



GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATION
NATIONAL TRANSPORT RESEARCH CENTRE



NTRC PERMANENT TRAFFIC COUNT PROGRAM PHASE-I



MONTHLY PROGRESS REPORT March, 2020

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MONTHLY PROGRESS REPORT

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1 INTRODUCTION

1.1 Background

Infrastructure is both a cause and a consequence of economic growth. The role of infrastructure in integrating countries into the global economy by providing transport services is well known. Infrastructure can also raise the quality of human capital, which is a key factor in achieving high and sustainable levels of growth. Improvements in the quality and quantity of infrastructure have a disproportionately positive impact on the poor, and thus play a vital role in reducing income inequality.

A well performing Transport structure is vital for a country's development. Investment in a country's infrastructure directly affects economic growth as producers find the best markets for their goods, reducing transportation time and cost, and generating employment opportunities.

Pakistan is gifted with a naturally geo-strategic location. It is at the periphery of South Asia on one side, and Central Asia on the other side. In the south, the Arabian Sea forms a gateway to the vast Eurasian hinterland. It is here that cultures of Central, West and South Asia crisscross. This ideal location makes Pakistan one of the most attractive and shortest routes for transit to the Central Asian Republics (CARs) as well as China. Indian trade to that region, in an economical / convenient manner, is also dependent on the availability of passage through Pakistan.

Pakistan's location provides economic advantage for freight transportation from the Indian Ocean to Afghanistan, China, and the Central Asian States.

Pakistan, with more than 200 million people, has a reasonably developed transport infrastructure. Road transport is the backbone of Pakistan's transport system. The 12,131 km long National Highways and 4,266 km long Motorway network (Figure 1-1) carries 80 to 90 percent of Pakistan's total traffic. Further development of the road network is expected to continue under the CPEC projects.



Figure 1-1: National Highway & Motorway Network in Pakistan

The precise and consistent traffic volume study is the basic pre-requisite for planning in the transport sector. The result of the study is used to assess the existing, predict the upcoming traffic demand and evaluate maintenance requirements of the highway and motorway network.

In order to update the data base of the current traffic conditions, National Transport & Research Centre (NTRC) is conducting a Permanent Traffic Count Program (Phase – 1) using automated devices for a period of 365 days at following sections of National Highways and Motorways:

- Motorway, M-1, Islamabad – Peshawar
- National Highway, N-5, Torkham – Kamra
- National Highway, N-35, Hassanabdal – Khunjerab
- National Highway, N-45, Nowshera – Chitral

M/s Finite Engineering et al. have been assigned the task to conduct classified and directional traffic count on the selected sections of highways / motorways.

1.2 Need Assessment

During the past few years, the traffic volume on the highway network has increased tremendously. The up gradation in the widening of highway is largely dependent upon the on-going traffic volume on that road. Thus, there is a need to obtain the latest classified traffic volume data on national highways and motorways. This will not only help in assessing the existing traffic pattern on road network but also support in obtaining actual vehicle classification data. The study will also help to identify critical flow time periods, determine the influence of large vehicles on vehicular traffic flow or document traffic volume trends.

1.3 Objectives

The main objective of this project is to get classified traffic counts which will be useful for:

- Planning and prioritization of highways;
- Design of highway projects;
- Planning of road maintenance;
- National transport statistics;
- Road safety measures; and,
- Traffic control

The traffic count information is useful for many other purposes such as for calculating road user costs, road classification, environmental appraisal, and cost-benefit analysis.

1.4 Survey Location

The traffic survey is conducted on North Bound (NB) and South Bound (SB) at following particular locations (Figure 1-2) on each highways / motorway section as discussed in 1.1.

