TRAFFIC INTENSITY STUDY REPORT

1. Reason

Based on the "Vision - 2050" long-term development policy of the Government of Mongolia, the development plan for Ulaanbaatar city until 2040, Resolution No. 476 of the Government of Mongolia on the construction of the "New Ring Road' of Ulaanbaatar in 2022, and Decree No. A/720 of the Capital City Governor dated June 19, 2024, the consultancy services for developing the Technical and Economic Basis and Budget (Concept Design) of the "New Ring Road 1" project were carried out under contract No. UT2402804435, dated January 9, 2025.

The implementation of the New Ring Road 1 project identified several social needs, briefly summarized below:

Traffic congestion and overload: Traffic congestion in Ulaanbaatar has risen sharply in recent years. While the number of registered vehicles in the capital has increased by 80% over the last decade, the city's road network has only expanded by 19%, creating a severe shortage of road capacity. With an estimated 300–400 thousand vehicles on the roads daily, the traffic load exceeds the current capacity by more than double (National Road Safety Commission, 2024). As a result, traffic congestion has become critical, with average vehicle speeds during peak hours dropping to only 7–13 km/h, and the total congestion length in the city reaching 97 km. In this context, building a new network of ring roads and diverting traffic around the city center are essential solutions to alleviate congestion. A study by the International Agency for Research on Roads and Infrastructure Development (JICA) in 2022 concluded that a major cause of congestion in Ulaanbaatar is the lack of connections between roads and an insufficient network.

For example, the city currently lacks a complete bypass highway, and major route intersections in the city center cause traffic jams. Therefore, constructing a new bypass highway is necessary.

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1. Study Overview

This study evaluates current conditions on Ulaanbaatar's primary corridors, focusing on traffic flow and speeds across main through-routes. The objectives are to identify congestion hotspots, assess overall traffic conditions, and collect data that will inform future planning and improvement measures.

1.1 Rationale

The analysis is based on traffic volume surveys at major intersections on Ulaanbaatar's principal roads.

2. Intersections

Traffic intensity study on the main streets of Ulaanbaatar city

To analyze the intersections of the main streets of Ulaanbaatar, the "New Ring Road Project" will determine the traffic intensity between 5:00 and 24:00, and compare the traffic load at the intensity study points on weekends and weekdays.

1. Bayankhoshuu Sub-Center North Intersection
2. Tasgany Ovoo Intersection
3. Gantz Khudgi Intersection
4. Tsayzun Intersection
5. Doloon buudal Intersection
6. Khangai Market Intersection
7. Sapporo Intersection
8. 25 Emiin san Intersection
9. 32 roundabout
10. Zuun 4 zam Intersection
11. Narantuul Market Intersection
12. Ikh Mongol Intersection
13. Urguu Cinema Intersection
14. Bayanburdi roundabout
15. Ekh nylakhasIntersection
16. Officer roundabout
17. Erchimkhuch Intersection
18. Naadamchin Road Intersection
19. Zavsariin buudal Intersection
20. 17th school Intersection
21. Continental Hotel Intersection
22. Sansar roundabout
23. Chuluun Ovoo roundabout

Table 1. Summary of traffic intensity studies

No	Location	Delay (seconds/vehicle)	Level of service (LOS)
4-way road Intersection			
1	Bayankhoshuu Sub-Center North Intersection	71.3	E
2	Tasgany Ovoo Intersection	112.9	F
3	Gantz Khudgi Intersection	50.6	D
4	Tsayzun Intersection	76.3	E
5	Doloon buudal Intersection	49.6	D
6	Khangai Market Intersection	78.5	E
7	Sapporo Intersection	70	E
8	25 Emiin san Intersection	122.5	F
9	32 roundabout	301.6	F
10	Zuun 4 zam Intersection	120.6	F
11	Narantuul Market Intersection	113.8	F
12	Ikh Mongol Intersection	69.3	E
13	Urguu Cinema Intersection	70.2	E
14	Bayanburdi roundabout	267.1	F
15	Ekh nylakhasIntersection	82.8	F
16	Officer roundabout	94.2	F
3-way road Intersection			
17	Erchimkhuch Intersection	158.6	F
18	Naadamchin Road Intersection	65.7	E
19	Zavsariin buudal Intersection	70.4	E
20	17th school Intersection	147.4	F
21	Continental Hotel Intersection	32.5	C
22	Sansar roundabout	210.5	F
23	Chuluun Ovoo roundabout	42.2	E

2.1. 4-way road Intersection

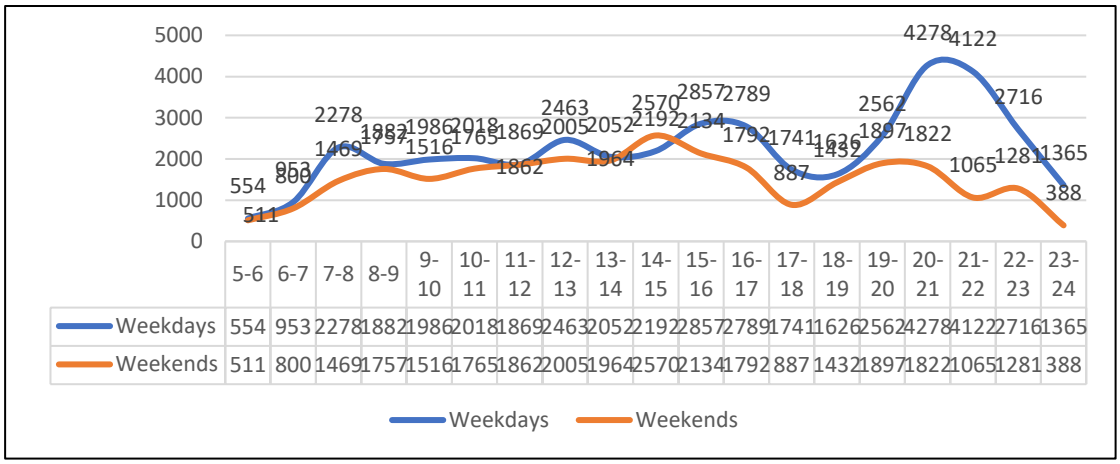
2.1.1. No.1 Bayankhoshuu sub-center intersection (intersection 1)

- Survey dates (Thursday, May 22), (Saturday, May 24)
- Road traffic volume: (2,000 vehicles/hour 9:00-10:00)
- Delay (seconds/vehicle): 71.3
- Level of service (LOS): E

Table 2. Overview

Location	Intersection structure

(Unit: vehicles/hour)



	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
Weekdays	554	953	2278	1882	1986	2018	1869	2463	2052	2192	2857	2789	1741	1626	2562	4278	4122	2716	1365
Weekends	511	800	1469	1757	1516	1765	1862	2005	1964	2570	2134	1792	887	1432	1897	1822	1065	1281	388

Figure 1. Road Traffic Volume Survey Results (in Hour)

Table 3. Road Traffic Composition (in Direction) (Weekdays) (05:00-24:00 Period)

Weekdays	**Classified by vehicle type (5:00-24:00)**										**Total**
	Car		Bus			Truck					
Direction	Small, medium	Large	Small	Medium	Large	Small	Medium	Heavy	Heavy multi-axle	Motorcycle	
West to east	3492	316	79	23	112	188	29	20	2	20	4281
West to north	1398	213	19	11	43	50	35	10	0	5	1784
West to south	2464	347	42	13	137	144	44	21	1	9	3222
East to west	3627	481	112	20	98	145	57	24	1	18	4583
East to north	1949	364	51	32	73	106	28	21	2	4	2630
East to south	4217	500	122	7	114	141	53	18	5	9	5186
South to north	3312	475	98	31	180	115	50	19	2	12	4294
South to west	2344	307	70	23	143	118	26	15	7	17	3070
South to east	3421	498	85	19	155	98	53	24	0	18	4371
North to south	3390	528	82	24	180	167	54	14	5	24	4468
North to west	1542	199	31	16	118	93	26	8	5	12	2050
North to east	1932	178	14	11	83	99	20	3	0	9	2349
U-turn	76	9	0	2	3	5	1	0	0	2	98
Total	33164	4415	805	232	1439	1469	476	197	30	159	42386

In the vehicle composition of this intersection, cars account for 88.66% and buses account for 5.84%, which are the main components.

Table 4. Road Traffic Composition (in Direction) (Non-weekdays (05:00-24:00 Period)

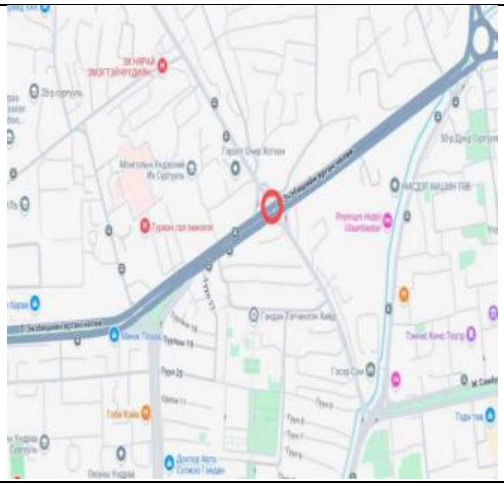
Non-weekdays	**Classified by vehicle type (5:00-24:00)**										**Total**
	Car		Bus			Truck					
Direction	Small, medium	Large	Small	Medium	Large	Small	Medium	Heavy	Heavy multi-axle	Motorcycle	
West to east	2832	122	155	3	43	102	7	6	0	15	3285
West to north	685	32	24	4	9	23	6	7	25	2	817
West to south	1496	114	74	1	82	32	17	6	5	16	1843
East to west	1940	134	51	11	22	65	11	1	19	13	2267
East to north	1026	64	41	1	39	50	11	4	1	15	1252
East to south	3204	147	152	8	116	128	38	7	10	12	3822
South to north	2895	180	117	17	136	80	28	16	14	39	3522
South to west	1818	136	53	3	61	69	6	25	5	8	2184
South to east	2850	251	106	34	64	131	25	9	6	69	3545
North to south	3126	288	114	6	144	80	6	21	16	49	3850
North to west	918	75	26	3	32	0	16	5	6	37	1118
North to east	1064	31	107	5	33	31	4	40	0	20	1335
U-turn	61	7	7	0	0	0	0	0	2	0	77
Total	23915	1581	1027	96	781	791	175	147	109	295	28917

In the vehicle composition of this intersection, cars account for 88.17% and buses account for 6.58%, which are the main components.

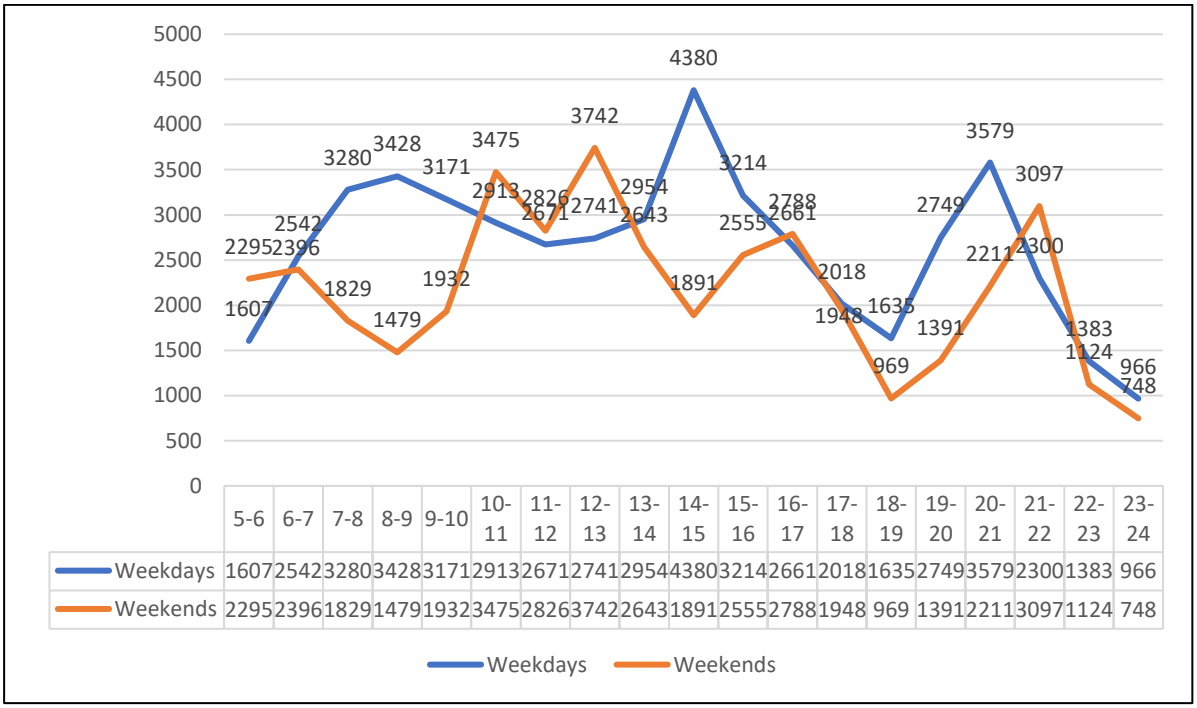
2.1.2. No.2 Tasgany Ovoo Intersection (Intersection 2)

- Survey dates (Thursday, May 22), (Saturday, May 24)
- Road traffic volume: (3,200 vehicles/hour 9:00-10:00)
- Delay seconds/vehicle: 112.9
- Level of service (LOS): F

Table 5. Overview

Location	Intersection structure
	

(Unit: vehicles/hour)



	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
Weekdays	1607	2542	3280	3428	3171	2913	2671	2741	2954	4380	3214	2661	2018	1635	2749	3579	2300	1383	966
Weekends	2295	2396	1829	1479	1932	3475	2826	3742	2643	1891	2555	2788	1948	969	1391	2211	3097	1124	748

Figure 2. Road Traffic Volume Survey Results

Table 6. Road Traffic Composition (in Direction) (Weekdays) (05:00-24:00 Period)

Weekdays	**Classified by vehicle type (5:00-24:00)**										**Total**
	Car		Bus			Truck					
Direction	Small, medium	Large	Small	Medium	Large	Small	Medium	Heavy	Heavy multi-axle	Motorcycle	
West to east	7247	758	247	55	235	162	76	61	15	65	8921
West to north	2788	438	128	52	102	108	38	27	7	9	3697
West to south	2685	420	146	47	100	111	45	28	7	32	3621
East to west	6863	482	202	45	163	133	58	30	10	46	8032
East to north	2520	367	80	18	92	116	36	27	8	11	3275
East to south	2338	346	92	47	63	78	28	12	7	21	3032
South to north	2716	359	175	54	115	103	37	18	7	5	3589
South to west	2689	408	89	31	95	91	19	15	4	19	3460
South to east	2038	351	105	39	57	67	32	22	3	3	2717
North to south	2900	386	162	56	112	123	34	22	11	13	3819
North to west	1965	255	110	33	59	109	47	6	3	3	2590
North to east	2408	348	120	43	68	99	43	27	10	15	3181
U-turn	209	25	13	2	2	4	3	0	0	0	258
Total	39366	4943	1669	522	1263	1304	496	295	92	242	50192

In the vehicle composition of this intersection, cars account for 88.28% and buses account for 6.88%, which are the main components.

Table 7. Road Traffic Composition (in Direction) (Non-weekdays) (05:00-24:00 Period)

Non-weekdays	**Classified by vehicle type (5:00-24:00)**										**Total**
	Car		Bus			Truck					
Direction	Small, medium	Large	Small	Medium	Large	Small	Medium	Heavy	Heavy multi-axle	Motorcycle	
West to east	4623	396	210	27	85	199	62	37	9	22	5670
West to north	1427	259	83	14	56	60	11	7	12	29	1958
West to south	2533	188	91	18	96	90	19	8	3	36	3082
East to west	4073	228	161	19	89	142	87	22	18	21	4860
East to north	1740	192	33	4	38	46	20	9	8	28	2118
East to south	2059	178	53	11	36	50	10	1	1	13	2412
South to north	4143	427	159	21	189	135	37	17	9	33	5170
South to west	2706	286	85	12	94	83	19	13	5	20	3323
South to east	1607	316	57	9	45	44	14	8	5	33	2138
North to south	5363	432	150	22	183	99	24	10	17	39	6339
North to west	1794	327	87	11	49	55	25	33	6	45	2432
North to east	1384	193	67	5	37	33	13	26	9	30	1797

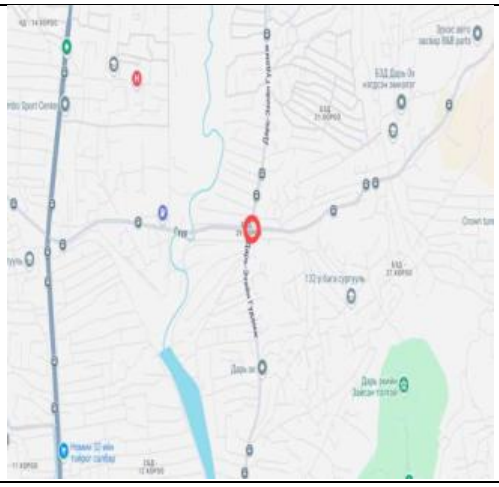
U-turn	117	5	3	0	2	1	1	0	0	8	137
Total	33569	3427	1239	173	999	1037	342	191	102	357	41436

In the vehicle composition of this intersection, cars account for 89.28% and buses account for 5.82%, which are the main components.

