

AMOUNT AND COMPOSITION OF PEDESTRIAN AND CYCLIST TRAFFIC IN SERGELI AND YANGIHAYOT DISTRICTS OF TASHKENT CITY

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Abstract. This article presents the daily, weekly and annual indicators of the traffic volume and composition of pedestrians and cyclists at single-level intersections and junctions in Sergeli and Yangihayot districts of Tashkent city.

Keywords: pedestrians, cyclists, intersection, junction, road traffic incidents, volume of traffic, direction of traffic, vertical direction, horizontal direction, traffic composition and age group.

Pedestrians and cyclists have a higher risk of being injured in an accident than motorists. According to calculations, the level of danger for pedestrians is 4-6 times higher than that of car drivers and passengers for 1 km of the road. Cyclists are 6-9 times more likely to be injured than car drivers. [1]

The research of traffic and pedestrian traffic indicators is the first priority in the organizing of safe traffic.[3] Pedestrian traffic is measured by the number of pedestrians who pass a certain road section in a unit of time. Pedestrian traffic is a variable indicator that varies by direction within months, days of the week, and hours of the day, and depends on the importance of the street. [4]

To determine the amount of traffic at one-level intersections and junctions of Tashkent city, measurement work was carried out at each intersection and junction during the peak hours of the working day. In this process, in order to determine how the volume and composition of pedestrians and cyclists are distributed in different directions in each of the selected research sites, a schematic diagram representing the flow directions of vertical and horizontal streets was determined.

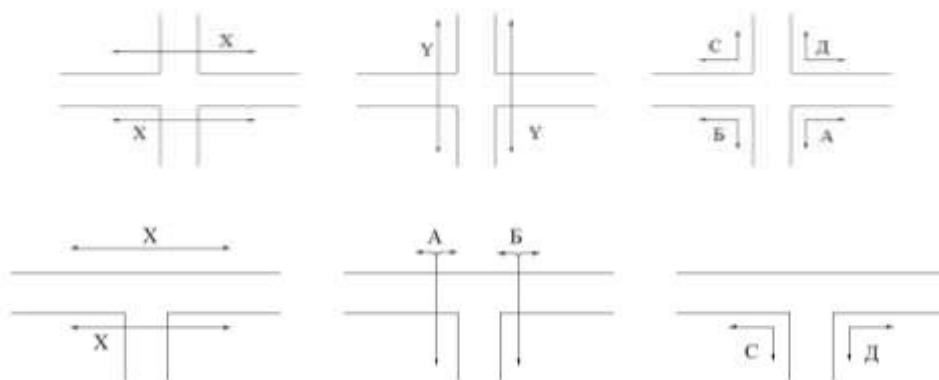
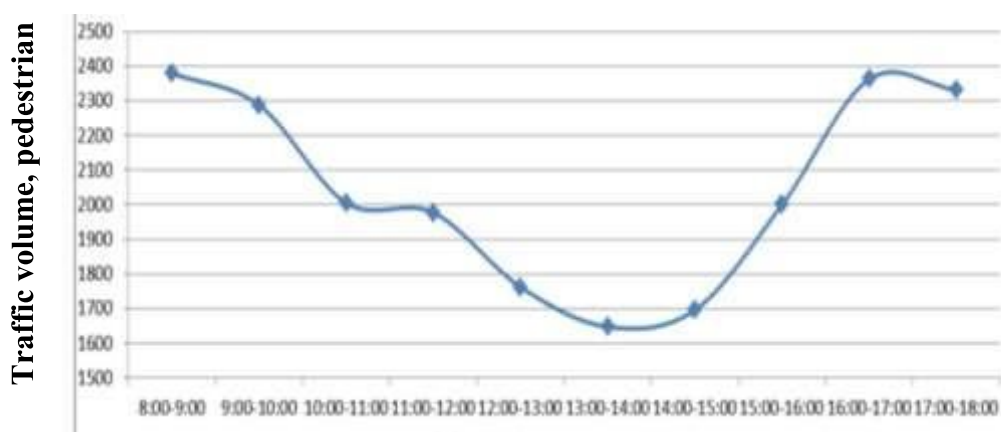


Figure 1. Scheme for determining the amount of pedestrian and cyclist traffic at intersections and junctions.

Here: X and Y are the horizontal and vertical directions, respectively; A, B, C, and D are transitions from horizontal to vertical and vice versa. Now let's get acquainted with the results of experiments in signed places.

Near the intersection of Mirzo Tursunzoda and Mehriqiya streets, there is an aboveground metro station, a bus station, and various shopping and dining complexes. That is why there is non-stop pedestrian traffic here during peak hours of the day. The amount of traffic is very high in direction A, turning from Mehriqiya Street to Mirzo Tursunzoda Street. The reason for this is that the Sergeli metro station is located at this intersection. Residents living in the area near the metro use the A direction more often when going to work or school. In the table below, we can see the amount of traffic measured during the peak hours of the day.