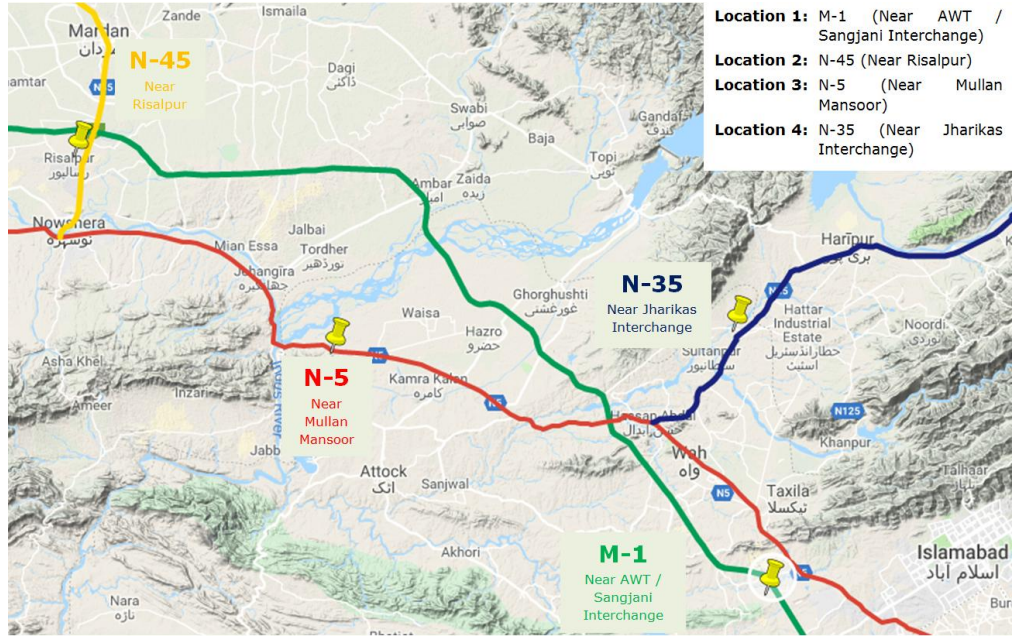


Figure 1-2: Traffic Survey Locations

The coordinates of survey points are mentioned in Table 1-1.





Table 1-1: Traffic Count Location Coordinates








Sr. No.	Highway / Motorway	Location	Coordinates
1	M-1	Near AWT / Sangjani Interchange	33°39'1.59"N 72°49'42.36"E
2	N-5	Near Mullan Mansoor	33°53'26.73"N 72°18'45.61"E
3	N-35	Near Jharikas Interchange	33°54'37.18"N 72°47'6.49"E
4	N-45	Near Risalpur	34° 5'4.02"N 72° 0'25.68"E

1.5 Vehicle Classification

The traffic volume plying on road network is composed of various vehicle types. The different vehicle categories classified during traffic survey is mentioned in Table 1-2.

Table 1-2: Vehicle Classification

Sr. No.	Vehicle Categories
1.	Motorcycle 
2.	Motor Rickshaw 
3.	Car / Jeep / Pajero / Taxi 
4.	Hiace / Minibus 

Sr. No.	Vehicle Categories	
5.	Large Buses	
6.	Light Truck	
7.	2 Axle Truck	
8.	3 Axle Truck	
9.	4 Axle Truck	
10.	5 Axle Truck	
11.	6 Axle Truck	
12.	Others	

1.6 Equipment Used

The Consultants have used Pneumatic Tubes for conducting classified traffic count survey. Pneumatic road tube sensors send a burst of air pressure along a rubber tube when a vehicle's tires pass over the tube. The pressure pulse closes an air switch, producing an electrical signal that is transmitted to a counter or analysis software. The pneumatic road tube sensor is portable, using lead-acid, gel, or other rechargeable batteries as a power source. The road tube is installed perpendicular to the traffic flow direction.

The Consultants will also verify and ensure quality of data obtained from Pneumatic Tubes, by means of video recordings at each survey location before submission to the client.

1.7 The Report

This report deals with traffic count survey and analysis for the month of March, 2020. The results of traffic count survey executed on national highways and motorways are presented in succeeding sections.

