STUDYING THE AMOUNT (SPEED) OF MOVEMENT IN URBAN STREETS
(IN THE EXAMPLE OF SHOTA RUSTAVILI STREET).

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Abstract. The number of vehicles in the city of Tashkent is growing by 15 percent per year, and 800,000 cars are moving per day. The amount of traffic (speed) is classified by the number of vehicles passing through a cross section of the road in a unit of time (car/day or car/hour) - this indicator can be monitored and measured by automatic methods [1]. An observational method was used to quantify movement. Observations were made in the first half of the day, that is, from 8:00 to 12:00 in the 6 regions of the street between Wednesday and Friday.

Keywords: amount of movement, movement composition, light car, bus, micro bus, bicycle transport, truck.

The number of vehicles in the city of Tashkent is growing by 15 percent per year, and 800,000 cars are moving per day. The roads are not suitable for walking and cycling. There are more than 500 major intersections, most of which have low throughput. As a result of this as well as the low traffic culture, there are many traffic accidents [4].

The amount of traffic (speed) is classified by the number of vehicles passing through a cross section of the road in a unit of time (car/day or car/hour) - this indicator can be monitored and measured by automatic methods [1]. An observational method was used to quantify movement. Observations were made in the first half of the day, that is, from 8:00 to 12:00 in the 6 regions of the street between Wednesday and Friday.

The amount and composition of the movement in the Shota Rustavili street in the city of Tashkent.

Table 1.1

	Hour	Light car	Bus	Micro bus	Bicycle transport	Truck light	Truck medium	Truck heavy	Total
Monday	800-900	2395/3223	26/24	17/19	1/2	8/7	1/3	1/3	2449/3281
	900-1000	2350/3186	32/27	15/11	0/1	6/4	0/2	3/2	2406/3233
	1000-1100	2175/3024	24/21	19/23	0/1	0/3	4/1	1/1	2223/3074
	1100-1200	2269/2949	28/29	10/14	2/3	9/5	5/3	1/0	2324/3003
	total	9189/12382	110/101	61/67	3/7	23/19	10/9	6/6	9402/12591
	In percent	97.73/98.34	1.17/0.8	0.66/0.54	0.03/0.05	0.25/0.15	0.1/0.07	0.06/0.05	100.0

Table 1.2

	Hour	Light car	Bus	Micro bus	Bicycle transport	Truck light	med	hea	Total
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Hour	Light car	Bus	Micro bus	Bicycle transport	light	medium	heavy	Total
800-900	2471/3013	31/35	15/21	2/4	1/3	4/1	3/7	2527/3084
900-1000	2318/3149	29/19	8/5		6/5	2/9	5/3	2368/3190
1000-1100	2140/2814	21/23	14/8	1/0	13/8	8/7	2/4	2199/2864
1100-1200	2296/2683	30/18	12/19	0/2	16/7	5/0	1/0	2360/2729
Total	9225/11659	111/95	49/53	3/6	55/23	19/17	11/14	9473/11867
In percent	97.38/98.24	1.17/0.8	0.52/0.45	0.03/0.05	0.58/0.2	0.2/0.14	0.12/0.12	100.0

Table 1.3

Hour	Light car	Bus	Micro bus	Bicycle transport	Truck			Total
					light	medium	heavy	
800-900	2345/3025	28/16	11/9	0/1	13/9	3/2	2/1	2402/3063
900-1000	2196/3123	29/18	7/3		15/13	5/7	1/5	2253/3169
1000-1100	2251/2972	25/13	15/19	0/2	4/5	0/4	1/0	2296/3015
1100-1200	2308/2893	28/17	14/22		8/6	9/6	4/1	2371/2945
Total	9100/12013	110/64	47/53	0/3	40/32	17/19	8/7	9322/12192
In percent	97.62/98.54	1.18/0.53	0.5/0.43	0.00/0.02	0.43/0.26	0.18/0.16	0.09/0.06	100.0

Wednesday

Table 1.4

Hour	Light car	Bus	Micro bus	Bicycle transport	Truck			Total
					light	medium	heavy	
800-900	2295/2532	25/34	18/23	2/2	8/13	5/9	4/4	2357/2617
900-1000	2406/2496	21/25	12/31	1/0	6/11	1/3	7/3	2454/2569
1000-1100	2217/2361	29/31	16/22	0/1	15/14	9/7	5/9	2291/2445
1100-1200	2250/2612	25/29	10/15	1/3	11/21	2/8	5/7	2304/2695
Total	9168/11001	100/119	56/91	4/6	40/59	17/27	21/23	9406/11326
in percent	97.47/97.14	1.06/1.06	0.59/0.8	0.04/0.05	0.43/0.52	0.18/0.23	0.23/0.2	100.0

Thursday

Table 1.5

Hour	Light car	Bus	Micro	Bicycle	Truck		Total

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			bus	transport	light	medium	Heavy	
800-900	2330/2561	35/48	18/37	1/3	4/8	1/3	4/6	2393/2666
900-1000	2236/2414	18/39	20/36	1/5	9/15	5/9	3/9	2292/2527
1000-1100	2114/2259	26/28	3/9	1/0	16/12	6/3	9/5	2175/2316
1100-1200	2275/2343	27/21	18/23	1/4	11/16	4/5	1/3	2337/2415
Total	8955/9977	106/136	59/105	4/12	40/51	16/20	17/23	9197/10324
in percent	97.37/96.6	1.15/1.33	0.64/1.02	0.04/0.12	0.43/0.5	0.18/0.2	0.19/0.23	100.0

Explanation: The values of the data given in the tables represent the right direction (that is, in the direction of entering the city from Ring Road), and the values in the denominator represent the opposite direction.

