

**PREVENTION OF TRAFFIC CONGESTION AT INTERSECTIONS IN  
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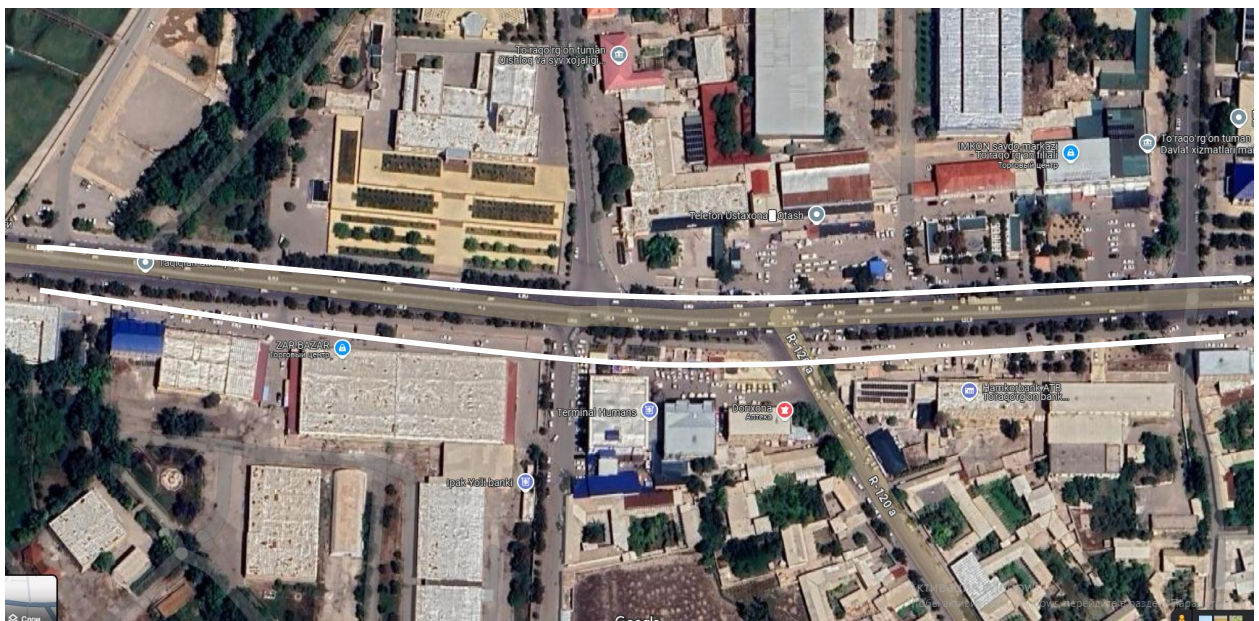
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**Abstract:** The article presents the analysis of data and the results of a study on traffic jams at intersections in one of the cities of the Namangan region. The results and conclusions are made on preventing traffic jams at the intersections of I. Karimov and Kosonsoy streets on the Fergana Ring Road in the center of the Turakurgon district.

**Keywords:** street, intersection, traffic, traffic flow, traffic density



**Introduction.** The rapid increase in the population has led to an increase in the demand for road transport. The perfect planning of the city's infrastructure, the well-organized urban road construction project ensure the optimal traffic flow. As we know, the traffic flow is the number of cars passing through the cross section of the street within a given time unit.

It is in the places shown in this figure that traffic jams occur due to the increase in traffic density during the time intervals indicated in the table [1,2,3,4]. Optimization of traffic flow plays an important role in ensuring the safety of passenger and vehicle traffic in the city. One of the features that sharply distinguishes intra-city routes from other routes is the large coefficient of uneven distribution of passenger traffic by time of day and route length. During rush hour,

the number of buses on the route is less than the required number, and the capacity utilization coefficient of buses suddenly increases, which causes a lot of inconvenience when boarding and disembarking from the bus and moving around on it. Some passengers are forced to use other means of transport [5,6,7,8].

Methods and techniques. The research was conducted using the observation and analysis method. In order to eliminate traffic jams at the intersections of the Fergana Ring Road and Birlashgan Streets, which pass through the center of the Turakurgan district, observations were conducted and studied. At the initial stage of the research, the traffic flow on both sides of the street was studied for three days a week. The results obtained were analyzed and recommendations were developed. The studies and observations were carried out mainly for the most congested and high-traffic times of the day. In this case, the opposite sides of the road were observed and taken into account separately [9,10,11].

Theoretical studies have determined the maximum theoretical capacity of a road for automobile traffic [1,6]. The capacity of the road is determined based on the condition that it is impossible to switch to the adjacent lane, using the full capacity of the carriageway.