2 MOTORWAY (M-1)

2.1 General

The Motorway M-1 is an east-west motorway in Pakistan, connecting Peshawar to Islamabad-Rawalpindi. The motorway is 155 km long, with 88 km in Khyber Pakhtunkhwa and 67 km in Punjab. The M-1 has become a vital link to Afghanistan and Central Asia and is expected to take heavy traffic off the highly used N-5 National Highway. The motorway is also a part of the Asian Highway AH1 and AH4. The summary results of traffic count survey conducted near AWT / Sangjani Interchange on M-1 (Figure 2-1) is illustrated in following sub-sections. The detailed traffic data counted during survey is presented in Annex-1: Motorway M-1.



Figure 2-1: Traffic Count Location on M-1

2.1.1 Vehicles per Day on M-1

The traffic volume per day for each vehicle classification plying on Motorway M-1 is presented in Table 2-1. The table also illustrates daily factor of traffic moving on M-1. The daily traffic volume and daily factor are graphically presented in Figure 2-2 and Figure 2-3 respectively.

Table 2-1: Traffic Volume per day on Motorway M-1

Date	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total	Daily Factor
1	0	0	33749	1715	2967	513	1051	384	996	1	20	4	41400	0.042
2	0	0	32624	1787	2522	429	1373	484	1199	2	29	4	40453	0.041
3	0	0	30223	2099	2325	446	1055	376	694	4	22	6	37250	0.038
4	0	0	27151	2131	2550	432	739	301	821	2	29	4	34160	0.035
5	0	0	26514	1725	2934	456	1409	497	901	2	29	3	34470	0.035
6	0	0	29090	1581	3070	527	1271	456	594	1	16	3	36609	0.038
7	0	0	33264	1664	2938	496	986	356	917	2	19	4	40646	0.042
8	0	0	32458	1769	2409	417	1317	473	1193	2	25	3	40066	0.041
9	0	0	30013	2049	2460	446	1079	396	684	3	16	4	37150	0.038
10	0	0	28540	3182	2564	569	796	275	267	1	11	8	36213	0.037
11	0	0	25077	2316	2728	456	1368	456	733	0	13	5	33152	0.034
12	0	0	26278	1514	3001	465	1220	429	654	3	25	3	33592	0.034
13	0	0	33111	1656	3319	559	988	379	532	0	9	2	40555	0.042
14	0	0	33854	1707	2576	438	1390	496	1405	4	30	4	41904	0.043
15	0	0	31564	1774	2220	418	1031	389	904	3	20	3	38326	0.039
16	0	0	28120	2029	2433	423	1421	507	645	2	13	4	35597	0.037
17	0	0	27376	3188	2019	511	547	203	213	3	74	10	34144	0.035
18	0	0	25057	2447	2123	436	738	265	435	3	150	6	31660	0.032
19	0	0	25715	1760	2183	438	680	267	581	5	54	3	31686	0.032
20	0	0	27357	0	0	420	1117	415	869	1	36	1	30216	0.031
21	0	0	26719	0	0	373	1023	367	1115	4	28	4	29633	0.030
22	0	0	24643	0	0	352	845	321	739	3	18	3	26924	0.028
23	0	0	21683	0	0	363	1148	398	535	2	13	4	24146	0.025
24	0	0	21484	0	0	421	459	172	180	3	62	10	22791	0.023
25	0	0	19963	0	0	367	599	216	369	3	127	6	21650	0.022
26	0	0	18585	0	0	338	606	231	440	5	46	3	20254	0.021
27	0	0	20607	0	0	321	936	356	679	1	27	1	22928	0.024
28	0	0	20150	0	0	292	788	305	853	3	26	4	22421	0.023

Date	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total	Daily Factor
29	0	0	18444	0	0	282	691	256	574	3	17	3	20270	0.021
30	0	0	16090	0	0	285	850	318	415	2	13	3	17976	0.018
31	0	0	15890	0	0	322	386	141	149	3	53	10	16954	0.017
Total	0	0	811393	38093	49341	13011	29907	10885	21285	76	1070	135	975196	1.000