2.1.3. No.3 Gantz Khudgi Intersection (Уулзар 3)

- Survey dates (Thursday, May 22), (Saturday, May 24)
- Road traffic volume: 1,600 vehicles/hour (9:00-10:00)
- Delay (seconds/vehicle): 50.6
- Level of service (LOS): D

Table 8. Overview

Location	Intersection structure
	

(Unit: vehicles/hour)

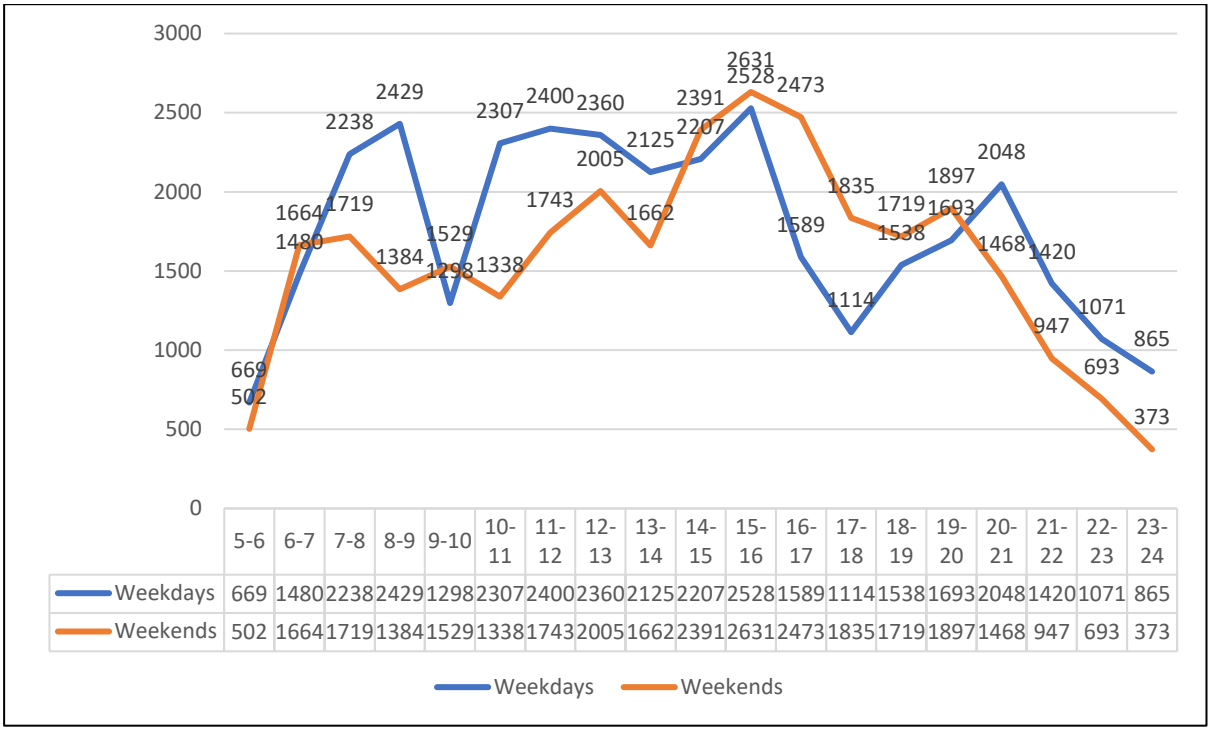


Figure 3. Road Traffic Volume Survey Results (in Hour)

Table 9. Road Traffic Composition (in Direction) (Weekdays) (05:00-24:00 Period)

Weekdays	**Classified by vehicle type (5:00-24:00)**										**Total**
	Car		Bus		Truck						
Direction	Small, medium	Large	Small	Medium	Large	Small	Medium	Heavy	Heavy multi-	Motorcycle	
West to east	4240	483	249	13	66	429	105	74	6	26	5691
West to north	1399	195	52	13	10	135	27	7	3	8	1849
West to south	2072	180	77	15	6	145	66	32	11	26	2630
East to west	3502	324	241	17	56	297	169	40	5	11	4662
East to north	597	77	17	10	11	30	24	16	7	5	794
East to south	940	131	34	10	38	66	54	26	7	5	1311
South to north	2382	252	123	32	129	157	35	13	4	23	3150
South to west	2371	279	150	10	42	133	37	13	3	18	3056
South to east	1283	55	42	10	32	80	38	14	7	4	1565
North to south	3577	581	171	34	138	146	33	10	7	34	4731
North to west	2605	307	115	15	20	134	42	15	4	10	3267
North to east	426	104	16	4	12	34	35	8	0	6	645
U-turn	24	1	1	0	0	0	2	0	0	0	28
Total	25418	2969	1288	183	560	1786	667	268	64	176	33379

In the vehicle composition of this intersection, cars account for 85.04% and buses account for 6.08%, which are the main components.

Table 10. Road Traffic Composition (in Direction) (Non-weekdays) (05:00-24:00 Period)

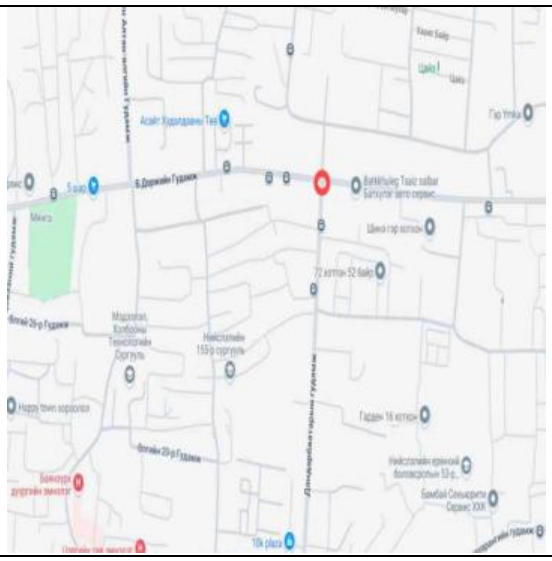
Non-weekdays	**Classified by vehicle type (5:00-24:00)**										**Total**
	Car		Bus			Truck					
Direction	Small, medium	Large	Small	Medium	Large	Small	Medium	Heavy	Heavy multi-axle	Motorcycle	
West to east	3452	419	259	17	55	255	139	93	5	21	4715
West to north	1236	170	51	15	9	169	33	12	6	10	1711
West to south	1830	184	115	3	20	184	52	13	12	31	2444
East to west	2740	260	252	22	54	291	243	46	16	13	3937
East to north	1113	60	22	9	18	16	26	8	13	21	1306
East to south	1071	177	48	2	30	66	29	7	10	9	1449
South to north	2109	264	191	24	127	150	33	5	14	13	2930
South to west	2019	290	203	1	21	187	25	21	9	30	2806
South to east	1214	95	42	7	36	90	24	2	17	18	1545
North to south	2518	289	242	28	149	199	35	4	13	35	3512
North to west	2089	248	148	23	17	144	51	30	25	21	2796
North to east	659	47	12	1	17	25	21	8	2	15	807
U-turn	12	3	0	0	0	0	0	0	0	0	15
Total	22062	2506	1585	152	553	1776	711	249	142	237	29973

In the vehicle composition of this intersection, cars account for 81.97% and buses account for 7.64%, which are the main components.

2.1.4. No.4 Tsayz Intersection (intersection 4)

- Survey dates (Thursday, May 22), (Saturday, May 24)
- Road traffic volume: (6500 vehicles/hour 9:00-10:00)
- Delay (seconds/vehicle): 76.3
- Level of service (LOS): E

Table 11. Overview

Location	Intersection structure
	

(Unit: vehicles/hour)

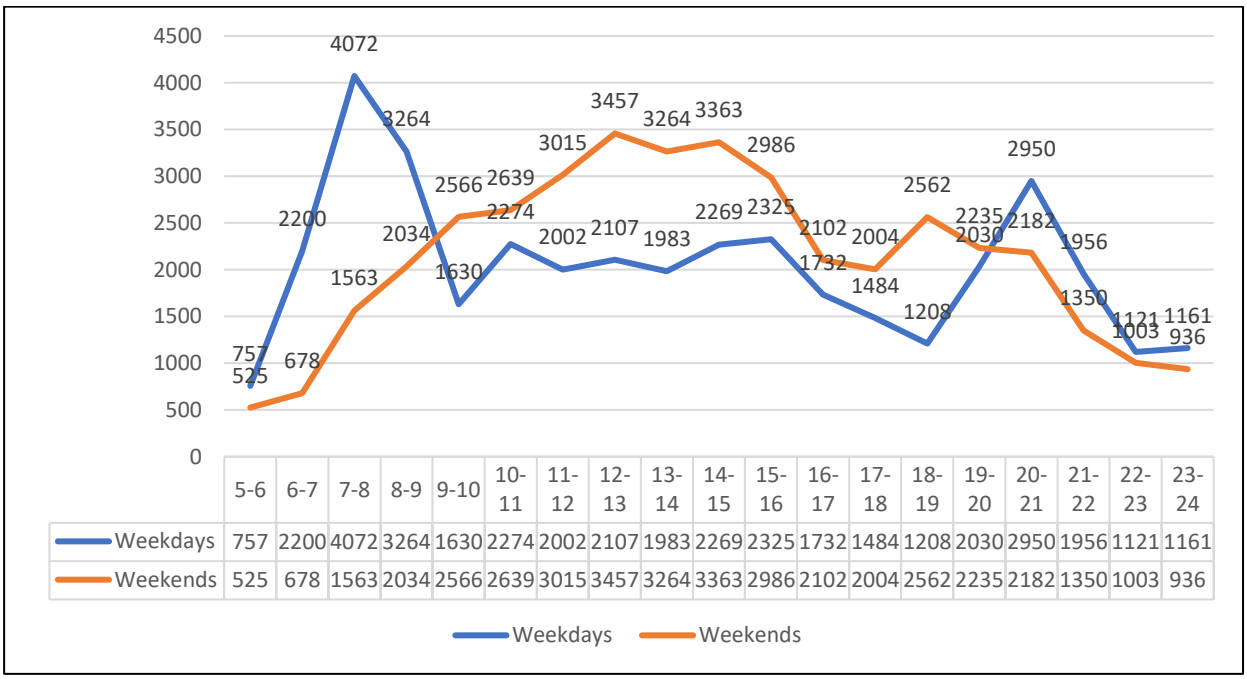


Figure 4. Road Traffic Volume Survey Results (in Hour)

Table 12. Road Traffic Composition (in Direction) (Weekdays) (05:00-24:00 Period)

Weekdays	**Classified by vehicle type (5:00-24:00)**										**Total**
	Car		Bus			Truck					
Direction	Small, medium	Large	Small	Medium	Large	Small	Medium	Heavy	Heavy multi-axle	Motorcycle	

West to east	3623	310	71	33	79	93	38	33	12	21	4313
West to north	1795	156	54	12	56	51	21	37	9	1	2192
West to south	2606	225	108	35	85	102	25	18	6	13	3223
East to west	3262	167	110	40	135	162	61	53	5	15	4010
East to north	2159	193	74	20	72	102	32	30	6	3	2691
East to south	2364	174	68	23	97	97	45	20	15	9	2912
South to north	2698	249	110	40	96	97	19	21	4	17	3351
South to west	2676	283	88	19	59	114	53	44	7	6	3349
South to east	2783	360	127	28	81	95	29	36	8	44	3591
North to south	3894	329	64	51	113	100	32	26	8	30	4647
North to west	2060	229	71	8	33	89	18	15	12	10	2545
North to east	1167	196	91	14	28	30	10	30	4	3	1573
U-turn	79	28	5	0	0	9	3	2	0	2	128
Total	31166	2899	1041	323	934	1141	386	365	96	174	38525

In the vehicle composition of this intersection, cars account for 88.42% and buses account for 5.96%, which are the main components.

Table 13. Road Traffic Composition (in Direction) (Non-weekdays) (05:00-24:00 Period)

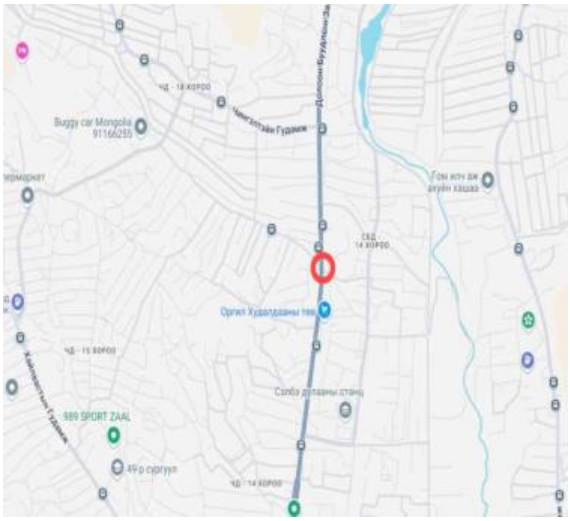
Non-weekdays	**Classified by vehicle type (5:00-24:00)**										**Total**
	Car		Bus			Truck					
Direction	Small, medium	Large	Small	Medium	Large	Small	Medium	Heavy	Heavy multi-axle	Motorcycle	
West to east	3803	326	75	35	83	98	40	35	13	22	4530
West to north	1881	166	57	13	59	54	22	39	10	1	2302
West to south	2729	239	115	37	90	109	27	19	6	14	3385
East to west	3419	177	117	42	143	172	65	56	5	16	4212
East to north	2262	205	79	21	76	108	34	32	6	3	2826
East to south	2477	185	72	24	103	103	48	21	16	10	3059
South to north	2828	264	117	42	102	103	20	22	4	18	3520
South to west	2805	300	93	20	63	121	56	47	7	6	3518
South to east	2914	382	135	30	86	101	31	38	8	47	3772
North to south	4082	349	68	54	120	106	34	28	8	32	4881
North to west	2159	243	75	8	35	94	19	16	13	11	2673
North to east	1221	208	96	15	30	32	11	32	4	3	1652
U-turn	84	29	5	0	0	9	3	2	0	2	134
Total	32664	3073	1104	341	990	1210	410	387	100	185	40464

In the vehicle composition of this intersection, cars account for 88.32% and buses account for 6.02%, which are the main components.

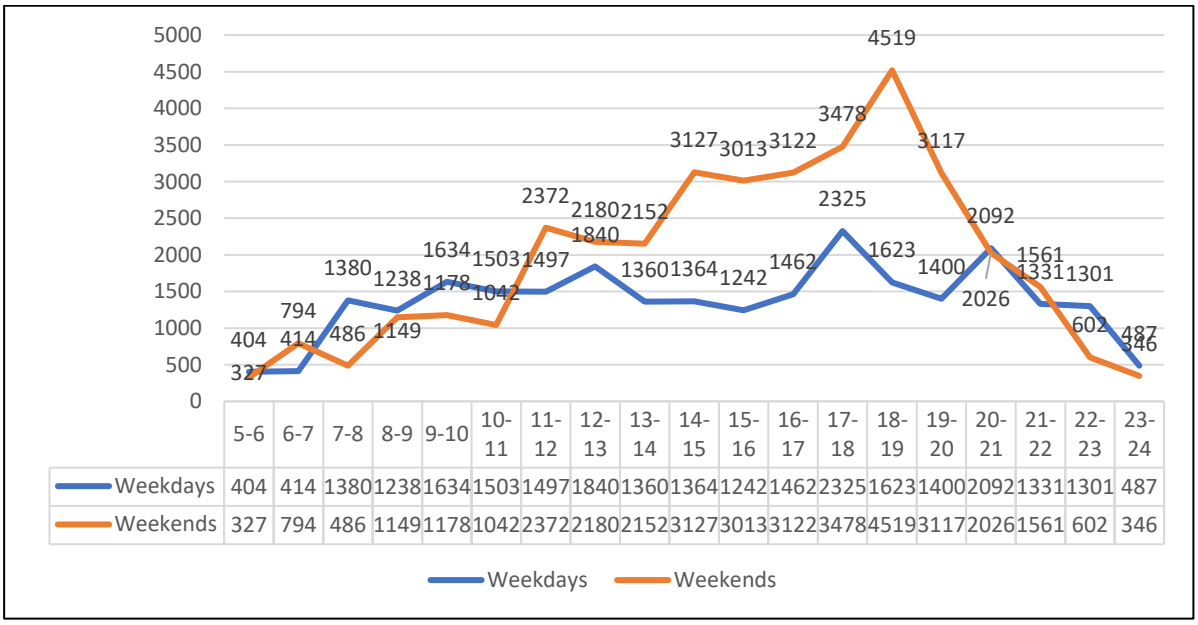
2.1.5. No.5 7 buudal intersection (Intersection 5)

- Survey dates (Thursday, May 22), (Saturday, May 24)
- Road traffic volume: (1,700 vehicles/hour 9:00-10:00)
- Delay (seconds/vehicle): 49.6
- Level of service (LOS): D

Table 14. Overview

Location	Intersection structure
	

(Unit: vehicles/hour)



	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
Weekdays	404	414	1380	1238	1634	1503	1497	1840	1360	1364	1242	1462	2325	1623	1400	2092	1331	1301	487
Weekends	327	794	486	1149	1178	1042	2372	2180	2152	3127	3013	3122	3478	4519	3117	2026	1561	602	346

Figure 5. Road Traffic Volume Survey Results (in Hour)

Table 15. Road Traffic Composition (in Direction) (Weekdays) (05:00-24:00 Period)

Weekdays	**Classified by vehicle type (5:00-24:00)**										**Total**
	Car		Bus			Truck					
Direction	Small, medium	Large	Small	Medium	Large	Small	Medium	Heavy	Heavy multi-	Motorcycle	
West to east	64	21	14	7	10	2	6	4	0	3	131
West to north	2473	736	455	219	108	369	102	44	15	75	4596
West to south	1386	418	182	149	70	207	70	12	4	28	2526
East to west	0	0	0	0	0	0	0	0	0	0	0
East to north	0	0	0	0	0	0	0	0	0	0	0
East to south	15	4	7	5	1	1	2	1	0	0	36
South to north	7391	2783	646	252	431	491	131	95	13	123	12356
South to west	1620	657	370	159	81	115	45	28	2	17	3094
South to east	0	0	0	0	0	0	0	1	3	4	8
North to south	6737	1940	713	288	258	801	211	62	16	118	11144
North to west	2060	694	427	175	143	190	57	48	10	74	3878
North to east	35	12	10	4	2	20	1	2	0	3	89
U-turn	23	2	1	1	0	2	0	0	1	0	30
Total	21804	7267	2825	1259	1104	2198	625	297	64	445	37888

In the vehicle composition of this intersection, cars account for 83.99% and buses account for 7.54%, which are the main components.

