases (procedures for termination)

Termination of contracts for service on routes is carried out on the following grounds:

Based on the carrier's application for early termination of the contract for service on the route;

In cases where the terms of the contract are not met by the carrier;

In cases where false information is provided by the carrier to conclude a contract;

Contracts are terminated by agreement of the parties in case of emergency situations, quarantine and situations in which it is impossible to carry out transportation.

Proposals to adapt public transport to persons with disabilities:

In accordance with the law of the Republic of Uzbekistan "on urban passenger transport", the construction of bus stops is included in the competence of local municipalities. Currently, there is a need to adapt the Stations of public transport to persons with disabilities.

2,453 bus intermediate stations in Tashkent are being disposed of by the following organizations and entrepreneurs:

- 1 305 Tashkent City Municipality General Department of improvement;

- 773 private entrepreneurs;

- 156 "TAIFU" DUK;

- 181 "JCDecauxUZ" KK LLC;

- 22 Silver Media Lux LLC;

- 16 are ALREADY "Toshshahartransxizmat" (TSHTX).

When intermediate stops were transferred from the error, defects were identified on the basis of the following indicators:

- 560 intermediate stations do not have a station structure;

-767 stops do not have a passenger drop-out area;

- 1 687 stations do not have an intermediate bus stop access and stop Section (Karman;

- There is no pedestrian entry and exit to 683 intermediate stops;

- 1 552 stations do not have an intermediate stop road sign;

- At 568 stations aivon (shed) is not a mausoleum;

- No seats available at 579 stations;

-2,337 stops do not have a disabled exit-exit corridor (ramp);

- No waste bin at 1,014 stations.

Taking into account the above, it is proposed to implement the following measures:

President of the Republic of Uzbekistan on February 2, 2022 "on additional measures for the further development of the Tashkent City public transport system"

Reconstruction of bus intermediate stops on the basis of a model project based on the requirements of regulatory document PQ-111 and bus intermediate stops "bus stops on highways" (own DSt 3196:2017).

Unobstructed traffic environment of population-limited groups in the area of these stops, ensuring their safety by installing "tactile" plates on the border with the Highway Traffic part, installing seats of modern design and comfort, using the population's Internet network (Wi-Fi), monitoring bus traffic schedule and arrival time by installing an electronic tableau at the stations, making it possible to use

At such stations, only self-service (vending) vending machines are placed, which are intended for the purchase of advertising products, ATMs and food products.

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