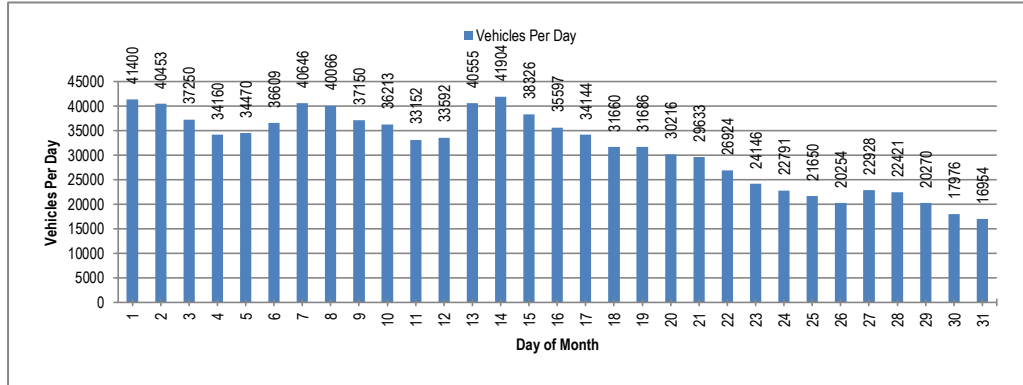


Figure 2-2: Daily Traffic Volume on M-1

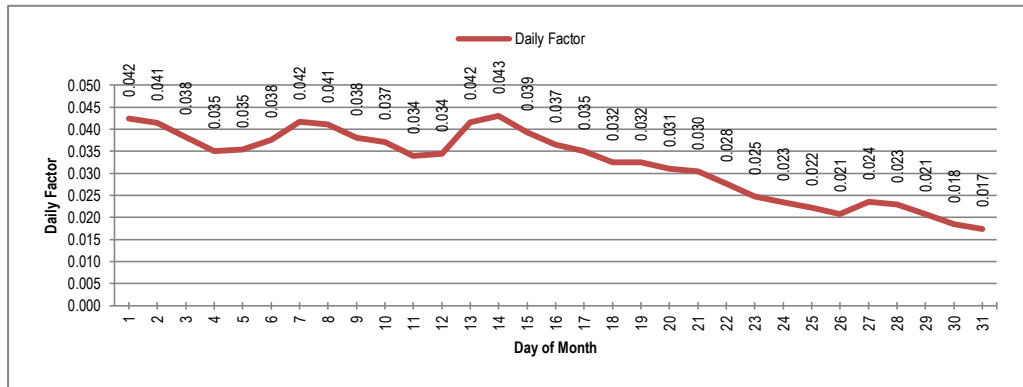


Figure 2-3: Daily Traffic Factor on M-1

2.1.2 Average Daily Traffic on M-1

The Average Daily Traffic (ADT) as calculated from the traffic data is mentioned in Table 2-2.

Table 2-2: Average Daily Traffic (ADT) on M-1

Vehicle Classification	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
Total Traffic During the Month	0	0	811393	38093	49341	13011	29907	10885	21285	76	1070	135	975196
Average Daily Traffic	0	0	26174	1229	1592	420	965	351	687	2	35	4	31459

2.1.3 Traffic Distribution on M-1

The composition of traffic per hour plying on North Bound and South Bound is presented in Table 2-3. The percentage of traffic for each vehicle category on North and South Bound is graphically presented in Figure 2-4 and Figure 2-5 respectively.

Table 2-3: Traffic Composition in NB & SB Directions on M-1

Time		Traffic Composition												
From	To	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
North Bound														
12:00 AM	1:00 AM	0	0	6004	82	77	83	860	388	395	0	0	0	7889