Table 16. Road Traffic Composition (in Direction) (Non-weekdays) (05:00-24:00 Period)

Non-weekdays	**Classified by vehicle type (5:00-24:00)**										**Total**
	Car		Bus			Truck					
Direction	Small, medium	Large	Small	Medium	Large	Small	Medium	Heavy	Heavy multi-cycle	Motorcycle	
West to east	64	21	14	7	10	2	6	4	0	3	131
West to north	2473	736	455	219	108	369	102	44	15	75	4596
West to south	1386	418	182	149	70	207	70	12	4	28	2526
East to west	0	0	0	0	0	0	0	0	0	0	0
East to north	0	0	0	0	0	0	0	0	0	0	0
East to south	15	4	7	5	1	1	2	1	0	0	36
South to north	7391	2783	646	252	431	491	131	95	13	123	12356
South to west	1620	657	370	159	81	115	45	28	2	17	3094
South to east	0	0	0	0	0	0	0	1	3	4	8
North to south	6737	1940	713	288	258	801	211	62	16	118	11144
North to west	2060	694	427	175	143	190	57	48	10	74	3878
North to east	35	12	10	4	2	20	1	2	0	3	89
U-turn	23	2	1	1	0	2	0	0	1	0	30

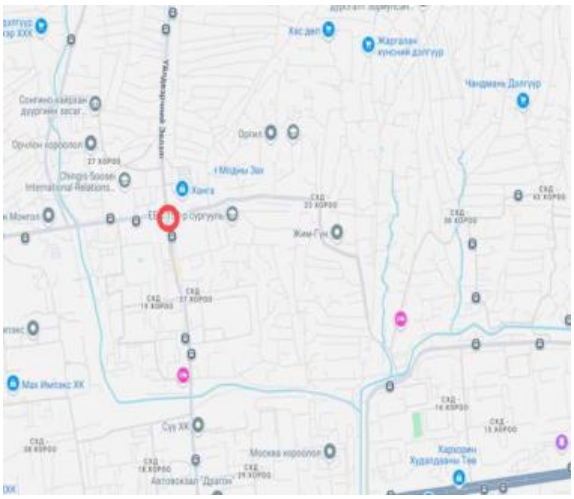
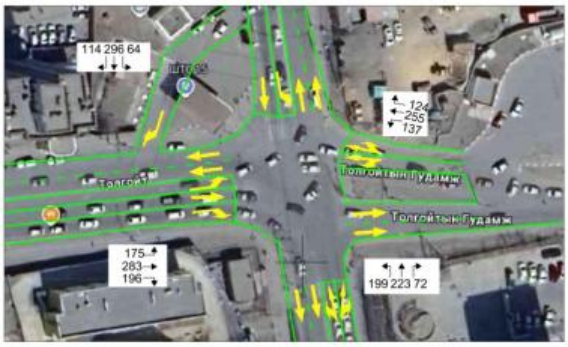
Total	2180 4	726 7	282 5	125 9	110 4	219 8	62 5	29 7	64	44 5	3788 8

In the vehicle composition of this intersection, cars account for 76.73% and buses account for 13.69%, which are the main components.

2.1.6. No.6 Khangai Market Intersection (Intersection 6)

- Survey dates (Thursday, May 22), (Saturday, May 24)
- Road traffic volume: (2,200 vehicles/hour 9:00-10:00)
- Delay (seconds/vehicle): 78.5
- Level of service (LOS): E

Table 17. Overview

Location	Intersection structure
	

(Unit: vehicles/hour)

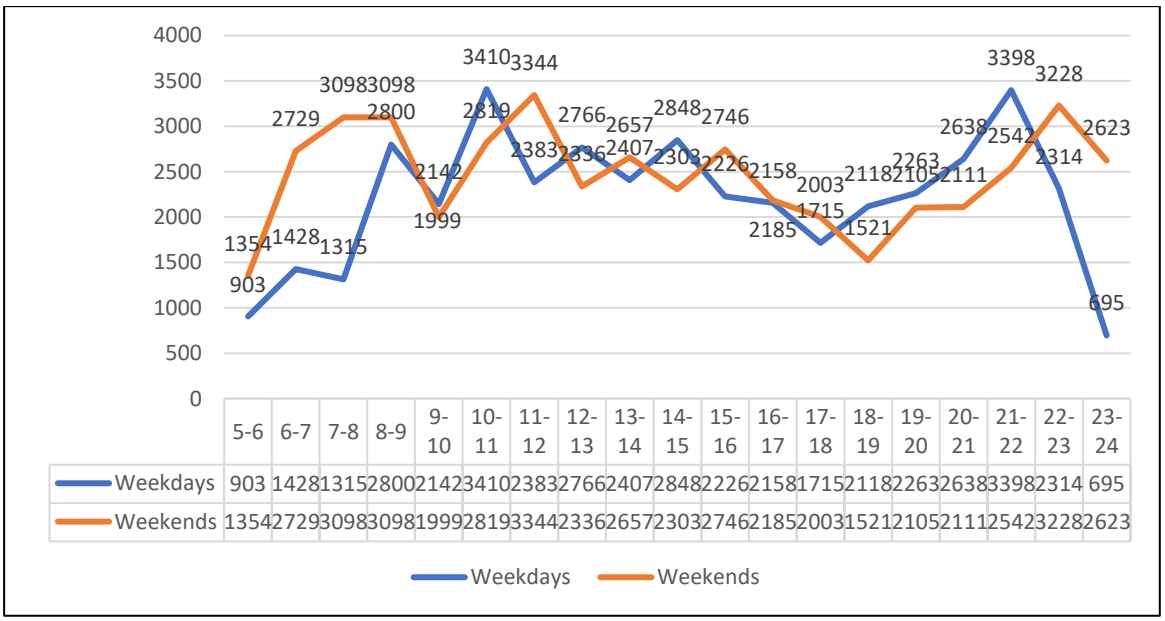


Figure 6. Road Traffic Volume Survey Results (in Hour)

Table 18. Road Traffic Composition (in Direction) (Weekdays) (05:00-24:00 Period)

Weekdays	Classified by vehicle type (5:00-24:00)										Total
	Car		Bus			Truck					
Direction	Small, medium	Large	Small	Medium	Large	Small	Medium	Heavy	Heavy multi-	Motorcycle	
West to east	4766	294	65	10	79	96	22	8	1	9	5350
West to north	2493	197	72	17	51	89	15	10	6	5	2955
West to south	3083	215	116	34	150	130	27	18	7	7	3787
East to west	3486	135	72	16	49	65	24	10	5	16	3878
East to north	2089	106	58	17	30	52	29	18	10	8	2417
East to south	1640	96	42	13	41	40	21	6	10	6	1915
South to north	5102	340	78	28	137	118	21	13	5	19	5861
South to west	2977	161	68	21	74	75	29	24	11	7	3447
South to east	1883	104	65	14	39	53	27	10	10	10	2215
North to south	4936	349	84	18	153	80	21	25	4	17	5687
North to west	2208	76	29	10	26	40	9	17	7	16	2438
North to east	1622	97	22	6	29	15	13	7	0	7	1818
U-turn	126	24	1	0	0	1	1	1	1	4	159
Total	36411	2194	772	204	858	854	259	167	77	131	41927

In the vehicle composition of this intersection, cars account for 92.08% and buses account for 4.37%, which are the main components.

Table 19. Road Traffic Composition (in Direction) (Non-weekdays) (05:00-24:00 Period)

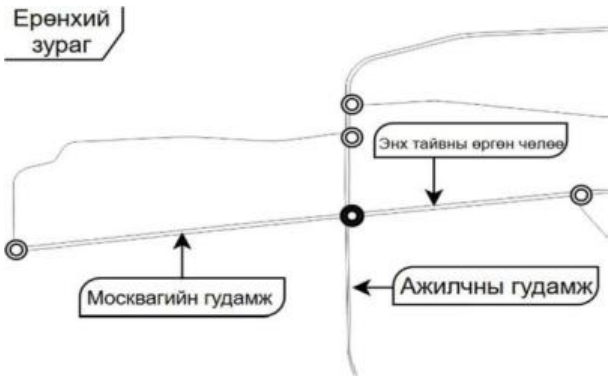
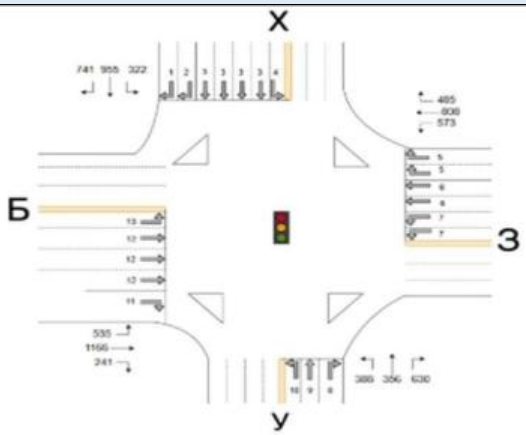
Non-weekdays	Classified by vehicle type (5:00-24:00)										Total
	Car		Bus			Truck					
Direction	Small, medium	Large	Small	Medium	Large	Small	Medium	Heavy	Heavy multi-axle	Motorcycle	
West to east	5295	386	66	8	82	97	26	12	1	11	5984
West to north	2694	208	60	6	52	95	21	11	0	4	3151
West to south	2854	229	113	22	157	129	31	25	1	13	3574
East to west	4193	185	60	15	59	58	34	8	1	16	4629
East to north	2531	118	21	12	39	41	28	15	2	9	2816
East to south	1920	79	32	21	37	36	28	10	5	9	2177
South to north	5599	465	63	20	149	131	19	14	2	15	6477
South to west	3174	187	56	20	89	68	30	19	4	9	3656
South to east	2064	86	44	17	21	53	32	16	5	10	2348
North to south	5782	475	70	13	166	80	25	22	1	26	6660
North to west	2819	71	26	18	31	51	10	17	3	17	3063
North to east	1854	76	11	8	17	16	13	11	1	8	2015
U-turn	26	1	1	0	0	0	1	1	1	3	34
Total	40805	2566	623	180	899	855	298	181	27	150	46584

In the vehicle composition of this intersection, cars account for 93.10% and buses account for 3.65%, which are the main components.

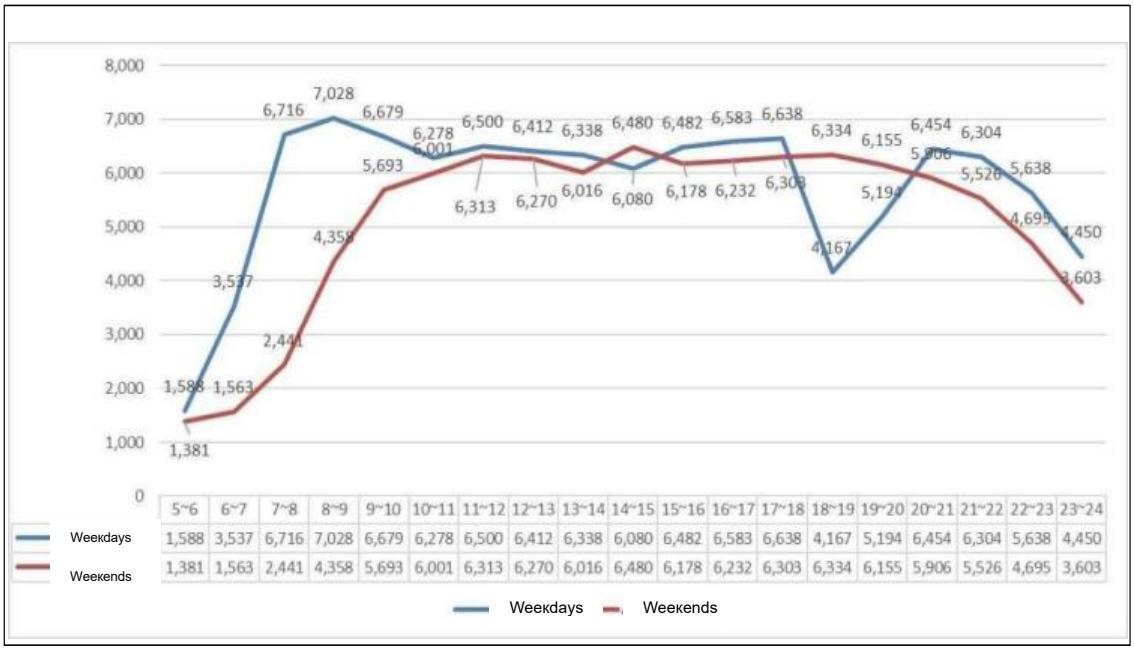
2.1.7. No.7 Sapporo Intersection (Intersection 7)

- Survey Date : 07 Nov (Thu), 09 Nov (Sun)
- Traffic Volume : 7,200 vehicles/hour (09:00-10:00)
- Time Loss (sec/mach) : 70
- Level of Service (LOS) : F

Table 20. Overview

Location	Traffic intensity (cars/hour)
	

(unit: car/hour)



	5~6	6~7	7~8	8~9	9~10	10~11	11~12	12~13	13~14	14~15	15~16	16~17	17~18	18~19	19~20	20~21	21~22	22~23	23~24
Weekdays	1,588	3,537	6,716	7,028	6,679	6,278	6,500	6,412	6,338	6,080	6,482	6,583	6,638	4,167	5,194	6,454	6,304	5,638	4,450
Weekends	1,381	1,563	2,441	4,358	5,693	6,001	6,313	6,270	6,016	6,480	6,178	6,232	6,303	6,334	6,155	5,906	5,526	4,695	3,603

Figure 7. Road Traffic Volume Survey Results (in Hour)

Table 21. Traffic composition (by direction) (Working day) (between 05:00 and 24:00)

Traffic intensity (Workday) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	6,281	489	0	58	166	2	**6,996**
2	2,646	206	0	37	80	0	**2,969**
3	10,976	160	67	205	320	0	**11,728**
4	4,675	13	1	19	38	0	**4,746**
5	6,757	621	13	114	106	1	**7,612**
6	12,121	1,165	1	132	18	104	**13,541**
7	5,970	94	0	65	41	0	**6,170**
8	8,639	149	6	134	152	0	**9,080**
9	6,022	45	4	149	119	0	**6,339**
10	6,701	318	1	124	124	0	**7,268**
11	2,406	629	1	30	67	7	**3,140**
12	17,334	642	6	129	295	114	**18,520**
13	10,107	676	9	147	15	3	**10,957**
Total	**100,635**	**5,207**	**109**	**1,343**	**1,541**	**231**	**109,066**

At this intersection, passenger cars account for 92.27% and buses for 4.77%.

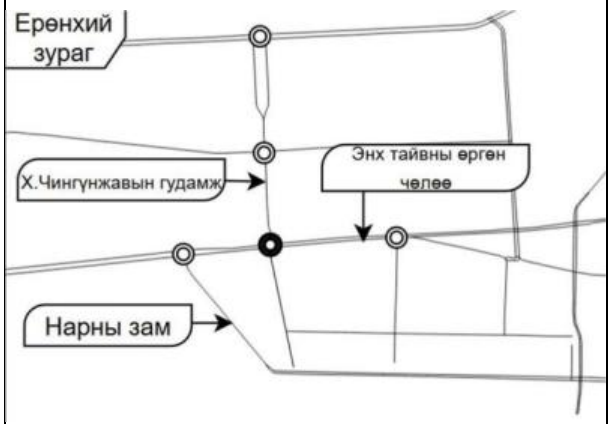
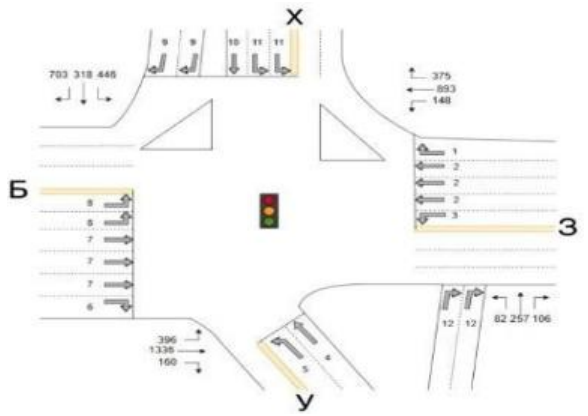
Table 22. Traffic composition (by direction) (Weekend) (between 05:00 and 24:00)

Traffic intensity (Weekend) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	3,928	399	3	57	155	0	**4,542**
2	2,248	187	2	36	66	0	**2,539**
3	9,076	149	46	219	359	0	**9,849**
4	4,813	27	3	31	58	0	**4,932**
5	5,160	516	2	96	111	0	**5,885**
6	14,201	970	0	44	27	105	**15,347**
7	5,026	92	1	22	25	0	**5,166**
8	6,988	117	4	143	104	0	**7,356**
9	5,261	50	0	149	108	0	**5,568**
10	6,808	274	4	79	97	0	**7,262**
11	2,406	629	1	30	67	0	**3,133**
12	15,870	564	7	67	177	101	**16,786**
13	8,439	539	0	94	11	0	**9,083**
Total	**90,224**	**4,513**	**73**	**1,067**	**1,365**	**206**	**97,448**

At this intersection, passenger cars account for 92.59% and buses for 4.63%.