The capacity of the road is the main calculation indicator, which depends on the condition of the road and the level of traffic organization. In this case, the load factor of the Fergana Ring Road passing through the center of Turakurgan was determined to be  $Z=0.90$ .

Results. According to the results of the study, on Tuesday, between 8:00 and 9:00, the number of cars was 2,900. During the period from 12:00 to 13:00, 1900 cars moved, and in the period from 17:30 to 18:30 in the evening, 3000 cars moved.

Analysis of the conducted studies showed that the maximum throughput of one lane at a speed of 20–40 km / h is 1800–2200 cars / h. With increasing speed, the throughput of the road gradually decreases [9]. From the analysis of the graph (Figure 1) created based on the results obtained, it became clear that the ratio of traffic flow to road throughput at the intersections of Birlishgan and Hamid Olimjon streets on the Fergana Ring Road is variable.

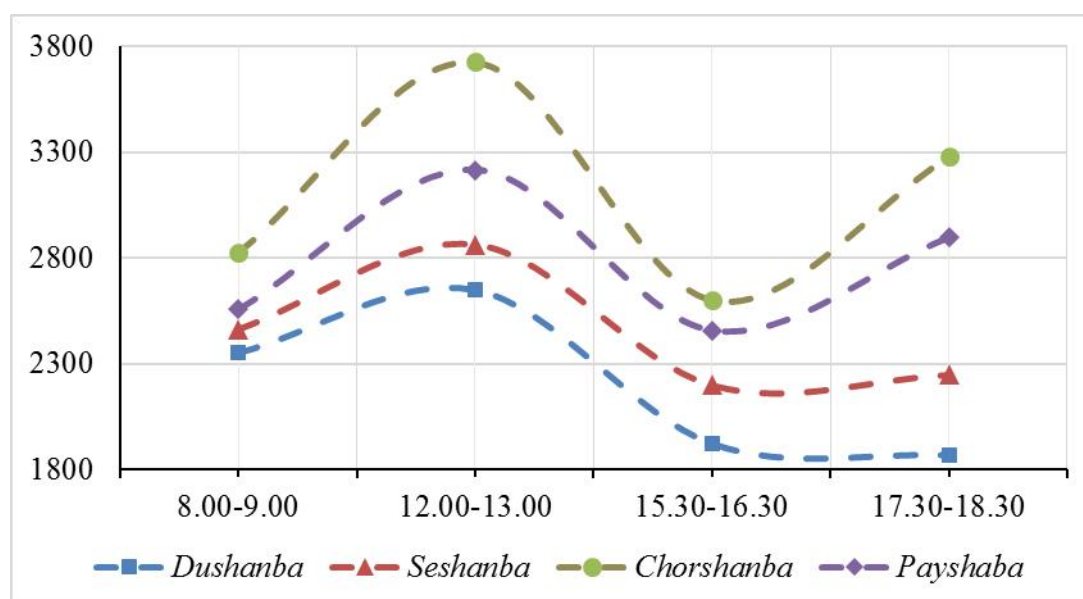


Figure 3. Intersection of intersections in the center of Turakurgan

From the above analysis, it follows that in order to ensure the acceptable traffic flow on this road, it is necessary to expand the carriageway. However, this intersection requires the reconstruction of the bridge in front of it. Alternatively, the construction of a viaduct over the bridge to pass the Fergana Ring Road will reduce traffic congestion on the urban or intercity road without mixing with the local traffic flow. This will also ensure the safety of traffic and pedestrians on the road.

Considering the existence of routes on the Fergana Ring Road in the directions of Turakurgan-Namangan, Turakurgan-Yesin, Turakurgan-Chust, the design and construction of the above-recommended road structures will prevent traffic congestion in such a way that local cars do not interfere with cars on the main route, and cars entering the main road will be able to pass onto the main road in the direction of Oktash-Turakurgan.

**Conclusions.** The traffic flow at the intersections of the Fergana Ring Road and Birlashgan and Hamid Olimjon streets increased from Monday to Thursday of the week, and from the beginning of the first and second days until the evening, it was observed that it first increased and then decreased. On the third and fourth days, it was found that the flow increased unevenly until the evening. At the beginning of the week, the intensity of the morning traffic flow increased sharply in one direction and then decreased in the evening. However, on the opposite side of the road, traffic jams were observed again. In the following days, on the contrary, the flow increased in the evening.

To ensure the acceptable traffic flow on the Fergana Ring Road, expanding the carriageway or constructing a viaduct over the Fergana Ring Road will reduce traffic congestion on the urban or intercity road without mixing with local traffic. This will also ensure the safety of pedestrians on the road.

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