

REQUIREMENTS FOR THE STRUCTURE AND DESIGN OF BODY BUSES AND CARS

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Abstract: Buses should have comfortable seating, high speed, low body vibration, good lighting, air circulation and heating.

Key words: bus, passenger, route, transport, speed, body, vibration.

Nowadays, it is difficult to imagine our world without public transport, regardless of whether there are buses, trams, trains, trolleybuses, electric trains, etc. in single cities and large cities. This article talks about the design and construction of one of the types of public transport, more precisely, the bus body. In fact, every day, millions of citizens around the world rely on this type of public transport for their lives and use it. Therefore, the requirements for the design and construction of buses should serve to ensure the safety of their passengers.

Buses, one of the means of automobile transport, occupy a special place in meeting the transportation needs of the population.

According to the information of the State Statistics Committee, as of January 1, 2023, the number of light motor vehicles owned by individuals in the Republic of Uzbekistan amounted to 3396.5 thousand, which increased by 629.4 thousand units compared to the figure on January 1, 2022.



According to the departmental data of the Statistics Agency, as of January 1, 2023, the number of cars owned by individuals in Uzbekistan was 3,637,119.

✓ From the total number of motor vehicles owned by the population:

🚗 Passenger cars - 3,396,520

🚚 Trucks - 219,628

🚌 Buses – 6,666

🚐 Minibuses - 8,961

🚐 Special vehicles - 5,344

Buses are divided into types depending on their use, size, capacity, body type, height, structural features and other characteristics.

Depending on the capacity, buses are divided into 5 types: very small, small, medium, large, double.

Buses are divided into the following types, depending on the type of body and floor.

- wagon and hood type depending on the shape of the body;
- depending on the floor: one, one and a half and two floors.

Depending on the type of engine, buses are divided into the following types:

- carburetor (operating on gasoline and gas);
- diesel;
- electric (electric buses).

In buses, the engine can be located in front of the body, behind or under the floor.

Passenger cars are divided into types depending on their use, body type, engine capacity and weight.

Depending on their use, passenger cars are divided into public, service, rental and private cars.

One of the requirements for the construction of city buses is the ability to increase the passenger capacity of the buses without changing their dimensions. In this case, it is taken into account that a certain part of the passengers travels for short distances (on average 3-4 km). In city transport, the communication speed is 20-22 km/h, and the average travel time of passengers does not exceed 15-20 minutes. In addition, the unevenness of the flow of passengers during the hours of the day is also important. Therefore, it is desirable that the seats in city buses are much less than the capacity of the bus. When planning the bus body, it is necessary to ensure the movement of passengers inside the bus, getting on and off it. There should be a space of 2.5-4 m² around the bus doors.

Buses traveling on intercity routes should be equipped with soft upholstered seats that can be stretched and reclined.

The size and design of the bus doors have a special place. City buses have 2-3 doors, and intercity buses have one door.

No matter how many seats there are in intercity and tourist buses, there should be special places for luggage. Luggage spaces are divided into sections depending on the place of 6-8 pieces of luggage. In this case, one passenger should have a baggage area of not less than 0.1 m².

The structure of the driver's workplace. The work of a bus driver is very different from the working conditions of other car drivers. For example, in one hour, the gearbox is switched on and off 160-180 times, and the brake is applied 35-40 times. Such great physical pressure will tire the driver. In order to improve the working conditions of the driver, mechanization and automation of the labor process and good organization of the workplace are required.

Taking into account the stress and duty of the driver, it is necessary to create comfort for him in order to ensure maximum safety and reduce fatigue. In addition to physical fatigue, bus drivers working in urban conditions are nervous due to the intensity of street traffic and frequent stops. In addition to these, intercity bus drivers also become nervous as a result of moving at high speeds.

The temperature and ventilation in the driver's cabin should be around 20°C.

The general requirements for the bodywork and construction of light taxis are different from those of passenger cars. The capacity of taxis is four passengers. Paid trips are 70-75% with one or two passengers, 15-20% with three passengers, 5-10% with four passengers.

Taxi car bodies must be equipped with recognizable signs.

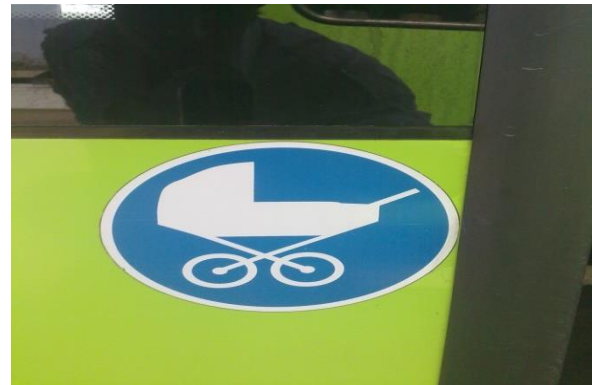
In passenger car transport, the external and internal equipment of the bus is intended to provide information to passengers about the route stops, the order of movement, the fare, the order of using the bus and light taxi.

Records, tables, and other information are set at the same standard in order to comply with the uniform procedure for the equipment of the transport vehicle and to make it convenient for passengers to use it. We can see from the pictures below.



The external equipment of the bus includes the serial number of the bus route, the name of the starting and ending stops placed on the top of its windshield. If the bus is used for excursion, order or tourist purposes, then the words "Excursion", "Order" or "Tourist" are hung on the front window. The garage number is written on the lower right side of the front window of the bus.





The side of the bus shows its serial number, starting and ending points, and some major stops. The serial number of the bus is displayed on the rear window of the bus.

The internal equipment of the bus includes a board with the name and surname of the driver and conductor, the number of seats on intercity routes, the place of passengers with young children, the scheme of the bus route, the rules for using buses and paying the fare, etc.

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