Time		Traffic Composition												
From	To	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
1:00 AM	2:00 AM	0	0	4655	75	68	183	1224	492	952	0	5	0	7654
2:00 AM	3:00 AM	0	0	3768	45	47	112	1033	402	1074	0	2	0	6483
3:00 AM	4:00 AM	0	0	3859	65	39	100	1002	429	705	0	5	0	6204
4:00 AM	5:00 AM	0	0	3963	59	42	109	1272	540	840	0	3	0	6828
5:00 AM	6:00 AM	0	0	3057	170	75	97	1114	413	693	4	487	0	6110
6:00 AM	7:00 AM	0	0	6437	1128	484	288	238	116	71	0	51	3	8816
7:00 AM	8:00 AM	0	0	7630	964	1010	186	180	101	18	0	8	0	10097
8:00 AM	9:00 AM	0	0	11880	949	907	114	176	97	51	0	2	0	14176
9:00 AM	10:00 AM	0	0	19013	1074	917	153	143	86	42	0	0	0	21428
10:00 AM	11:00 AM	0	0	24699	1374	797	203	123	75	2271	0	45	2	29589
11:00 AM	12:00 PM	0	0	27440	1339	1642	334	154	93	82	2	4	3	31093
12:00 PM	1:00 PM	0	0	27102	1269	2041	565	189	102	21	0	8	0	31297
1:00 PM	2:00 PM	0	0	27781	1141	2207	502	143	92	117	10	27	2	32022
2:00 PM	3:00 PM	0	0	27232	1225	2332	498	141	92	128	8	7	0	31663
3:00 PM	4:00 PM	0	0	29996	1320	2517	491	160	97	174	8	25	4	34792
4:00 PM	5:00 PM	0	0	33213	1601	2615	484	153	106	188	2	12	0	38374
5:00 PM	6:00 PM	0	0	35674	1533	2819	549	185	116	77	2	23	0	40978
6:00 PM	7:00 PM	0	0	31441	1109	1749	317	466	233	1543	0	41	7	36906
7:00 PM	8:00 PM	0	0	25684	347	481	117	773	342	502	0	0	0	28246
8:00 PM	9:00 PM	0	0	20647	299	385	112	651	265	356	0	0	3	22718
9:00 PM	10:00 PM	0	0	15891	243	310	125	612	274	318	0	0	0	17773
10:00 PM	11:00 PM	0	0	11458	120	137	52	779	335	622	0	0	2	13505
11:00 PM	12:00 AM	0	0	8478	90	132	55	758	311	637	0	0	5	10466
Total		0	0	417002	17621	23830	5829	12529	5597	11877	36	755	31	495107
South Bound														
12:00 AM	1:00 AM	0	0	7246	96	85	137	1208	319	270	0	0	0	9361
1:00 AM	2:00 AM	0	0	4385	81	80	210	1646	442	618	0	11	3	7476
2:00 AM	3:00 AM	0	0	4277	50	52	120	1439	377	753	0	10	9	7087
3:00 AM	4:00 AM	0	0	4344	76	39	129	1377	364	580	0	15	0	6924
4:00 AM	5:00 AM	0	0	4212	55	44	128	1776	469	367	0	0	0	7051
5:00 AM	6:00 AM	0	0	3263	211	87	134	1529	421	716	0	49	0	6410
6:00 AM	7:00 AM	0	0	6882	1084	515	332	347	116	46	0	7	8	9337
7:00 AM	8:00 AM	0	0	10200	887	1379	199	249	97	36	0	19	0	13066
8:00 AM	9:00 AM	0	0	15125	929	1149	190	255	93	62	0	5	0	17808
9:00 AM	10:00 AM	0	0	21556	1213	1362	286	198	86	78	0	0	7	24786
10:00 AM	11:00 AM	0	0	23885	1605	1212	437	176	75	1654	0	0	1	29045
11:00 AM	12:00 PM	0	0	26727	1596	1867	545	223	87	82	10	5	0	31142
12:00 PM	1:00 PM	0	0	25282	1489	2298	681	278	110	25	0	14	0	30177
1:00 PM	2:00 PM	0	0	23975	1363	2240	653	204	121	144	11	54	16	28781
2:00 PM	3:00 PM	0	0	25522	1728	2427	590	195	118	117	0	15	10	30722
3:00 PM	4:00 PM	0	0	26439	2049	2622	573	233	149	162	19	24	4	32274
4:00 PM	5:00 PM	0	0	29291	1955	2566	428	216	153	199	0	0	0	34808
5:00 PM	6:00 PM	0	0	30260	1861	2610	486	251	156	62	0	35	0	35721
6:00 PM	7:00 PM	0	0	27033	962	1499	238	649	202	852	0	52	14	31501
7:00 PM	8:00 PM	0	0	22260	367	486	157	1017	282	464	0	0	0	25033
8:00 PM	9:00 PM	0	0	19689	334	324	172	935	244	410	0	0	19	22127
9:00 PM	10:00 PM	0	0	14382	231	283	148	850	224	324	0	0	0	16442
10:00 PM	11:00 PM	0	0	10995	123	153	102	1094	302	635	0	0	4	13408
11:00 PM	12:00 AM	0	0	7161	127	132	107	1033	281	752	0	0	9	9602
Total		0	0	394391	20472	25511	7182	17378	5288	9408	40	315	104	480089

