



## NETWORK INDICATORS OF PASSENGER TRANSPORT ROUTES AND CLASSIFICATION OF BUS ROUTES

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Annotation. When it is called a system of directions, it is understood as the sum of all directions of Universal Transport in the territory of a city, district, or region. The comfortable movement of passengers in passenger transport networks, the interaction of all types of transport depends on the improvement of the route system. This article provides information such as the structure, composition of the urban transport system, passenger traffic, traffic flow and their calculation.

Keywords: City transport network, passenger flow, correct selection of directions, arrival of passengers to their destination, direction coefficient, bus route length

Bus routes through streets and lanes in the city form the city's bus network. All types of transport (bus and tram) routes together form the city's transport network.

Of the requirements for the urban transport network, the most basic ones can be shown:

- to get to the destination as far as possible in one transport;
- fast reaching the destination with less time;
- the number of passengers in the vehicle should not be greater than its regulatory capacity;
- ensuring the safety of passengers.

The choice and justification of the route network will depend on the distribution of passenger traffic.

The correct choice of directions reduces the time that passengers spend on getting to their destination and leads to an increase in the efficiency of vehicle use.

The direction coefficient is used to refute the branching of the route system.

The route coefficient ( $K_y$ ) is determined by the ratio of the length of all bus routes ( $\sum L_y$ ) to the length ( $L_m$ ) of streets and roads through which bus routes pass, that is, the length of the bus network:

$$K_y = \frac{\sum L_y}{\sum L_m}$$

The larger the direction coefficient, the more comfortable conditions are created for passengers. Example. Let the length of all bus routes in the city be 2000 km, and the length of roads on these routes is 1000 km. Then the direction coefficient:

$$K_y = \frac{2000}{1000} = 2$$

For cities with a well – developed transport network, this figure will be equal to 2-3.5, and in cities with a less developed transport network-1.2-1.3.

The length of the bus route per unit surface area of the city area

The (G) correspondence is called the density of the traffic flow:

$$G = \frac{\sum Ly}{F}, \frac{km}{km^2}$$

The higher the density of the traffic flow, the less time it takes passengers to get to the station.

It is recommended that the density of traffic flow is not less than 2 - 2.5 km/km<sup>2</sup> in large cities. And in the central districts of the city, this figure will be 5-7 km/km<sup>2</sup>.

The distance of passengers from one direction to another is determined using the following formula:

$$l_{o'rt} = \frac{1}{3G} + \frac{l_{o\sigma}}{4}, \text{ km}$$

Example: if  $G = 2,5 \text{ km/km}^2$ ,  $l_{o\sigma} = 0,4 \text{ km}$ ,

$$l_{o'rt} = \frac{1}{3 \cdot 2,5} + \frac{0,4}{4} = 0,23 \text{ km} = 230 \text{ m}.$$

What kind of transport to use in cities and the organization of Passenger Transportation will depend, first of all, on the type of city, that is, on the number of inhabitants, on the area of the urban area and on the roads and their configuration available in it.

Depending on the number of urban inhabitants, cities are divided into the following types:

- very large-the population is more than 2000-2500 thousand;
- large-population 200-500 thousand people;
- average-population 100-200 thousand people;
- small-the population is less than 100 thousand people.

According to the time of operation, bus routes can be permanent and temporary. On regular routes, vehicles travel the same amount throughout the year and on all days of the week. Temporary routes, on the other hand, can be organized in a season or according to a certain necessity (for example, to rest on Saturday or Sunday).

Urban passenger transport routes are types of transport (bus, tram, trolleybus, metro, etc.), classified according to the directions of movement, speed of movement and modes of operation in the network of directions.

When it is called a bus route, it is understood that the routes of movement of buses and directional taxis that are marked between the initial and final stops. City bus routes are allocated according to traffic routes in the City area.

The diametrical line crosses one edge of the city with the other edge of the city with the central areas of the city, connecting the city center with the edges, as well as the urban chetki areas.

The Radial route will be from the end point on the edge of the city towards the center such routes connect the outskirts of the city with the center, and the suburbs with district centers or metro lines.

The semi-diametrical line connects the two district centers in the city.

Ring-like routes consist of a circle or berk fracture, a line which is a line that connects scattered dots of the city that need interaction.

Tangential routes interconnect some districts of the city without entering the center.

Mixed routes contain several elements of the directions presented above.