2.1.8. No.8 25 Emiin san Intersection (Intersection 8)

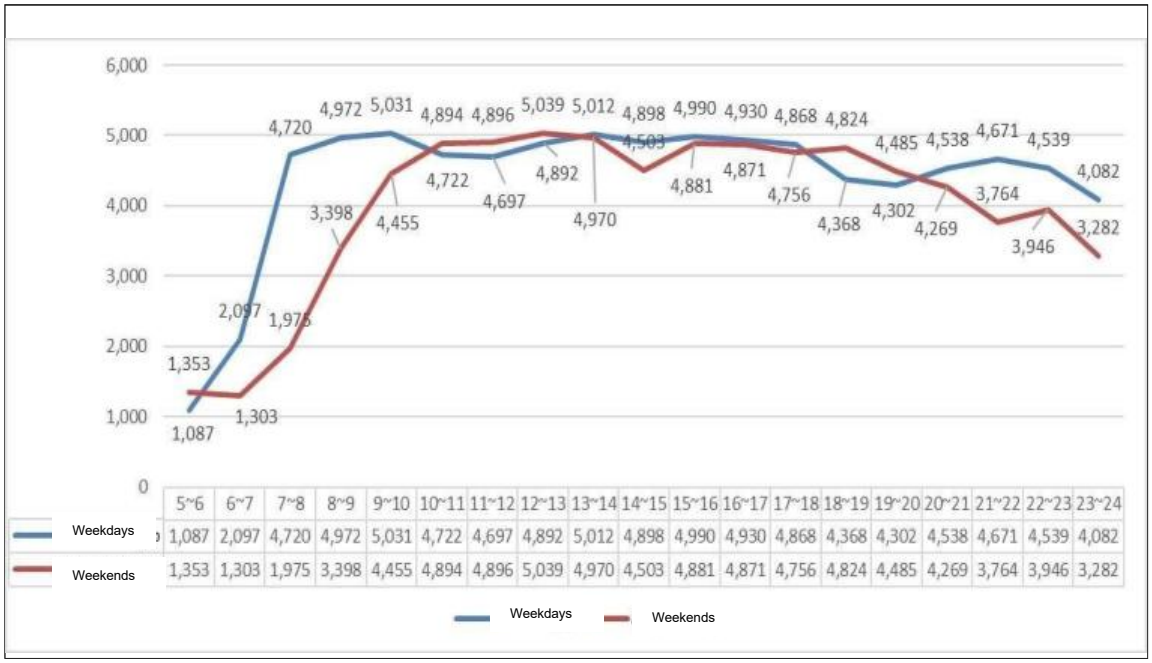
A traffic intensity count was conducted in 12 directions at the 25 Emiin san Intersection

Location	Traffic intensity (cars/hour)
	

- Research date: November 14 (Thu), November 16 (Wed)
  - Traffic intensity: 5,220 car/hour (09:00-10:00)
  - Time loss (sec/mash):122.5
  - Service level:(LOS) : F

Table 23. Overview

(unit: car/hour)



	5~6	6~7	7~8	8~9	9~10	10~11	11~12	12~13	13~14	14~15	15~16	16~17	17~18	18~19	19~20	20~21	21~22	22~23	23~24
Weekdays	1,087	2,097	4,720	4,972	5,031	4,722	4,697	4,892	5,012	4,898	4,990	4,930	4,868	4,368	4,302	4,538	4,671	4,539	4,082
Weekends	1,353	1,303	1,975	3,398	4,455	4,894	4,896	5,039	4,970	4,503	4,881	4,871	4,756	4,824	4,485	4,269	3,764	3,946	3,282

Figure 8. Road Traffic Volume Survey Results (in Hour)

Table 24. Traffic composition (by direction) (Working day) (between 05:00 and 24:00)

Traffic intensity (Workday) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	7,365	144	1	48	14	0	7,572

2	14,455	888	3	113	28	96	15,583
3	2,374	2	9	5	30	0	2,420
4	5,023	6	2	26	19	0	5,076
5	1,544	3	0	7	10	0	1,564
6	2,848	3	0	2	19	0	2,872
7	18,506	378	7	66	197	101	19,255
8	7,070	69	5	20	56	0	7,220
9	8,013	90	19	84	253	0	8,459
10	4,824	9	13	4	19	0	4,869
11	6,798	64	7	10	18	0	6,897
12	1,674	1	4	12	11	0	1,629
Total	80,494	1,657	70	397	674	197	83,416

At this intersection, passenger cars account for 96.50% and buses for 1.99%.

Table 25. Traffic composition (by direction) (Weekend) (between 05:00 and 24:00)

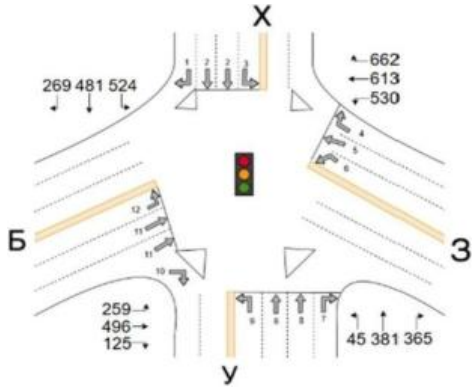
Traffic intensity (Weekend) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	7,176	116	2	34	10	0	**7,338**
2	14,309	691	1	97	29	100	**15,227**
3	2,159	3	4	6	15	0	**2,187**
4	4,068	1	1	19	14	0	**4,103**
5	1,193	0	0	2	8	0	**1,203**
6	2,190	1	1	0	14	0	**2,206**
7	17,034	330	4	53	192	92	**17,705**
8	6,342	51	1	26	52	0	**6,472**
9	7,180	82	6	101	228	0	**7,597**
10	3,754	6	3	4	12	0	**3,779**
11	6,638	54	3	11	15	0	**6,721**
12	1,406	0	1	0	0	0	**1,407**
Total	**73,449**	**1,335**	**27**	**353**	**589**	**192**	**75,945**

At this intersection, passenger cars account for 88.05% and buses for 1.60%.

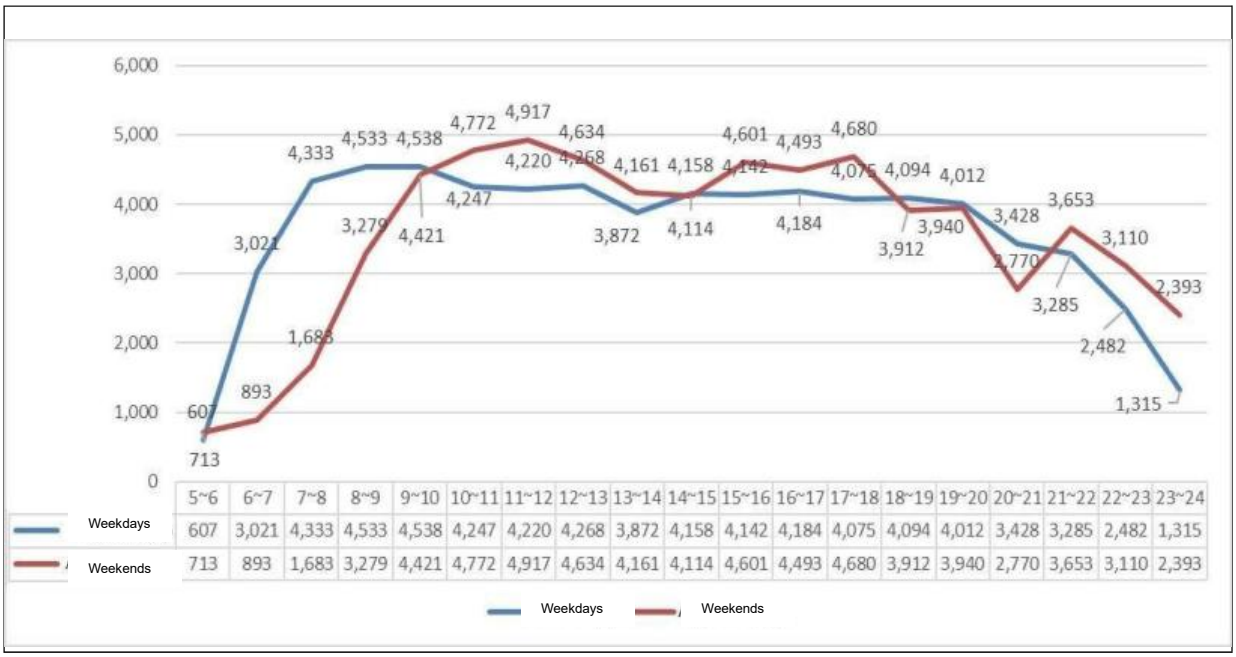
2.1.9. No.9 32 roundabout (Intersection 9)

- Coverage: Counts for 12 movements (all entries/exits).
- Survey dates: 12 Nov (Tue) and 2 Nov (Sat).
- Peak-hour volume: 4,750 veh/h (09:00–10:00).
- Average control delay: 301.6 s/veh (~5.0 min/veh).
- Level of Service (LOS): F.

Table 26. Overview

Location	Traffic intensity (cars/hour)
	

(unit: car/hour)



	5~6	6~7	7~8	8~9	9~10	10~11	11~12	12~13	13~14	14~15	15~16	16~17	17~18	18~19	19~20	20~21	21~22	22~23	23~24
Weekdays	607	3,021	4,333	4,533	4,538	4,247	4,220	4,268	3,872	4,158	4,142	4,184	4,075	4,094	4,012	3,428	3,285	2,482	1,315
Weekends	713	893	1,683	3,279	4,421	4,772	4,917	4,634	4,161	4,114	4,601	4,493	4,680	3,912	3,940	2,770	3,653	3,110	2,393

Figure 9. Road Traffic Volume Survey Results (in Hour)

Table 27. Traffic composition (by direction) (Working day) (between 05:00 and 24:00)

Traffic intensity (Workday) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	3,610	17	1	23	48	0	**3,699**
2	5,673	17	3	10	138	0	**5,841**

3	7,137	235	4	35	48	0	**7,459**
4	8,953	328	12	147	301	0	**9,741**
5	7,659	215	7	38	148	0	**8,067**
6	5,069	169	3	48	285	0	**5,574**
7	5,682	30	0	3	10	0	**5,725**
8	6,311	84	3	39	354	0	**6,791**
9	1,132	6	0	5	46	0	**1,189**
10	1,597	6	4	11	8	0	**1,626**
11	8,028	215	20	18	105	0	**8,386**
12	4,591	14	11	13	87	0	**4,716**
Total	**65,442**	**1,336**	**68**	**390**	**1,578**	**0**	**68,814**

At this intersection, passenger cars account for 95.10% and buses for 1.94%.

Table 28. Traffic composition (by direction) (Weekend) (between 05:00 and 24:00)

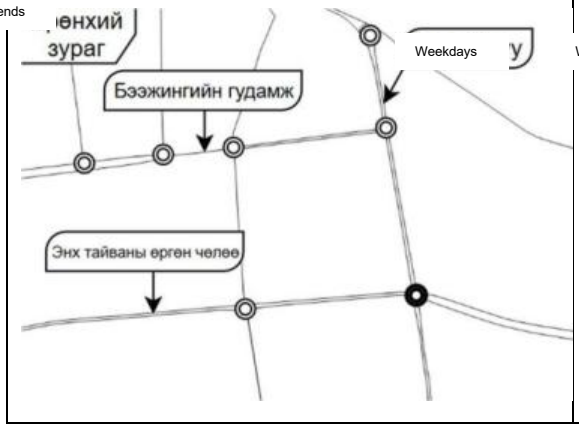
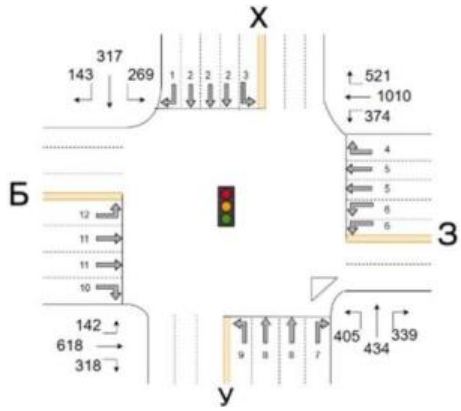
Traffic intensity (Weekend) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	3,637	4	1	25	23	0	**3,690**
2	4,647	18	9	21	48	0	**4,743**
3	8,604	280	5	29	86	0	**9,004**
4	11,198	352	9	116	269	0	**11,944**
5	8,123	219	1	42	32	0	**8,417**
6	5,484	177	1	21	22	0	**5,705**
7	5,437	163	5	119	347	0	**6,071**
8	2,917	18	1	31	174	0	**3,141**
9	1,187	3	2	14	29	0	**1,235**
10	1,471	6	1	13	4	0	**1,495**
11	8,233	156	1	18	8	0	**8,416**
12	3,251	4	5	11	7	0	**3,278**
Total	**64,189**	**1,400**	**41**	**460**	**1,049**	**0**	**67,139**

At this intersection, passenger cars account for 95.61% and buses for 2.09%.

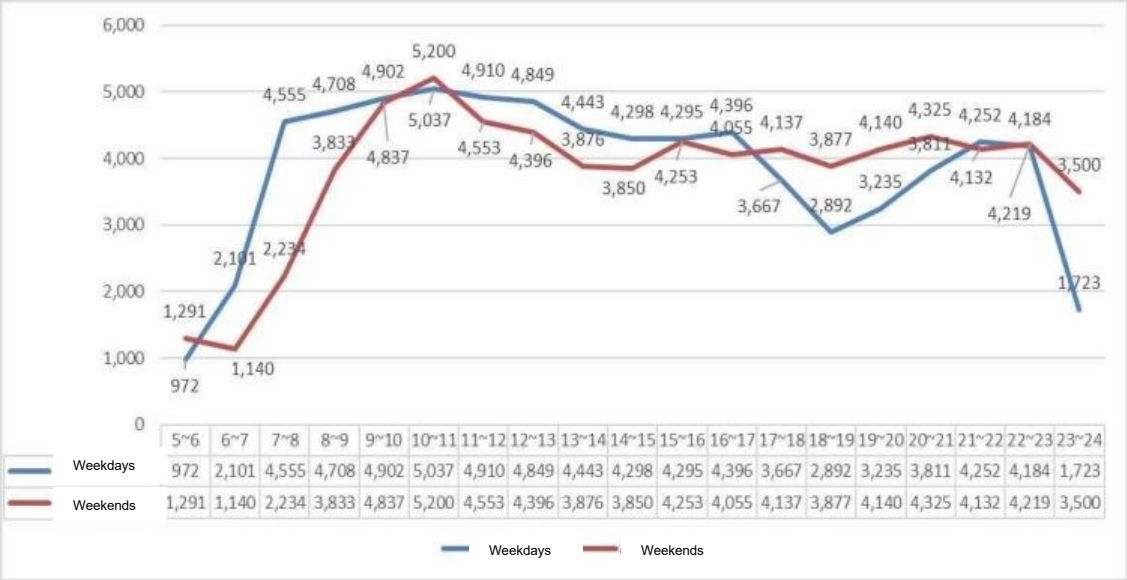
2.1.10. No.10 Zuun 4 zam Intersection (Intersection 10)

- Coverage: Turning-movement counts for 12 movements (all approaches).
- Survey dates: 13 November (Wed) and 2 November (Sat).
- Peak hour volume: 5,105 veh/h (09:00–10:00).
- Average control delay: 120.3 s/veh.

Table 29. Overview

Location	Traffic intensity (cars/hour)
	

(unit: car/hour)



	5~6	6~7	7~8	8~9	9~10	10~11	11~12	12~13	13~14	14~15	15~16	16~17	17~18	18~19	19~20	20~21	21~22	22~23	23~24
Weekdays	972	2,101	4,555	4,708	4,902	5,037	4,910	4,849	4,443	4,298	4,295	4,396	3,667	2,892	3,235	3,811	4,252	4,184	1,723
Weekends	1,291	1,140	2,234	3,833	4,837	5,200	4,553	4,396	3,876	3,850	4,253	4,055	4,137	3,877	4,140	4,325	4,132	4,219	3,500

Figure 10. Road Traffic Volume Survey Results (in Hour)

Table 30. Traffic composition (by direction) (Working day) (between 05:00 and 24:00)

Traffic intensity (Workday) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	1,491	5	33	0	0	0	1,529
2	5,983	248	0	51	15	0	6,297
3	3,647	81	0	20	2	0	3,750
4	7,280	353	2	54	16	0	7,705
5	12,014	736	0	58	2	0	12,810
6	5,297	67	0	19	4	0	5,387
7	6,489	256	22	35	114	0	6,916
8	5,719	87	0	11	17		5,834

9	4,989	173	10	8	7	0	5,187
10	4,326	181	35	20	9	0	4,571
11	11,136	738	2	23	55	0	11,954
12	2,849	80	3	4	21	0	2,957
Total	71,220	3,005	107	303	262	0	74,897

At this intersection, passenger cars account for 95.09% and buses for 4.01%.

Table 31. Traffic composition (by direction) (Weekend) (between 05:00 and 24:00)

Traffic intensity (Weekend) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	1,350	4	15	2	7	0	1,378
2	5,998	150	1	11	53	0	6,213
3	5,043	126	5	4	15	0	5,193
4	5,349	138	13	20	3	23	5,546
5	11,233	581	3	19	1	105	11,942
6	4,917	83	4	13	10	0	5,027
7	6,307	124	20	93	79	0	6,623
8	6,382	139	1	25	50	0	6,597
9	4,327	116	6	9	12	0	4,470
10	4,241	140	14	8	37	0	4,440
11	10,590	544	3	1	64	106	11,308
12	3,006	62	6	0	37	0	3,111
Total	68,743	2,207	91	205	368	234	71,848

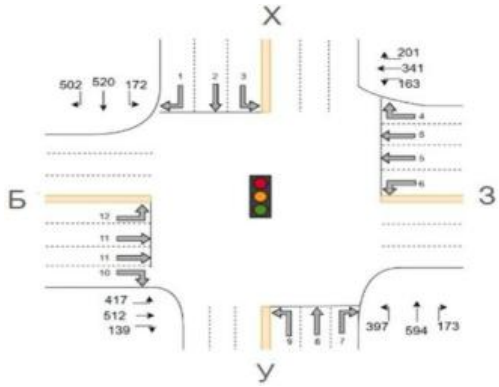
At this intersection, passenger cars account for 95.68% and buses for 3.07%.