Time, hour

Figure 2. Graph of one-day changes in the amount and composition of traffic at the intersection of Mirzo Tursunzoda and Mehriqiya streets

At the intersection of Mehriqiya and Mirzo Tursunzoda streets, 2,000-2,500 pedestrians move per hour during morning and evening rush hours. In the middle of the day, the amount of movement decreases to 1600-1900 pedestrians. We can see the graph of the change of the amount of traffic for one day in Figure 2.

At the intersection of Lutfikor and Mirzo Tursunzoda streets, there are residential buildings, a school and an metro station.

The traffic of pedestrians and cyclists at this intersection is not as dense as at the above intersections. However, the movement of cyclists is observed more. Unlike the two intersections above (the intersection of Mirzo Tursunzoda and Mehriqiyo streets and the intersection of Mirzo Tursunzodava Shokirariq streets), there are few residential buildings intersection, and metro stations are not located at the intersection, but 400-600 meters away from the intersection.

At the intersection of Lutfikor and Mirzo Tursunzoda streets, 1,200-1,400 pedestrians per hour move during the morning and evening rush hours. In the middle of the day, the amount of movement decreases slightly and falls to 950-1100 pedestrians. We can see the graph of the change of the amount of movement for one day in Figure 4.

There are residential buildings and shops near the junction of Kurgontepa and Mehriqiya streets. The number of pedestrians and cyclists at this intersection is low. In the table below, we can see the amount of traffic measured during the peak hours of the day.

Figure 3. One-day graph of traffic volume and composition at the intersection of Lutfikor and Mirzo Tursunzoda streets

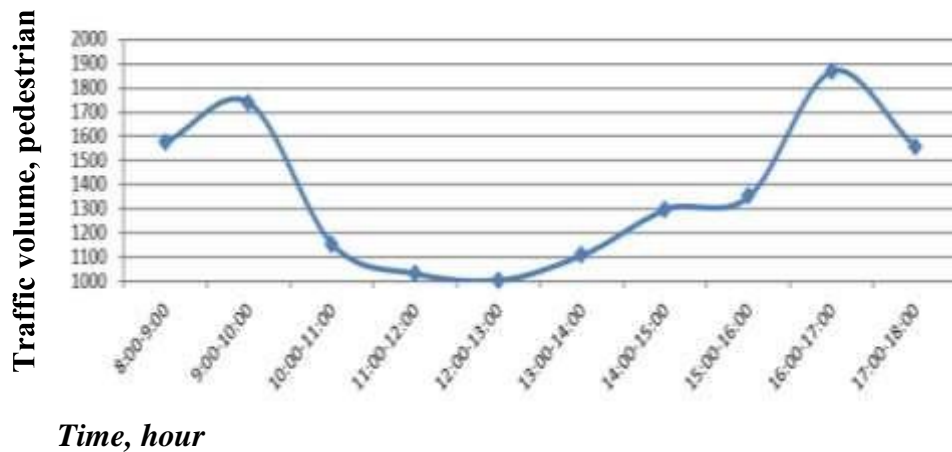
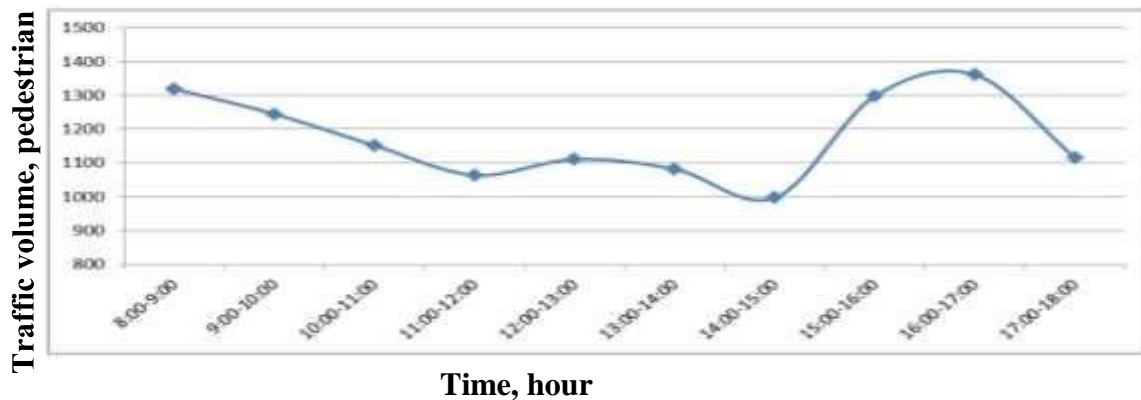


Figure 4. Graph of one-day changes in the amount and composition of traffic at the intersection of Korgontepa and Mehriqiya streets

At the intersection of Korgontepa and Mehriqiya streets, 1,600-1,900 pedestrians per hour move during the morning and evening rush hours. In the middle of the day, the amount of movement decreases to 1000-1300 pedestrians. We can see the graph of the change of the amount of traffic for one day in Figure 5.