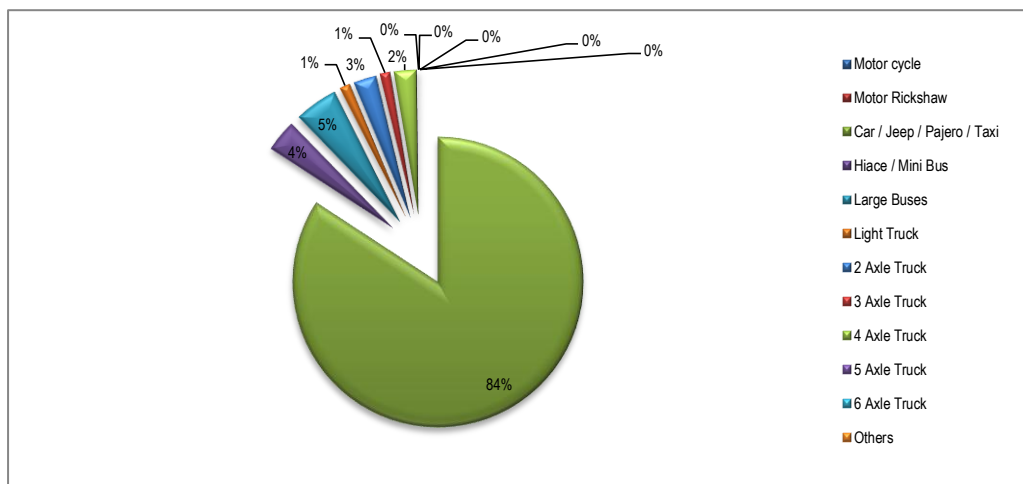


Figure 2-4: Percentage of Vehicle Composition in NB Direction of M-1

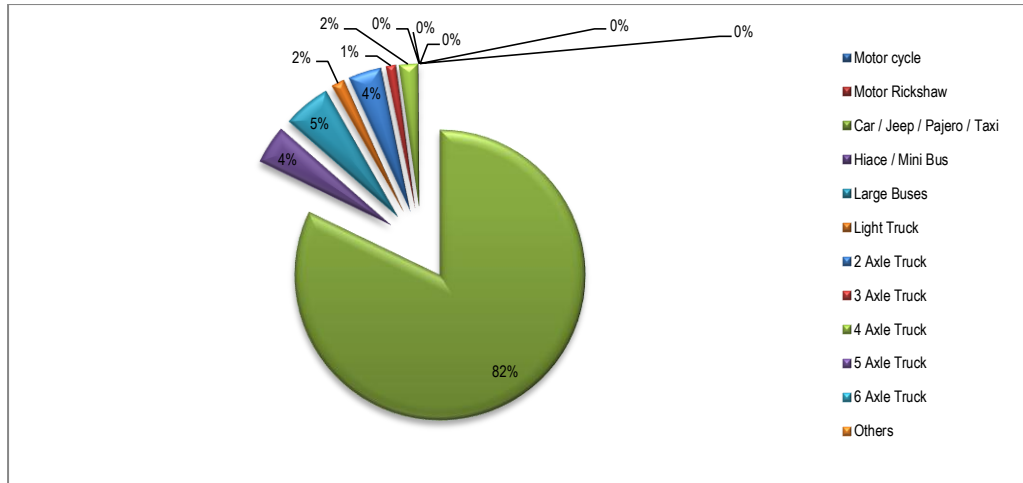


Figure 2-5: Percentage of Vehicle Composition in SB Direction of M-1

The summary of traffic distributed in both directions is tabulated in Table 2-4 and is graphically presented in Figure 2-6.