2.1.11. No.11 Narantuul market intersection (Intersection 11)

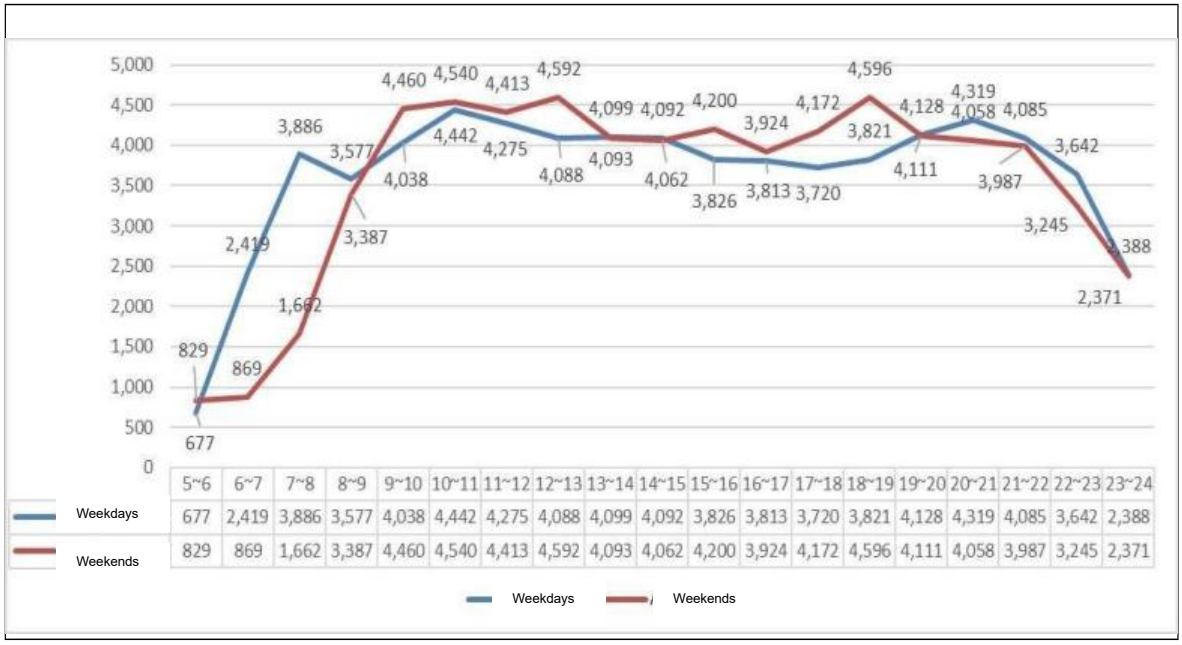
A traffic count was conducted in a total of 12 directions at the Narantuul market intersection.

- Research date:11 дүгээр сарын 12 (Мяг), 11 дүгээр сарын 10 (Ням)
- Traffic intensity: 4,131 car/hour (09:00-10:00)
- Time loss (sec/mash):113.8
- Service level:(LOS) : F

Table 32. Overview

Location	Traffic intensity (cars/hour)
	

(unit: car/hour)



	5~6	6~7	7~8	8~9	9~10	10~11	11~12	12~13	13~14	14~15	15~16	16~17	17~18	18~19	19~20	20~21	21~22	22~23	23~24
Weekdays	677	2,419	3,886	3,577	4,038	4,442	4,275	4,088	4,099	4,092	3,826	3,813	3,720	3,821	4,128	4,319	4,085	3,642	2,388
Weekends	829	869	1,662	3,387	4,460	4,540	4,413	4,592	4,093	4,062	4,200	3,924	4,172	4,596	4,111	4,058	3,987	3,245	2,371

Figure 11. Road Traffic Volume Survey Results (in Hour)

Table 33. Traffic composition (by direction) (Working day) (between 05:00 and 24:00)

Traffic intensity (Workday) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	7,012	88	6	24	3	15	**7,148**
2	8,443	200	10	43	13	0	**8,709**
3	3,076	76	3	22	7	0	**3,184**
4	4,339	31	99	31	74	0	**4,574**
5	6,057	85	3	1	134	0	**6,280**

6	3,068	39	9	58	69	0	**3,243**
7	3,822	63	14	54	87	0	**4,040**
8	8,731	375	18	46	126	0	**9,296**
9	5,105	126	63	13	114	0	**5,421**
10	2,351	1	4	3	4	0	**2,363**
11	8,198	178	2	37	49	0	**8,464**
12	6,355	87	54	11	105	1	**6,613**
Total	**66,557**	**1,349**	**285**	**343**	**785**	**16**	**69,335**

At this intersection, passenger cars account for 95.99% and buses for 1.95%.Table 34. Traffic composition (by direction) (Weekend) (between 05:00 and 24:00)

Traffic intensity (Weekend) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	6,972	469	33	143	111	0	**7,728**
2	6,421	200	2	15	21	1	**6,660**
3	3,426	34	15	25	87	0	**3,587**
4	3,343	51	73	15	16	0	**3,498**
5	6,095	115	10	98	69	0	**6,387**
6	2,826	7	5	4	14	0	**2,856**
7	5,124	41	5	41	46	1	**5,258**
8	7,490	131	7	8	39	0	**7,675**
9	3,990	100	18	33	59	0	**4,200**
10	2,797	12	19	46	79	0	**2,953**
11	8,115	79	3	7	25	0	**8,229**
12	5,270	57	11	15	25	0	**5,378**
Total	**61,869**	**1,296**	**201**	**450**	**591**	**2**	**64,409**

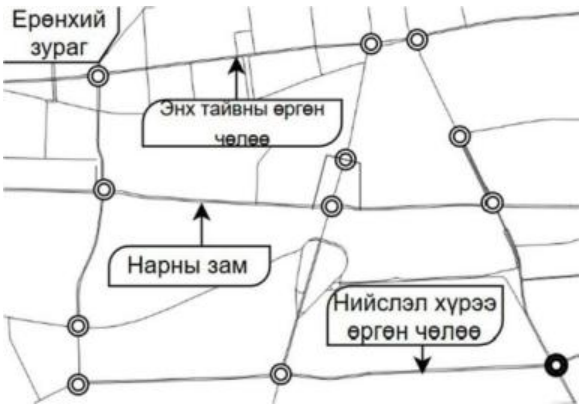
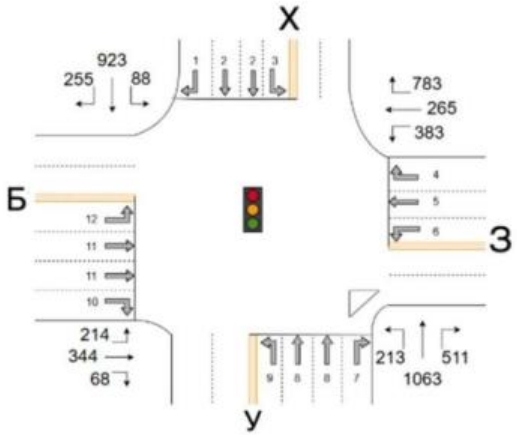
Passenger cars account for 96.06% of the traffic at this intersection, while buses account for 2.01%.

2.1.12. No.12 Ikh Mongol Intersection (Intersection 12)

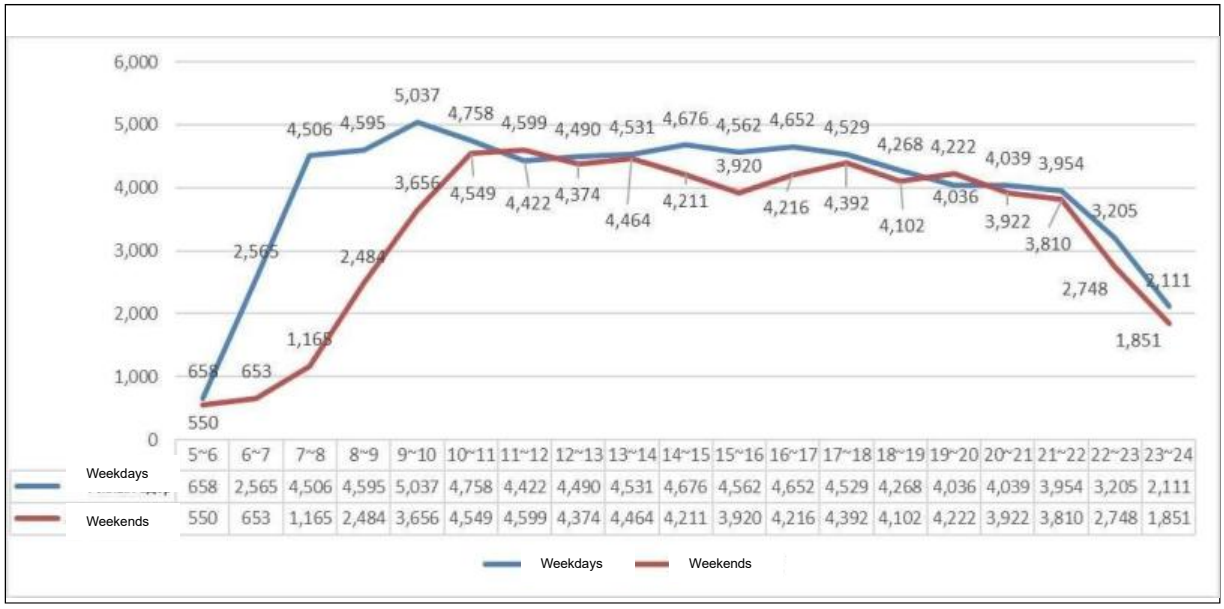
A traffic count was conducted in a total of 12 directions at the Ikh Mongol Intersection

- Research date: November 19 (Mon), November 17 (Sun)
- Traffic intensity: 1,063 car/hour (09:00-10:00)
- Time loss (sec/mash):69.3
- Service level:(LOS) : E

Table 35. Overview

Location	Traffic intensity (cars/hour)
	

(unit: car/hour)



	5~6	6~7	7~8	8~9	9~10	10~11	11~12	12~13	13~14	14~15	15~16	16~17	17~18	18~19	19~20	20~21	21~22	22~23	23~24
Weekdays	658	2,565	4,506	4,595	5,037	4,758	4,422	4,490	4,531	4,676	4,562	4,652	4,529	4,268	4,036	4,039	3,954	3,205	2,111
Weekends	550	653	1,165	2,484	3,656	4,549	4,599	4,374	4,464	4,211	3,920	4,216	4,392	4,102	4,222	3,922	3,810	2,748	1,851

Figure 12. Road Traffic Volume Survey Results (in Hour)

Table 36. Traffic composition (by direction) (Working day) (between 05:00 and 24:00)

Traffic intensity (Workday) (cars/hour)							
Direction	Passenger car	Bus	Motorcycle	Truck	Two-axle truck	Articulated bus	Total
1	3,784	21	4	16	31	0	3,856
2	13,711	124	1	25	55	0	13,916
3	922	88	0	134	35	0	1,179
4	9,036	241	84	145	127	0	9,633
5	3,883	133	3	168	45	0	4,232
6	6,273	64	12	26	22	0	6,397
7	9,171	101	41	103	85	0	9,501

8	13,038	71	18	1	51	0	13,179
9	2,973	45	1	64	29	0	3,112
10	1,234	17	0	18	16	0	1,285
11	5,255	100	4	61	78	0	5,498
12	3,756	19	15	13	3	0	3,806
Total	73,036	1,024	183	774	577	0	75,594

At this intersection, passenger cars account for 96.62% and buses for 1.35%.

Table 37. Traffic composition (by direction) (Weekend) (between 05:00 and 24:00)

Traffic intensity (Weekend) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	3,134	7	2	7	32	0	3,182
2	10,959	86	1	18	46	0	11,110
3	1,000	48	1	68	39	0	1,156
4	7,713	174	50	107	68	0	8,112
5	3,851	115	8	123	30	0	4,127
6	5,419	48	5	11	21	0	5,504
7	8,591	54	44	66	76	0	8,831
8	9,835	51	7	3	24	0	9,920
9	2,351	37	3	32	12	0	2,435
10	1,080	14	0	16	12	0	1,122
11	4,674	108	2	45	70	0	4,899
12	3,462	5	2	10	11	0	3,490
Total	62,069	747	125	506	441	0	63,888

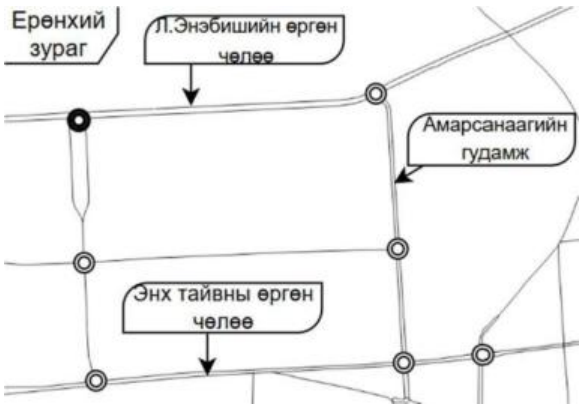
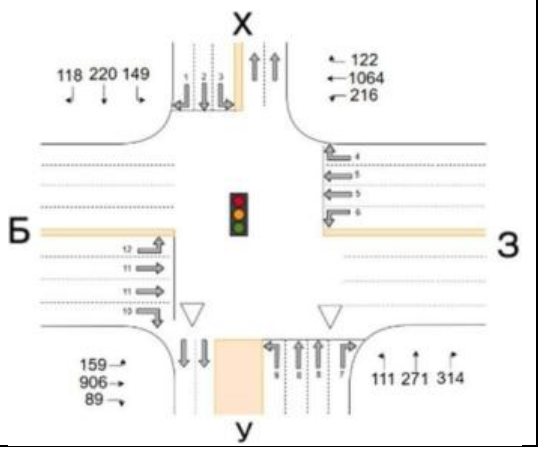
At this intersection, passenger cars account for 97.15% and buses for 1.17%.

2.1.13. No.13 Urguu Cinema Intersection (Intersection 13)

Traffic intensity was measured in 12 directions at the Urguu Cinema Intersection.

- Research date: November 12 (Tue), November 10 (Sun)
- Traffic intensity: 3,739 car/hour (09:00-10:00)
- Time loss (sec/mash):70.2
- Service level:(LOS) : E

Table 38. Overview

Location	Traffic intensity (cars/hour)
	

(unit: car/hour)

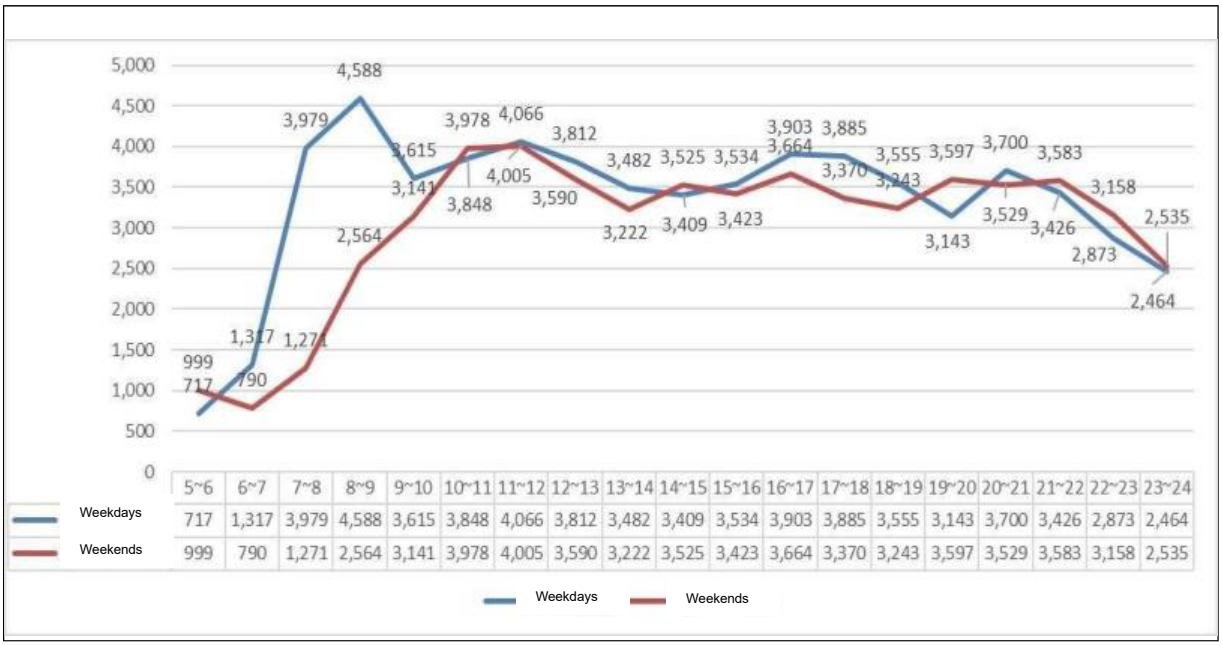


Figure 13. Road Traffic Volume Survey Results (in Hour)

Table 39. Traffic composition (by direction) (Working day) (between 05:00 and 24:00)

Traffic intensity (Workday) (cars/hour)							
Direction	Passenger car	Bus	Motorcycle	Truck	Two-axle truck	Articulated bus	Total
1	1,744	155	0	7	0	0	1,906
2	3,164	0	0	2	1	0	3,167
3	2,427	1	0	5	4	0	2,437
4	2,360	1	5	9	3	0	2,378
5	15,747	971	0	65	28	1	16,812
6	3,375	4	0	3	1	0	3,383

7	4,696	56	1	5	2	0	4,760
8	4,882	2	0	6	1	0	4,891
9	2,884	1	0	1	2	0	2,888
10	2,272	17	0	7	0	0	2,296
11	14,534	441	0	9	0	0	14,984
12	3,401	8	0	5	0	0	3,414
Total	61,486	1,657	6	124	42	1	63,316

At this intersection, passenger cars account for 97.11% and buses for 2.62%.