There are residential buildings, various shops and a farmer's market at the junction of New Sergeli and Mehriqiya streets. The number of pedestrians and cyclists at this intersection is high. In the table below, we can see the amount of traffic measured during the peak hours of the day.

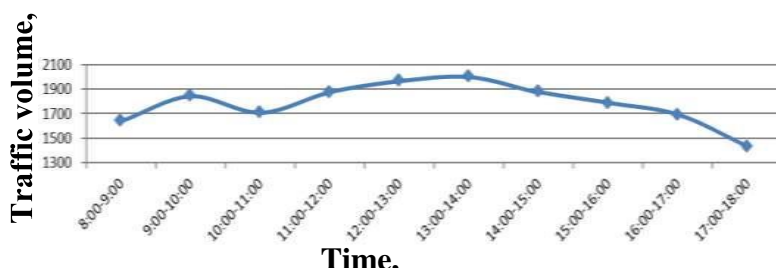


Figure 5. Graph of one-day changes in the amount and composition of traffic at the intersection of New Sergeli and Mehriqiya streets

In the morning and evening, 1300-1700 pedestrians move per hour at the intersection of Nyi Sergeli and Mehriqiya streets. In the middle of the day, the amount of movement will increase to 1800-2000 pedestrians. We can see the graph of the change of the amount of traffic for one day in Figure 5.

In the above tables, we have considered the amount of traffic of single-level intersections and junctions during peak hours. Now let's look at the change of these values for a week.

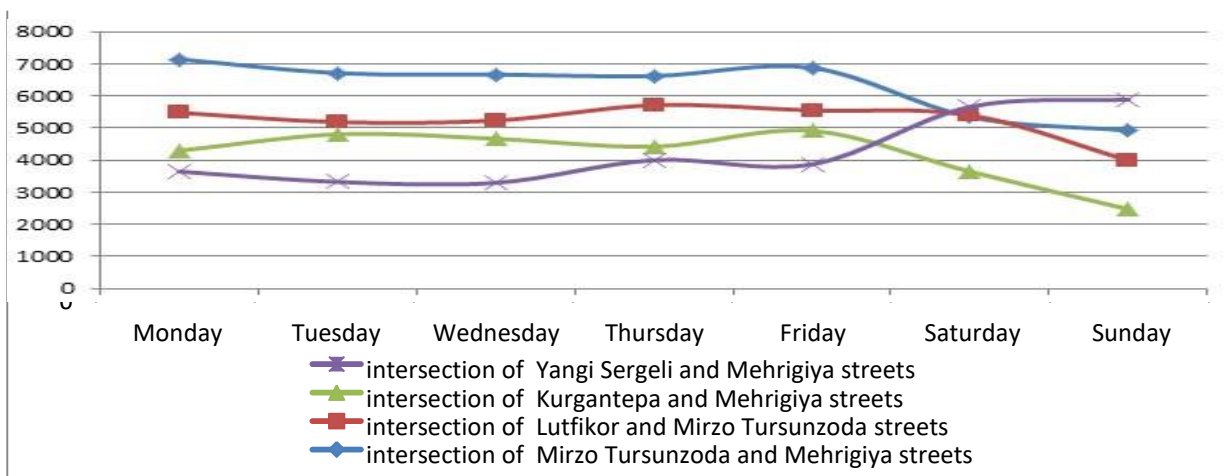


Figure 6. The graph of the change in the amount of traffic at level intersections and junctions

From the above graph, we can conclude that the total amount of traffic at the intersection of Lutfikor and Mirzo Tursunzoda streets, the intersection of Mirzo Tursunzoda and Mehriqiya streets, and the junction of Kurgantepa and Mehriqiya streets on weekdays (from Monday to Friday) is more than on weekends (Saturday and Sunday). At the junction of Yangi Sergeli and Mehriqiya streets, which have large values of traffic volume, it is the opposite. This is because there are large shopping complexes such as "Sergeli Farmer's Market" and "Tashkent Automobile Market" near this junction.

Conclusion. Analyzing the traffic of pedestrians and cyclists at intersections and intersections located in Sergeli and Yangihayot districts of Tashkent, we can conclude that the traffic volume of pedestrians and cyclists at the intersections and junctions where there are transport links, educational institutions, and various enterprises is high in the morning and evening. Such a situation is observed in shopping centers in many places on weekends.

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