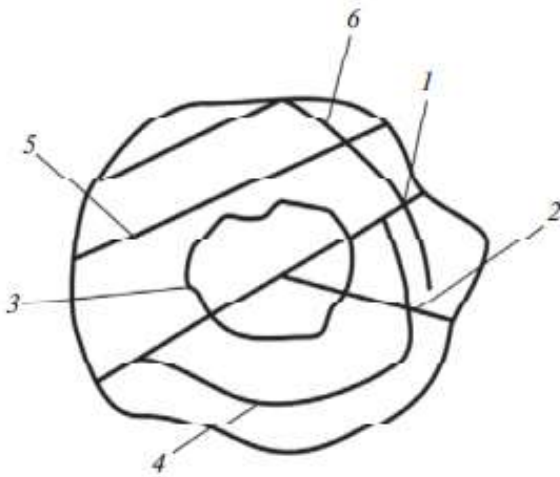


Figure 1. Types of intra-city routes:

1-diametrical, 2 - radial, 3 - annular, 4 - half - annular, 5-tangential, 6-combined(mixed).

The main routes connecting the city center with chetki districts are the diametrical and radial routes. Most passengers are transported on these routes.

It is desirable that the buses in the diametrical directions are filled with passengers as much as possible in the same microns. If they are not loaded flat with passengers, vehicles are used unevenly. In order to prevent such a deficiency, other directions are added to the diametrical direction. For example, the organization of auxiliary radial routes to passenger polygons bilan can eliminate uneven loading.

In intra-city districts, moving buses are loaded flatter with passengers. Especially if a ring-like route is established near the city center, it will greatly soften the "rush" hours, including work-bound flights.

Selection and justification of bus routes

Setting bus routes-the selection and justification of the rational Track, Direction of movement, intermediate and final stops should be carried out on a thorough and necessary feasibility study. Because bus routes also have a significant impact on the conditions and comfort of Passenger Transportation, their speed and safety of movement, the mode of operation of the driver's team and the efficiency of using buses. Buses are selected based on the direction of movement, as well as the location of the intermediate and final stops on the transportation of residents. This should take into account that the passenger flow is stable throughout the length of the route.

When choosing and substantiating the optimal option of bus routes, the following basic requirements are taken into account:it is carried out by the commissions established by the decision of the Uzbek Agency of automobile and river transport, which includes such representatives of the competent body of the state, and the authorized body of the state for which the route is intended to pass

Members of the commissions personally respond within their competence to the assessment of compliance of the direction with the requirements of traffic safety of the company, the

state-owned joint-stock company "Uzbekistan railways" and other structures with railways under their jurisdiction, as well as to whether the route is intended to pass.

Commissions:

- determine the need for passenger transportation in the direction (the intended stable passenger flow;
- they select the traffic track and check the road conditions, determine the compliance of the route with the requirements of the established traffic safety regulations according to road conditions and other conditions;
- they draw up a conclusion about the feasibility of opening the direction.

The study of the route track will consist of the following stages:

a) compliance of directions with the requirements of traffic safety, it is assessed on the basis of:

- information on the route provided by the transport organization or other organization carrying out Passenger Transportation; information on road conditions in the direction provided by road, municipal organizations and other organizations with roads, artificial structures, railway crossings, etc. (road edge crossings, parameters and their condition, elements of the road plan and profile, traffic congestion and composition, artificial structures, railway crossing paths, the state of roads through ferries and glaciers, the presence of means of organizing movement, etc.);
- information of the State Traffic Safety Service on places where there will be a lot of traffic accidents and their causes;
- asking for drivers working in the direction;
- it is assessed on the basis of a direct examination of the direction. The heads of the relevant organization are obliged to provide the indicated information to the commissions on time;

b) determination of the distance between them and the places of the intermediate and final stop addresses, determination of the location and size of the platforms on which the buses turn;

c) draw up an act on the results of the study, indicating the list of measures and works required to eliminate defects identified on the track, safety of passenger transport;

g) to pay attention to the safety requirements established by the construction standards and rules of bridges, cross-country roads, Trestles and other artificial structures in the direction of the bus, as well as other regulatory documents;

d) organization and implementation of test flights, during test flights, the speed of movement is normalized, and the distance of the route is measured intermittently.

A protocol is drawn up on the results of test flights. The minutes indicate the specified length of the route and the time of departure to the flight, a round-trip flight, the time of stay at the last addresses, the speed of walking on the specified road.

The protocol for measuring the distance in the direction under study and timing of the movement of the vehicle is signed by all members of the commission.

The commission organizes test flights on the route and, as a rule, carefully monitors the work of these flights for a month.

The commission on the results of test flights has the right to petition before the competent authorities that it is not advisable to open the direction or open the direction.



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