Table 40. Traffic composition (by direction) (Weekend) (between 05:00 and 24:00)

Traffic intensity (Weekend) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	1,947	144	0	3	1	0	2,095
2	2,881	0	0	3	1	0	2,885
3	2,437	0	0	1	1	0	2,439
4	2,326	0	5	3	4	0	2,338
5	13,957	775	0	65	39	0	14,836
6	3,147	0	0	0	1	0	3,148
7	4,218	53	2	2	7	0	4,282
8	4,284	1	0	1	2	0	4,288
9	2,681	2	0	1	1	0	2,685
10	2,582	28	0	6	0	0	2,616
11	11,667	474	1	21	0	0	12,163
12	3,404	4	1	3	0	0	3,412
Total	55,531	1,481	9	109	57	0	57,187

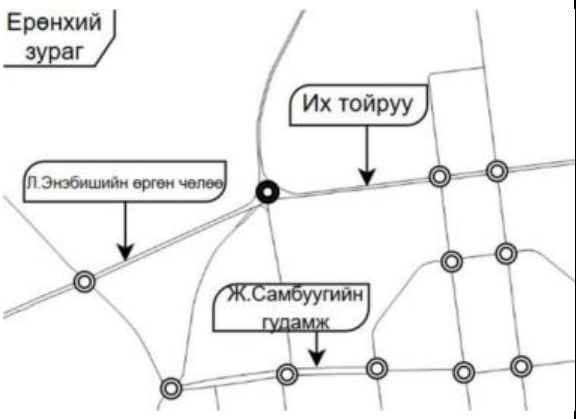
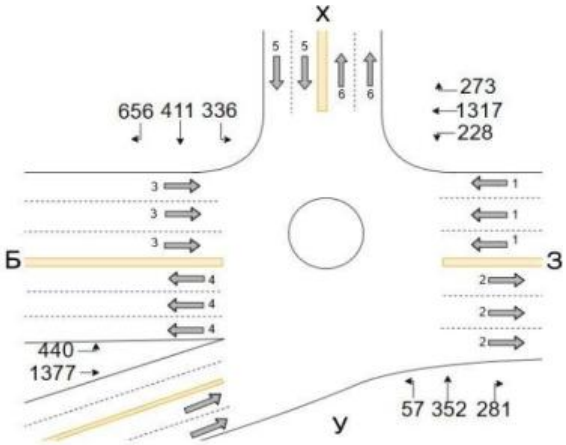
At this intersection, passenger cars account for 97.10% and buses for 2.59%.

2.1.14. No.14 Bayanburdi roundabout (Intersection 14)

A traffic count was conducted in a total of 6 directions at the Bayanburdi roundabout intersection.

- Research date: October 24 (Fri), October 26 (Sun)
- Traffic intensity: 9,595 car/hour (09:00-10:00)
- Time loss (sec/mash):267.1
- Service level:(LOS) : F

Table 41. Overview

Location	Traffic intensity (cars/hour)
	

(unit: car/hour)

Figure 14. Road Traffic Volume Survey Results (in Hour)

Table 42. Traffic composition (by direction) (Working day) (between 05:00 and 24:00)

Traffic intensity (Workday) (cars/hour)							
Direction	Passenger car	Bus	Motorcycle	Truck	Two-axle truck	Articulated bus	Total
1	35,985	915	88	167	814	3	37,972
2	33,093	923	59	76	360	2	34,513
3	6,309	242	23	38	90	1	6,703
4	36,436	1,154	55	405	1,680	48	39,778
5	28,168	550	56	78	200	0	29,052
6	20,091	695	50	138	180	1	21,155
Total	160,082	4,479	331	902	3,324	55	169,173

At this intersection, passenger cars account for 94.63% and buses for 2.65%.

Table 43. Traffic composition (by direction) (Weekend) (between 05:00 and 24:00)

Traffic intensity (Weekend) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	17,580	419	25	75	572	0	18,671
2	31,226	624	30	131	870	0	32,881
3	38,568	935	101	254	932	0	40,790
4	5,395	94	4	12	32	0	5,537
5	24,487	485	64	110	580	0	25,726
6	18,643	464	27	191	682	1	20,008
Total	135,899	3,021	251	773	3,668	1	143,613

At this intersection, passenger cars account for 94.63% and buses for 2.10%.

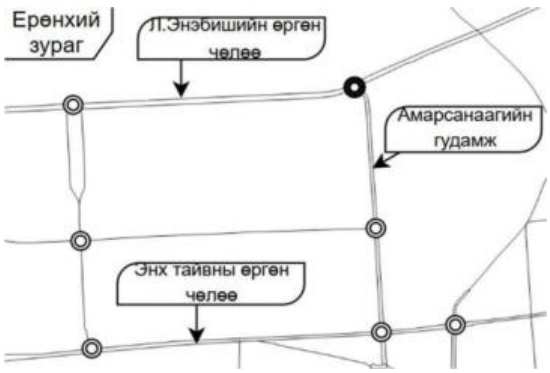
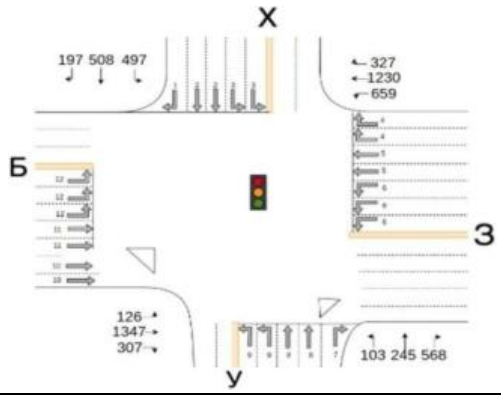
2.1.15. No.15 Ekh nylakhasIntersection (intersection 15)

A traffic count was conducted in a total of 12 directions at the Ekh Nylakhas Intersection

- Research date: November 05 (Monday), November 03 (Sunday)

- Traffic intensity: 6,114 car/hour (09:00-10:00)
- Time loss (sec/mash):82.8
- Service level:(LOS) : F

Table 44. Overview

Location	Traffic intensity (cars/hour)
	

(unit: car/hour)

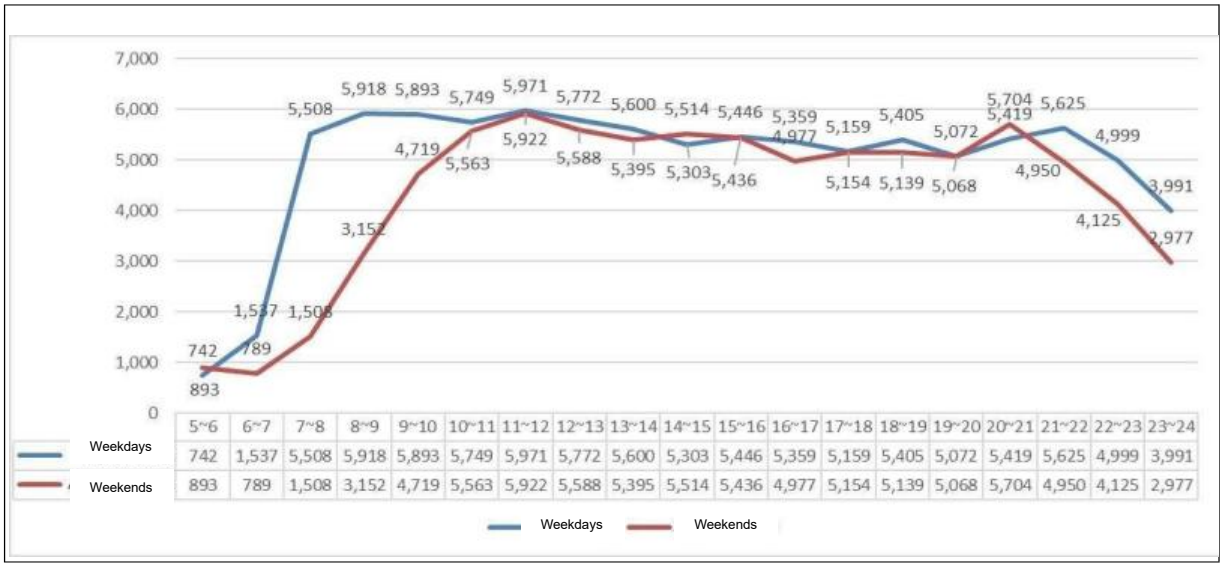


Figure 15. Road Traffic Volume Survey Results (in Hour)

Table 45. Traffic composition (by direction) (Working day) (between 05:00 and 24:00)

Traffic intensity (Workday) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	3,392	18	10	3	62	0	3,485
2	6,551	344	75	8	78	0	7,056
3	6,104	96	2	16	28	0	6,246
4	5,464	260	3	41	14	0	5,782
5	16,976	632	4	43	231	0	17,886
6	10,081	265	25	67	144	0	10,582
7	9,739	43	16	58	56	0	9,846
8	4,510	1	2	4	7	0	4,524
9	2,801	58	0	3	5	0	2,867
10	5,390	189	103	89	46	0	5,713
11	17,632	916	6	22	3	0	18,579
12	1,899	2	1	0	0	0	1,902
Total	90,539	2,824	247	354	674	0	94,468

At this intersection, passenger cars account for 95.84% and buses for 2.99%.

Table 46. Traffic composition (by direction) (Weekend) (between 05:00 and 24:00)

Traffic intensity (Weekend) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	2,729	20	8	0	19	0	2,776
2	5,696	330	46	9	51	0	6,132
3	5,052	69	1	10	21	0	5,153
4	4,730	231	7	21	14	0	5,003
5	14,663	522	12	29	204	0	15,430
6	8,643	220	17	46	140	0	9,066
7	8,708	17	1	26	15	0	8,767
8	4,034	0	1	0	9	0	4,044
9	3,211	64	0	0	1	0	3,276
10	4,975	192	64	82	17	0	5,330
11	15,434	805	9	17	3	0	16,268
12	1,497	0	0	1	0	0	1,498
Total	79,372	2,470	166	241	494	0	82,743

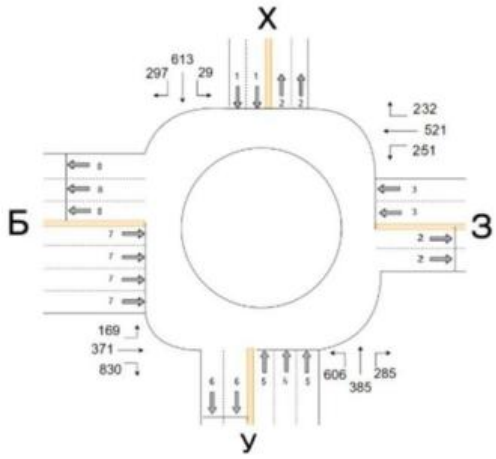
Passenger cars account for 96.12% of traffic at this intersection, while buses account for 2.99%.

2.1.16. No.16 Officer roudabout (Intersection 16)

A traffic count was conducted in Total 7 directions at the Officers roudabout

- Research date: November 14 (Fri), November 02 (Sun)
- Traffic intensity: 8,056 car/hour (09:00-10:00)
- Time loss (sec/mash):94.2
- Service level:(LOS) : F

Table 47. Overview

Location	Traffic intensity (cars/hour)
	

(unit: car/hour)

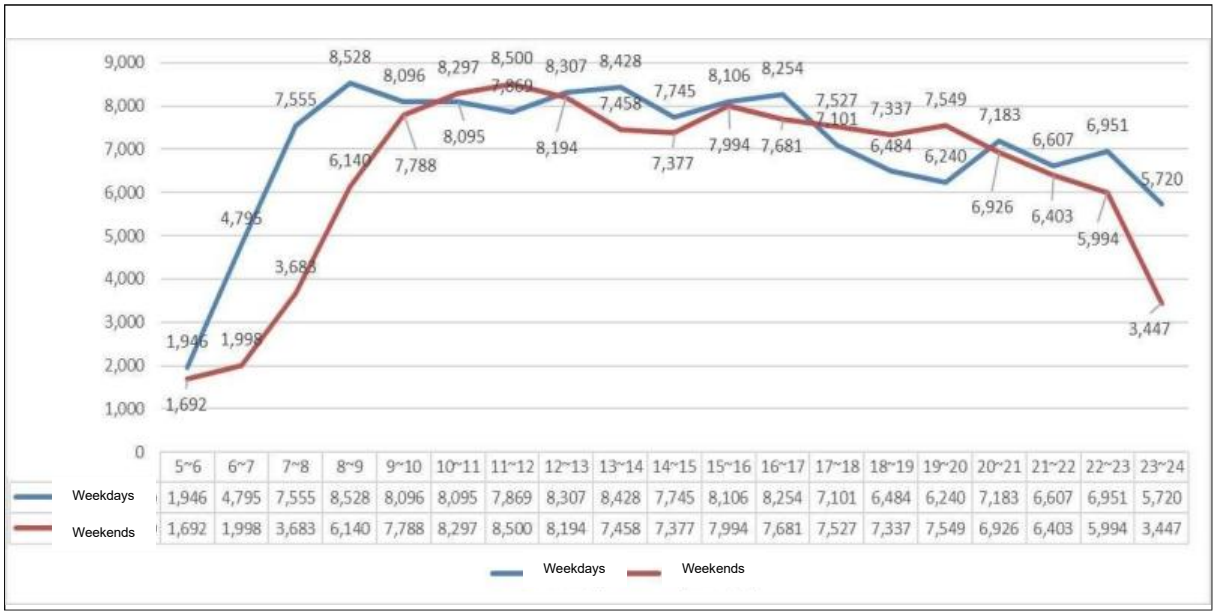


Figure 16. Road Traffic Volume Survey Results (in Hour)

Table 48. Traffic composition (by direction) (Working day) (between 05:00 and 24:00)

Traffic intensity (Workday) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	14,606	172	7	176	459	2	15,422
2	17,041	159	37	235	1,482	0	18,954
3	15,933	179	75	166	392	1	16,746
4	13,184	281	30	84	149	0	13,728
5	12,365	259	59	278	3,189	2	16,436
6	24,625	723	58	398	693	1	26,498
7	38,430	1,287	70	494	943	1	41,225
8	39,668	567	48	395	2,676	0	43,357
Total	175,852	3,627	384	2,226	9,983	7	192,366

At this intersection, passenger cars account for 92.72% and buses for 1.85%.

Table 49. Traffic composition (by direction) (Weekend) (between 05:00 and 24:00)

Traffic intensity (Weekend) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	13,789	473	22	104	346	0	14,734
2	15,914	247	26	39	195	0	16,421

3	14,467	178	48	23	188	0	14,904
4	12,010	226	31	38	106	0	12,411
5	12,397	220	39	36	96	0	12,788
6	24,133	536	22	217	910	0	25,818
7	36,728	989	46	259	1,176	0	39,198
8	37,334	935	63	132	523	0	38,987
Total	166,772	3,804	297	848	3,540	0	175,261

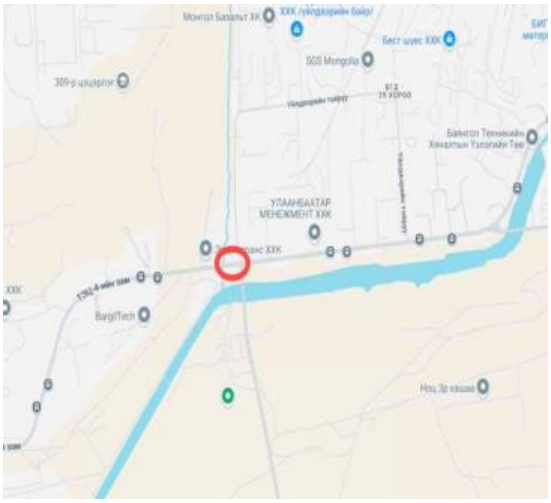
At this intersection, passenger cars account for 95.47% and buses for 2.11%.

2.2. 3- road Intersection

2.2.1. No.17 Erchimkhuch Intersection (Intersection 17)

- Survey dates (Thursday, May 22), (Saturday, May 24)
- Road traffic volume: (1,600 vehicles/hour 9:00-10:00)
- Delay (seconds/vehicle): 158.6
- Level of service (LOS): F

Table 50. Overview

Location	Intersection structure
	

(Unit: vehicles/hour)

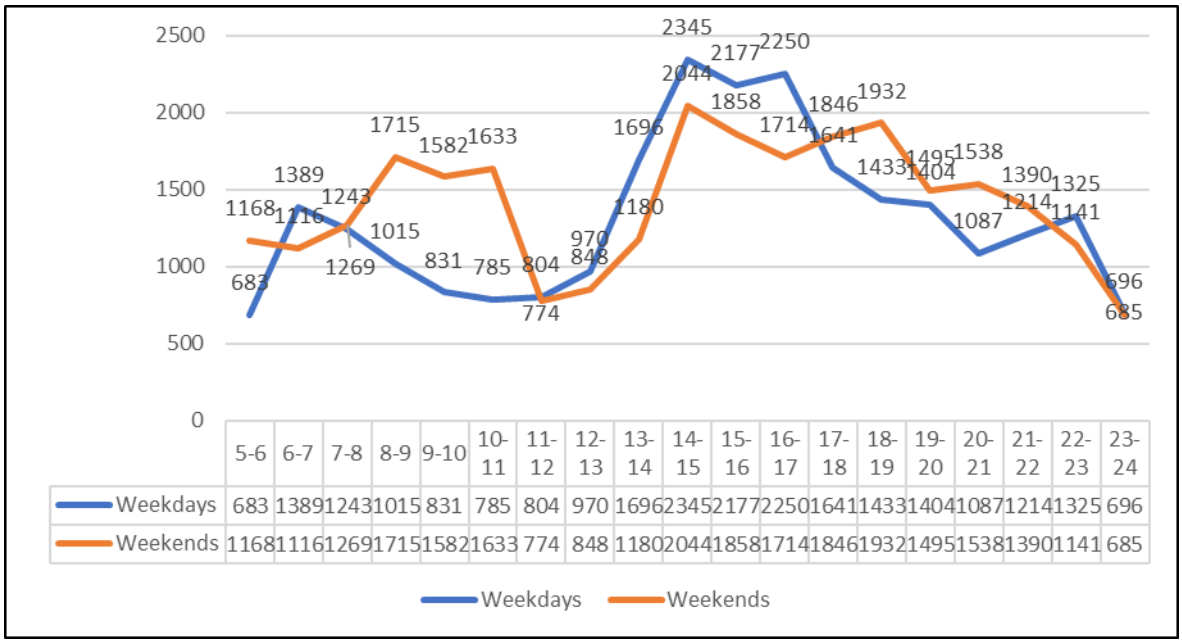


Figure 17. Road Traffic Volume Survey Results (in Hour)

Table 51. Road Traffic Composition (in Direction) (Weekdays) (05:00-24:00 Period)

Weekdays	**Classified by vehicle type (5:00-24:00)**										**Total**
	Car		Bus			Truck					
Direction	Small, medium	Large	Small	Medium	Large	Small	Medium	Heavy	Heavy multi-axle	Motorcycle	
West to east	2892	844	201	108	134	254	187	145	80	29	4874
West to north	0	0	0	0	0	1	4	5	4	0	14
West to south	2703	704	204	86	15	163	153	116	40	21	4205
East to west	2800	653	192	92	91	155	130	113	93	25	4344
East to north	0	0	0	0	0	2	0	0	0	0	2
East to south	2302	542	134	87	13	170	105	114	29	14	3510
South to north	21	1	1	0	0	1	3	0	0	0	27
South to west	2982	750	183	71	20	186	137	144	30	12	4515
South to east	2425	407	124	73	17	160	125	115	41	6	3493
North to south	0	0	0	0	0	0	0	4	0	0	4
North to west	0	0	0	0	0	0	0	0	0	0	0
North to east	0	0	0	0	0	0	0	0	0	0	0
U-turn	0	0	0	0	0	0	0	0	0	0	0
Total	16125	3901	1039	517	290	1092	844	756	317	107	24988

In the vehicle composition of this intersection, cars account for 80.14% and buses account for 7.39%, which are the main components.