Table 2-4: Directional Distribution of Traffic Volume on M-1

Vehicle Classification	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
North Bound (NB) Traffic	0	0	417002	17621	23830	5829	12529	5597	11877	36	755	31	495107
South Bound (SB) Traffic	0	0	394391	20472	25511	7182	17378	5288	9408	40	315	104	480089
Total	0	0	811393	38093	49341	13011	29907	10885	21285	76	1070	135	975196
Percentage of Traffic in NB Direction	-	-	51.39	46.26	48.30	44.80	41.89	51.42	55.80	47.37	70.56	22.96	50.77
Percentage of Traffic in SB Direction	-	-	48.61	53.74	51.70	55.20	58.11	48.58	44.20	52.63	29.44	77.04	49.23

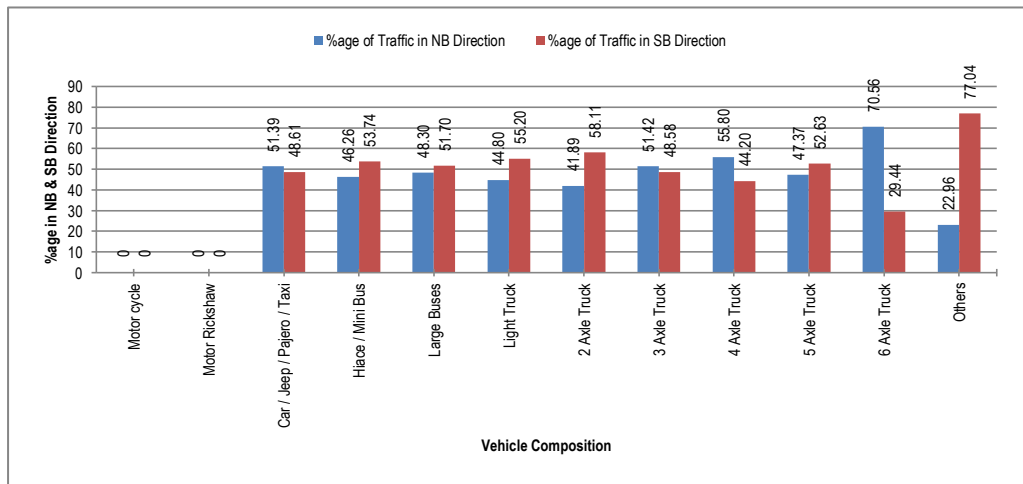


Figure 2-6: Directional Distribution of Traffic Volume on M-1

2.1.4 Weekly Trend of Traffic on M-1

The average movement of traffic on M-1 over the week is calculated and is tabulated in Table 2-5 and is graphically presented in Figure 2-7.

Table 2-5: Weekly Trend of Traffic on M-1

Vehicle Classification	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
Sunday	0	0	28172	1052	1519	396	987	365	881	2	20	3	33397
Monday	0	0	25706	1173	1483	389	1174	421	696	2	17	4	31064
Tuesday	0	0	24703	1694	1382	454	649	233	301	3	44	9	29470
Wednesday	0	0	24312	1724	1850	423	861	310	590	2	80	5	30156

Vehicle Classification	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
Thursday	0	0	24273	1250	2030	424	979	356	644	4	39	3	30001
Friday	0	0	27541	809	1597	457	1078	402	669	1	22	2	32577
Saturday	0	0	28497	843	1379	400	1047	381	1073	3	26	4	33651