If we analyze the data obtained on determining the composition and amount of traffic on the street, the average share of light cars in the stream is 97.85%, trucks 0.6%, buses 0.88%, minibuses 0.63%,bicycle transport is 0.04%. Traffic jams often occur along the street during "peak" times with high traffic speeds[2].
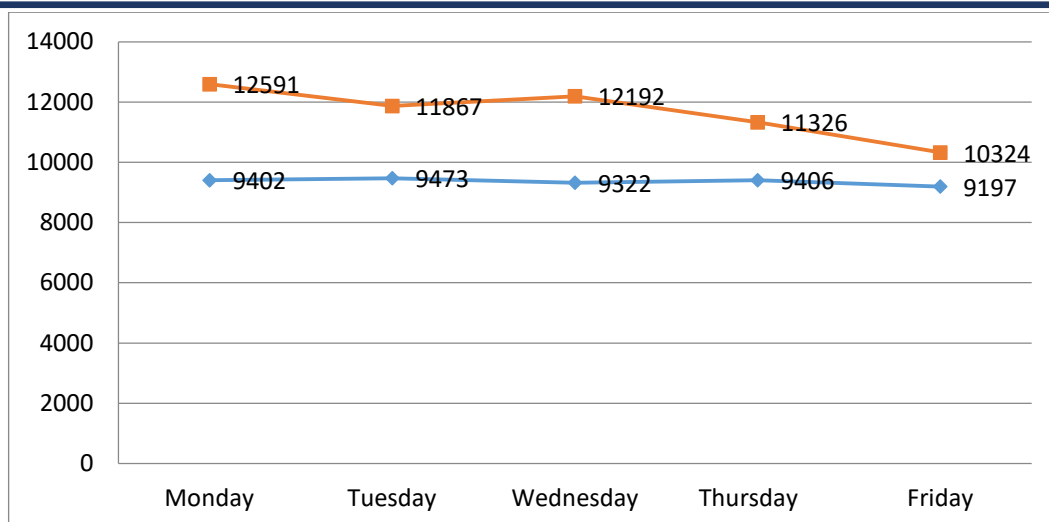
In % by types of vehicles
Figure 1.1

- Light car 97,85%
- Bus 0,88%
- Micro bus 0,63%
- Bicycle transport 0,04%
- light 0,32%
- medium 0,16%
- heavy 0,12%
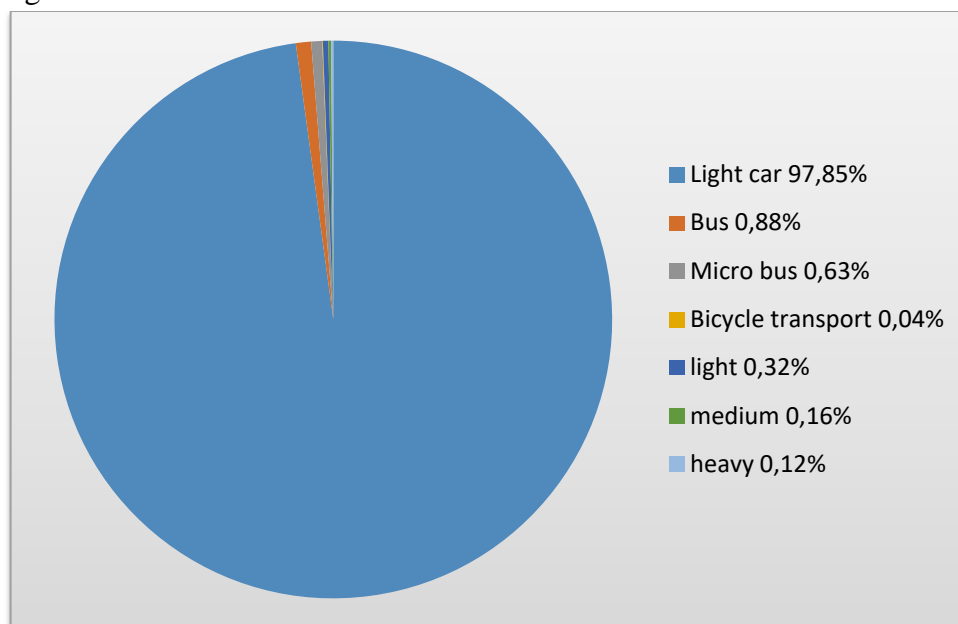
Note: observations show that light cars 97.85%and the remaining 2.15% were buses, minibuses, and trucks.

The graph of the change of the volume of vehicles in the time interval from 8.00 to 12.00 by days of the week.
Figure 1.2

Blue line – Back direction

Red line – Right direction

Note: Observations show that the speed of traffic in the right direction is less than the speed of traffic in the opposite direction, because in the morning, the majority of people come to the city for work, so the traffic is dense and heavy.

Conclusion: Observations show that the number of cars entering the city was more than the number of cars leaving the city. One of the main reasons for this is that people coming to the city for work were very busy between 8:00 a.m. and 11:00 a.m. In order to properly organize the movement of these cars, we need to properly organize the operation of traffic lights, we need to prevent all kinds of heavy traffic on the road, and we need to do other similar things.[5]

It is also possible to use modern technologies to calculate the amount of movement [3].

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