Table 52. Road Traffic Composition (in Direction) (Non-weekdays) (05:00-24:00 Period)

Non-weekdays	**Classified by vehicle type (5:00-24:00)**										**Total**
	Car		Bus			Truck					
Direction	Small, medium	Large	Small	Medium	Large	Small	Medium	Heavy	Heavy multi-axle	Motorcycle	
West to east	3360	650	110	16	182	297	86	178	2	37	4918
West to north	148	66	9	0	0	4	2	1	0	1	231
West to south	2558	522	33	42	72	129	42	47	4	5	3454
East to west	3943	984	167	49	70	280	157	148	9	41	5848
East to north	64	40	21	0	0	35	9	1	0	12	182
East to south	2666	700	124	38	41	83	26	46	0	34	3758
South to north	118	66	1	0	0	8	54	66	0	0	313
South to west	2737	715	94	0	6	139	42	183	9	50	3975
South to east	2706	570	110	0	9	153	70	38	0	130	3786
North to south	21	9	0	0	0	0	0	40	3	0	73
North to west	71	7	15	0	0	7	7	22	2	4	135
North to east	111	12	4	0	0	0	0	12	2	0	141
U-turn	86	1	0	0	0	0	19	8	0	0	114
Total	18589	4342	688	145	380	1135	514	790	31	314	26928

In the vehicle composition of this intersection, cars account for 85.16% and buses account for 4.50%, which are the main components.

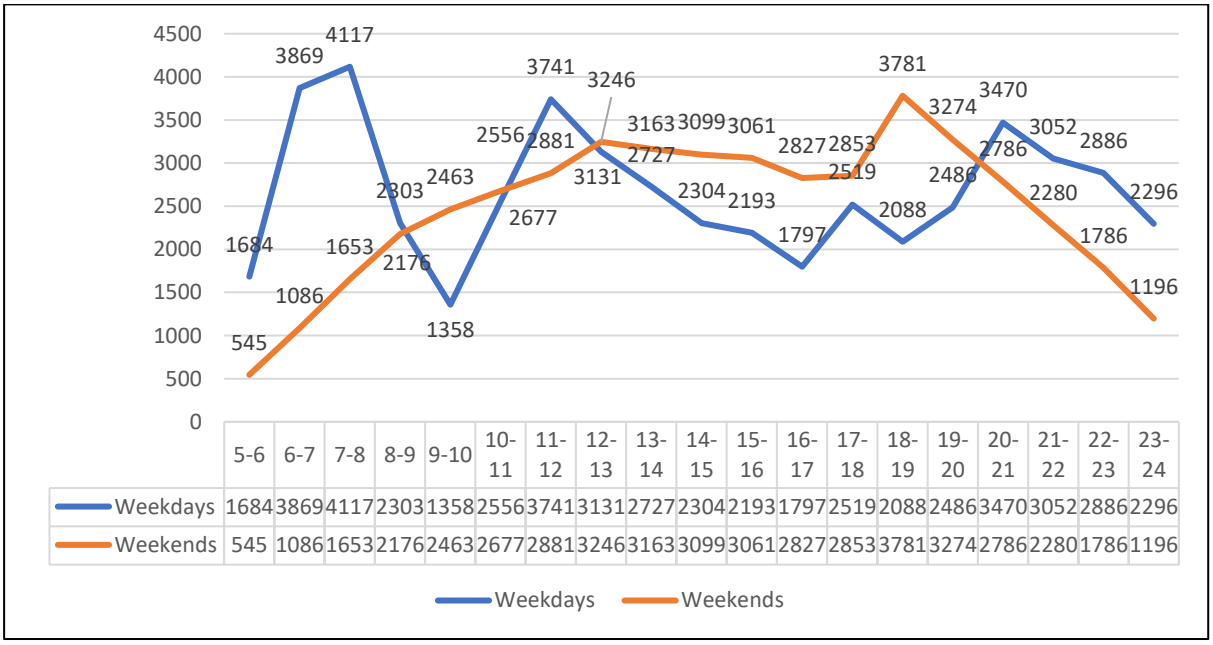
2.2.2. No.18 Naadamchin Road Intersection (Intersection 18)

- Survey dates (Thursday, May 22), (Saturday, May 24)
- Road traffic volume: (1,400 vehicles/hour 9:00-10:00)
- Delay (seconds/vehicle): 65.7
- Level of service (LOS): E

Table51. Overview

Location	Intersection structure

(Unit: vehicles/hour)



	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
Weekdays	1684	3869	4117	2303	1358	2556	3741	3131	2727	2304	2193	1797	2519	2088	2486	3470	3052	2886	2296
Weekends	545	1086	1653	2176	2463	2677	2881	3246	3163	3099	3061	2827	2853	3781	3274	2786	2280	1786	1196

Table 53. Road Traffic Volume Survey Results (in Hour)

Table 54. Road Traffic Composition (in Direction) (Weekdays) (05:00-24:00 Period)

Weekdays	**Classified by vehicle type (5:00-24:00)**										**Total**
	Car		Bus			Truck					
Direction	Small, medium	Large	Small	Medium	Large	Small	Medium	Heavy	Heavy multi-axle	Motorcycle	
West to east	9748	3202	245	39	390	237	82	86	4	16	14049
West to north	4771	1986	131	65	5	180	71	60	18	11	7298
West to south	0	0	0	0	0	0	0	0	0	1	1

East to west	9726	3740	337	118	356	205	60	89	6	17	14654
East to north	4581	2126	146	29	14	88	119	38	21	12	7174
East to south	0	0	0	0	0	0	0	0	0	0	0
South to north	0	0	0	0	0	0	0	0	0	0	0
South to west	0	0	0	0	0	0	0	0	0	0	0
South to east	0	0	0	0	0	0	0	0	0	0	0
North to south	0	0	0	0	0	0	0	0	0	2	2
North to west	75	11	6	1	2	19	3	10	1	2	130
North to east	3816	1484	91	26	56	220	86	77	3	15	5874
U-turn	807	484	28	6	36	34	27	9	14	2	1447
Total	33524	13033	984	284	859	983	448	369	67	78	50629

In the vehicle composition of this intersection, cars account for 91.96% and buses account for 4.20%, which are the main components.

Table 55. Road Traffic Composition (in Direction) (Non-weekdays) (05:00-24:00 Period)

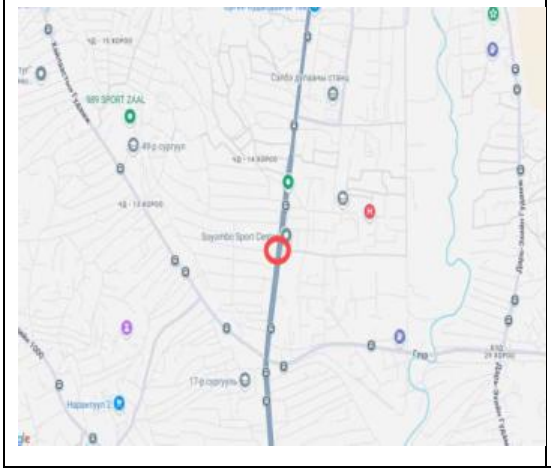
Non-weekdays	**Classified by vehicle type (5:00-24:00)**										**Total**
	Car		Bus			Truck					
Direction	Small, medium	Large	Small	Medium	Large	Small	Medium	Heavy	Heavy multi-	Motorcycle	
West to east	9413	3073	210	33	340	220	76	80	4	15	13464
West to north	4583	1907	110	55	4	167	66	56	17	10	6975
West to south	0	0	0	0	0	0	0	0	0	0	0
East to west	9345	3593	290	105	320	190	56	82	6	16	14003
East to north	4401	2041	125	25	12	82	110	35	19	11	6861
East to south	0	0	0	0	0	0	0	0	0	0	0
South to north	0	0	0	0	0	0	0	0	0	0	0
South to west	0	0	0	0	0	0	0	0	0	0	0
South to east	0	0	0	0	0	0	0	0	0	0	0
North to south	0	0	0	0	0	0	0	0	0	1	1
North to west	65	10	5	1	2	18	3	9	1	2	116
North to east	3520	1368	80	23	50	204	80	71	3	14	5413
U-turn	31327	11992	820	242	728	881	391	333	50	69	46833
Total	9413	3073	210	33	340	220	76	80	4	15	13464

In the vehicle composition of this intersection, cars account for 92.50% and buses account for 3.82%, which are the main components.

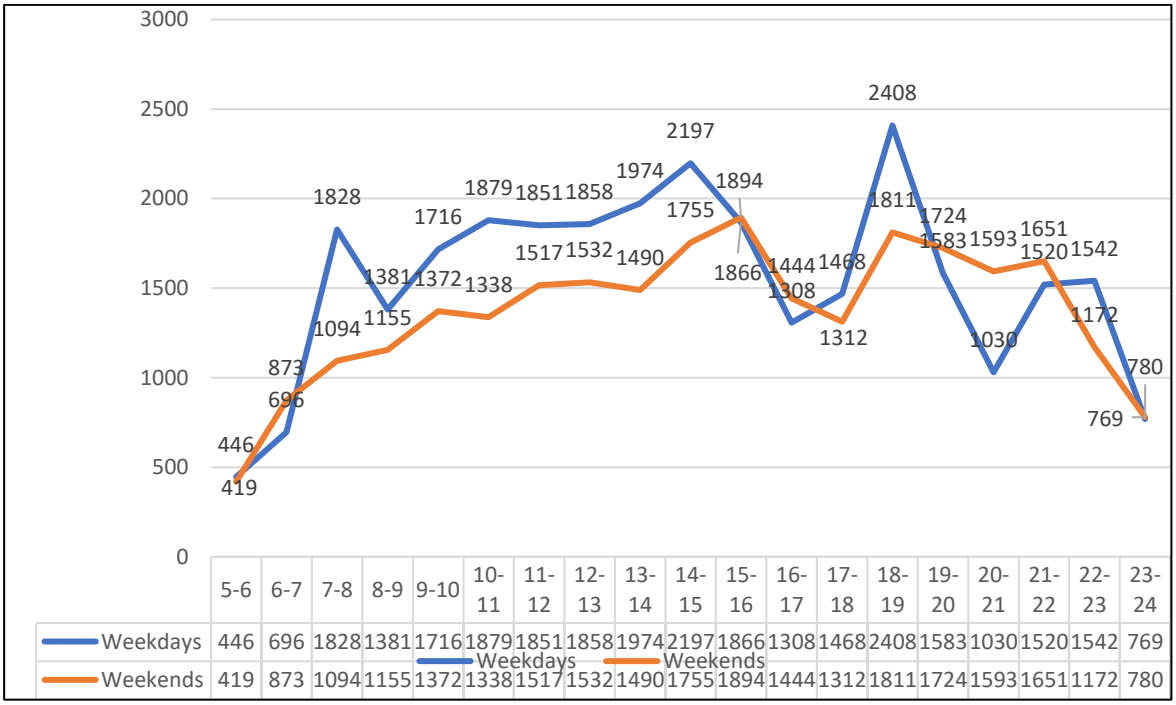
2.2.3. No.19 Zavsariin buudal intersection

- Survey dates (Thursday, May 22), (Saturday, May 24)
- Road traffic volume: (1,800 vehicles/hour 9:00-10:00)
- Delay (seconds/vehicle): 70.4
- Level of service (LOS): E

Table 56. Overview

Location	Intersection structure
	

(Unit: vehicles/hour)



	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
Weekdays	446	696	1828	1381	1716	1879	1851	1858	1974	2197	1866	1308	1468	2408	1583	1030	1520	1542	769
Weekends	419	873	1094	1155	1372	1338	1517	1532	1490	1755	1894	1444	1312	1811	1724	1593	1651	1172	780

Table 57. Road Traffic Volume Survey Results (in Hour)

Table 58. Road Traffic Composition (in Direction) (Weekdays) (05:00-24:00 Period)

Weekdays	**Classified by vehicle type (5:00-24:00)**										**Total**
	Car		Bus			Truck					
Direction	Small, medium	Large	Small	Medium	Large	Small	Medium	Heavy	Heavy multi-axle	Motorcycle	

West to east	0	0	0	0	0	0	0	0	0	0	0
West to north	0	0	0	0	0	0	0	0	0	0	0
West to south	0	0	0	0	0	0	0	0	0	0	0
East to west	103	14	0	0	2	4	0	0	0	1	124
East to north	474	203	18	31	4	27	2	5	9	3	776
East to south	2366	371	116	25	48	114	21	34	1	18	3114
South to north	7697	961	339	20	354	487	93	49	9	58	10067
South to west	564	135	34	4	2	33	2	6	0	0	780
South to east	1911	328	129	7	56	133	48	34	3	17	2666
North to south	8631	1020	335	43	298	387	47	27	6	88	10882
North to west	131	184	24	4	4	22	3	4	3	2	381
North to east	316	73	31	26	9	21	15	0	0	12	503
U-turn	12	9	0	0	0	0	1	0	0	5	27
Total	22205	3298	1026	160	777	1228	232	159	31	204	29320

In the vehicle composition of this intersection, cars account for 86.98% and buses account for 6.70%, which are the main components.

Table 59. Road Traffic Composition (in Direction) (Non-weekdays) (05:00-24:00 Period)

Non-weekdays	**Classified by vehicle type (5:00-24:00)**										**Total**
	Car		Bus			Truck					
Direction	Small, medium	Large	Small	Medium	Large	Small	Medium	Heavy	Heavy multi-axle	Motorcycle	
West to east	0	0	0	0	0	0	0	0	0	0	0
West to north	0	0	0	0	0	0	0	0	0	0	0
West to south	0	0	0	0	0	0	0	0	0	0	0
East to west	48	1	0	0	0	4	0	0	0	3	56
East to north	322	41	9	37	1	15	1	2	4	1	433
East to south	2242	236	130	5	23	116	15	40	3	14	2824
South to north	6954	481	279	8	268	407	72	55	12	54	8590
South to west	414	85	72	3	4	31	3	4	0	0	616
South to east	1785	273	138	3	34	139	38	48	6	12	2476
North to south	8346	791	352	59	271	372	41	31	11	68	10342
North to west	149	87	20	2	0	24	3	7	2	8	302
North to east	162	10	24	23	7	20	11	0	0	12	269
U-turn	14	0	0	0	0	0	0	4	0	0	18
Total	20436	2005	1024	140	608	1128	184	191	38	172	25926

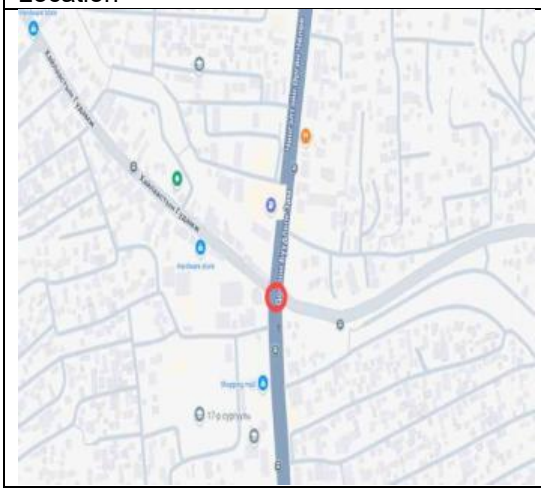
In the vehicle composition of this intersection, cars account for 86.56% and buses account for 6.83%, which are the main components.

2.2.4. No.20 17th school Intersection

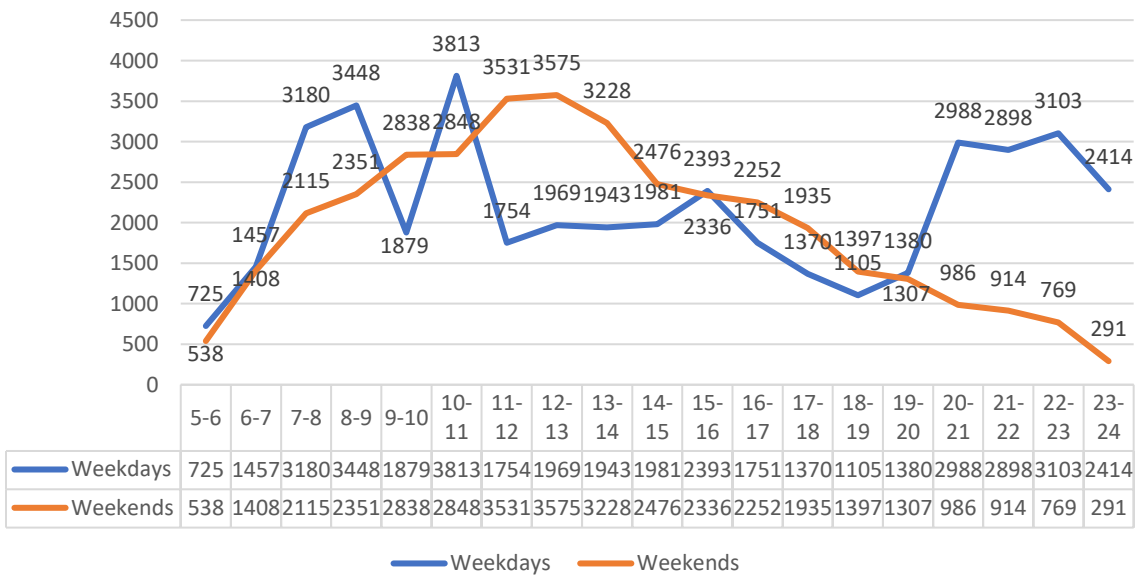
- Survey dates (Thursday, May 22), (Saturday, May 24)
- Road traffic volume: (1,900 vehicles/hour 9:00-10:00)

- Delay (seconds/vehicle): 147.4
- Level of service (LOS): F

Table 57. Overview

Location	Intersection structure
	

(Unit: vehicles/hour)



	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
Weekdays	725	1457	3180	3448	1879	3813	1754	1969	1943	1981	2393	1751	1370	1105	1380	2988	2898	3103	2414
Weekends	538	1408	2115	2351	2838	2848	3531	3575	3228	2476	2336	2252	1935	1397	1307	986	914	769	291

Figure 18. Road Traffic Volume Survey Results

Table 60. Road Traffic Composition (in Direction) (Weekdays) (05:00-24:00 Period)

Weekdays	**Classified by vehicle type (5:00-24:00)**										**Total**
	Car		Bus			Truck					
Direction	Small, medium	Large	Small	Medium	Large	Small	Medium	Heavy	Heavy multi-axle	Motorcycle	

West to east	3101	311	103	17	9	81	8	4	2	7	3643
West to north	1503	343	55	6	14	36	8	10	11	0	1986
West to south	2205	456	83	8	50	39	14	7	4	7	2873
East to west	1909	337	64	30	12	96	19	14	5	9	2495
East to north	1796	241	55	15	26	44	17	2	2	11	2209
East to south	3744	408	150	11	52	81	39	8	2	9	4504
South to north	4496	581	202	43	179	159	27	17	3	22	5729
South to west	2082	351	71	20	53	77	36	25	2	5	2722
South to east	3169	631	93	30	51	102	17	15	4	33	4145
North to south	5888	824	149	52	236	135	11	23	13	48	7379
North to west	1661	349	63	13	19	47	17	11	5	17	2202
North to east	1118	230	76	6	5	33	8	37	2	4	1519
U-turn	111	30	2	0	0	0	0	0	0	2	145
Total	32783	5092	1166	251	706	930	221	173	55	174	41551

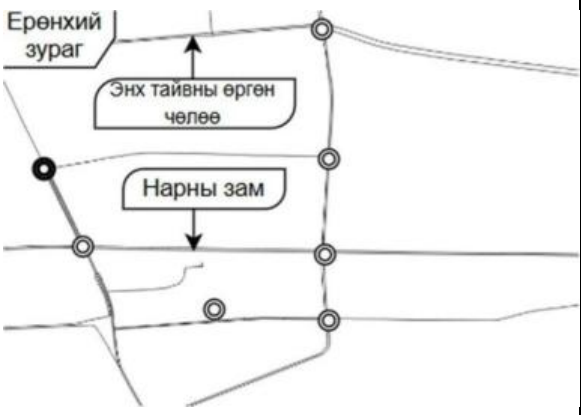
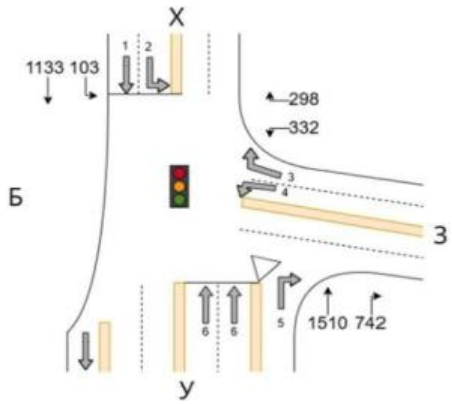
In the vehicle composition of this intersection, cars account for 91.15% and buses account for 5.11%, which are the main components.

2.2.5.No.21 Continental Hotel Intersection (Intersection 11)

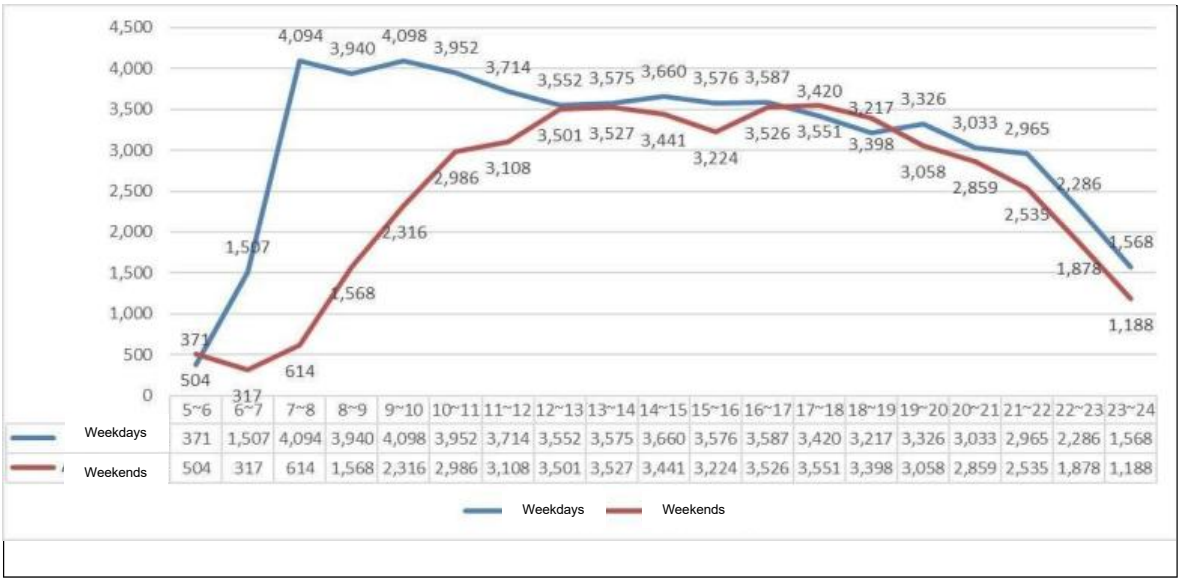
A traffic count was conducted in Total 6 directions at the Continental Hotel intersection.

- Research date:October 24 (Thursday), November 09 (Sunday)
- Traffic intensity: 4,118 cars/hour (09:00-10:00)
- Time loss (sec/mash):32.5
- Service level:(LOS) : C

Table 61. Overview

Location	Traffic intensity (cars/hour)
	

(unit: car/hour)



	5~6	6~7	7~8	8~9	9~10	10~11	11~12	12~13	13~14	14~15	15~16	16~17	17~18	18~19	19~20	20~21	21~22	22~23	23~24
Weekdays	371	1,507	4,094	3,940	4,098	3,952	3,714	3,552	3,575	3,660	3,576	3,587	3,420	3,217	3,326	3,033	2,965	2,286	1,568
Weekends	504	317	614	1,568	2,316	2,986	3,108	3,501	3,527	3,441	3,224	3,526	3,551	3,398	3,058	2,859	2,535	1,878	1,188

Зураг 1. Road Traffic Volume Survey Results

Table 62. Traffic composition (by direction) (Working days) between 05:00 and 24:00)Traffic composition (by direction) (Working days) between 05:00 and 24:00)

Traffic intensity (Workday) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	17,367	23	11	3	23	0	17,427
2	3,078	53	5	5	4	0	3,145
3	4,297	27	8	5	26	0	4,363
4	4,682	4	8	12	46	0	4,752
5	11,535	86	33	25	95	0	11,774
6	17,710	122	41	9	98	0	17,980
Total	58,669	315	106	59	292	0	59,441

At this intersection, passenger cars account for 98.70% and buses for 0.53%.

Table 63. Traffic composition (by direction) (Weekend) (between 05:00 and 24:00)

Traffic intensity (Weekend) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	14,315	41	2	0	24	0	14,382
2	2,070	35	3	1	3	0	2,112
3	3,551	33	2	6	23	0	3,615
4	4,411	2	5	4	63	0	4,485
5	8,950	54	18	18	74	0	9,114
6	13,171	109	18	8	85	0	13,391
Total	46,468	274	48	37	272	0	47,099

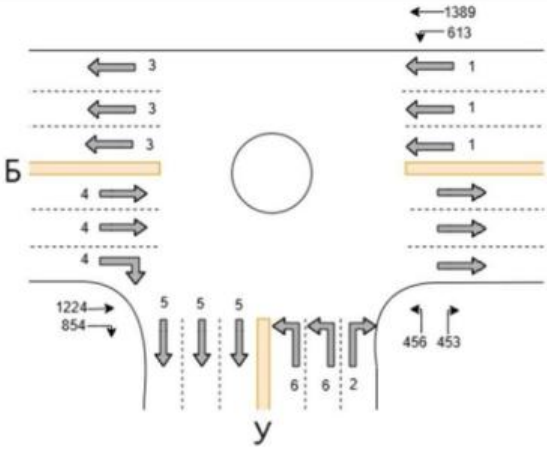
At this intersection, passenger cars account for 98.66% and buses for 0.58%.

2.2.6. No.22 Sansar roundabout

A traffic count was conducted in a total of 6 directions at the Sansar roundabout.

- Research date:November 07 (Thu), November 09 (Sat)
- Traffic intensity: 7,408 car/hour (09:00-10:00)
- Time loss (sec/mash):210.5
- Service level:(LOS) :

Table 64. Overview

Location	Traffic intensity (cars/hour)
	

(unit: car/hour)

Figure 19. Road Traffic Volume Survey Results

Table 65. Traffic composition (by direction) (Working day) (between 05:00 and 24:00)

Traffic intensity (Workday) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	9,050	625	28	64	314	0	10,081
2	29,678	523	81	145	882	1	31,310
3	24,351	860	50	225	565	4	26,055
4	11,576	85	21	17	107	0	11,806
5	16,024	366	15	250	46	0	16,701
6	25,725	820	47	189	780	11	27,572
Total	116,404	3,279	242	890	2,694	16	123,525

At this intersection, passenger cars account for 94.24% and buses for 2.65%.

Table 66. Traffic composition (by direction) (Weekend) (between 05:00 and 24:00)

Traffic intensity (Weekend) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	9,552	417	28	42	294	0	10,333
2	29,230	441	62	120	848	1	30,702
3	23,141	658	43	144	589	2	24,577
4	10,374	72	20	25	83	0	10,574
5	13,163	244	20	171	471	13	14,160
6	26,009	622	33	153	784	14	27,615
Total	111,469	2,454	206	655	3,069	30	117,961

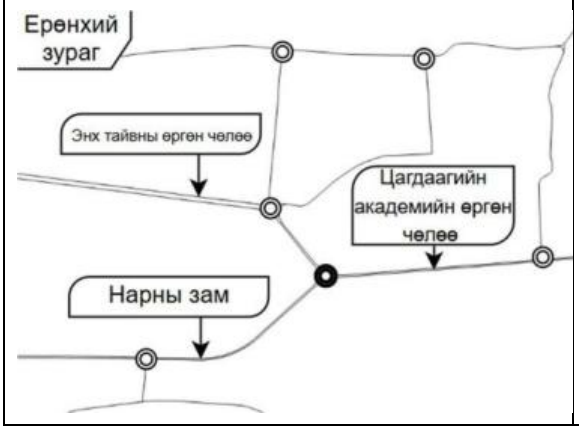
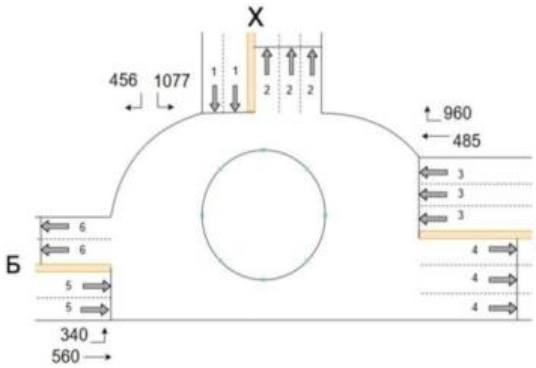
At this intersection, passenger cars account for 94.50% and buses for 2.08%.

2.2.7.No.23 Arslantai khushuu intersection

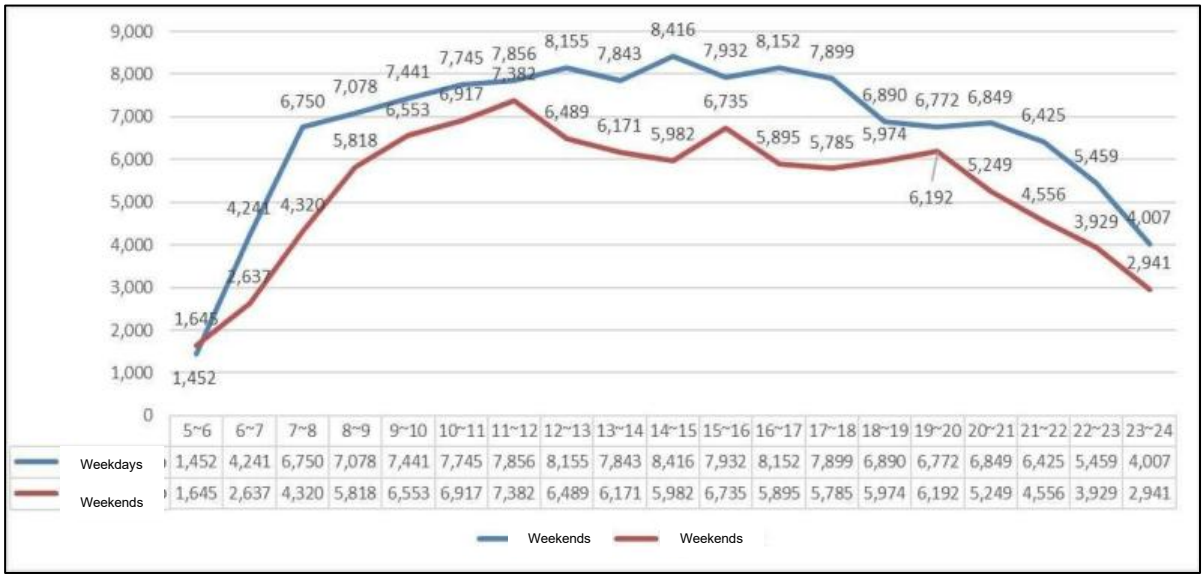
Traffic intensity was measured in a total of 6 directions at the Lion Statue intersection.

- Research date: November 12 (Monday), November 02 (Tuesday)
- Traffic intensity: 6,798 car/hour (09:00-10:00)
- Time loss (sec/mash):42.2
- Service level:(LOS) : E

Table 67. Overview

Location	Traffic intensity (cars/hour)
	

(unit: car/hour)



	5~6	6~7	7~8	8~9	9~10	10~11	11~12	12~13	13~14	14~15	15~16	16~17	17~18	18~19	19~20	20~21	21~22	22~23	23~24
Weekdays	1,452	4,241	6,750	7,078	7,441	7,745	7,856	8,155	7,843	8,416	7,932	8,152	7,899	6,890	6,772	6,849	6,425	5,459	4,007
Weekends	1,645	2,637	4,320	5,818	6,553	6,917	7,382	6,489	6,171	5,982	6,735	5,895	5,785	5,974	6,192	5,249	4,556	3,929	2,941

Figure 20. Road Traffic Volume Survey Results

Table 68. Traffic composition (by direction) (Working day) (between 05:00 and 24:00)

Traffic intensity (Workday) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	17,093	184	13	864	541	4	18,699
2	18,852	362	1	287	158	14	19,674
3	25,849	794	21	266	1,026	0	27,956
4	11,325	69	17	61	138	0	11,610
5	10,562	245	42	158	786	0	11,793
6	34,355	903	83	270	2,019	0	37,630
Total	118,036	2,557	177	1,906	4,668	18	127,362

At this intersection, passenger cars account for 92.68% of traffic, while buses account for 2.01%.

Table 69. Traffic composition (by direction) (Weekend) (between 05:00 and 24:00)

Traffic intensity (Weekend) (cars/hour)							
Direction	**Passenger car**	**Bus**	**Motorcycle**	**Truck**	**Two-axle truck**	**Articulated bus**	**Total**
1	17,303	95	54	115	277	0	18,098
2	17,174	438	9	242	427	0	18,290
3	23,176	495	28	201	945	0	24,845
4	10,475	25	23	13	93	0	10,629
5	10,126	141	34	78	116	0	10,495
6	17,857	393	7	155	401	0	18,813
Total	96,111	1,587	155	804	2,259	0	101,170

Passenger cars account for 95.00% of traffic at this intersection, while buses comprise 1.57%.