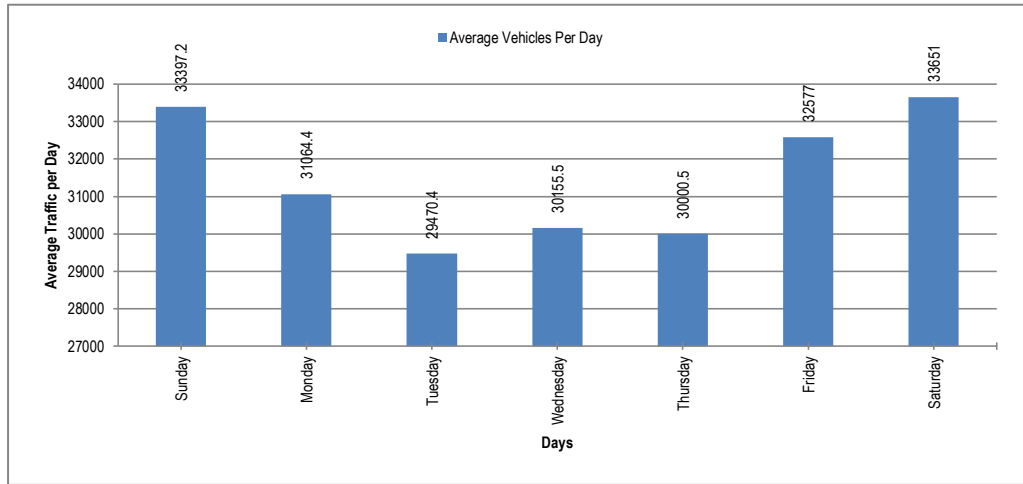


Figure 2-7: Weekly Trend of Traffic on M-1

2.1.5 Hourly Volume on M-1

The average hourly volume of traffic on M-1 is calculated and is tabulated in Table 2-6. The table also presents hourly factor of traffic on M-1. The hourly factor is graphically presented in Figure 2-8.

Table 2-6: Average Hourly Volume and Hourly Factor on M-1

Time		Average Hourly Volume													Average Hourly Factor
From	To	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total	
12:00 AM	1:00 AM	0	0	427	6	5	7	67	23	21	0	0	0	566	0.018
1:00 AM	2:00 AM	0	0	292	5	5	13	93	30	51	0	1	0	488	0.016
2:00 AM	3:00 AM	0	0	260	3	3	7	80	25	59	0	0	0	438	0.014
3:00 AM	4:00 AM	0	0	265	5	3	7	77	26	41	0	1	0	423	0.013
4:00 AM	5:00 AM	0	0	264	4	3	8	98	33	39	0	0	0	448	0.014
5:00 AM	6:00 AM	0	0	204	12	5	7	85	27	45	0	17	0	404	0.013
6:00 AM	7:00 AM	0	0	430	71	32	20	19	7	4	0	2	0	586	0.019
7:00 AM	8:00 AM	0	0	575	60	77	12	14	6	2	0	1	0	747	0.024
8:00 AM	9:00 AM	0	0	871	61	66	10	14	6	4	0	0	0	1032	0.033
9:00 AM	10:00 AM	0	0	1309	74	74	14	11	6	4	0	0	0	1491	0.047
10:00 AM	11:00 AM	0	0	1567	96	65	21	10	5	127	0	1	0	1891	0.060
11:00 AM	12:00 PM	0	0	1747	95	113	28	12	6	5	0	0	0	2008	0.064
12:00 PM	1:00 PM	0	0	1690	89	140	40	15	7	1	0	1	0	1983	0.063
1:00 PM	2:00 PM	0	0	1670	81	143	37	11	7	8	1	3	1	1961	0.062
2:00 PM	3:00 PM	0	0	1702	95	154	35	11	7	8	0	1	0	2012	0.064
3:00 PM	4:00 PM	0	0	1820	109	166	34	13	8	11	1	2	0	2163	0.069
4:00 PM	5:00 PM	0	0	2016	115	167	29	12	8	12	0	0	0	2361	0.075
5:00 PM	6:00 PM	0	0	2127	109	175	33	14	9	4	0	2	0	2474	0.079
6:00 PM	7:00 PM	0	0	1886	67	105	18	36	14	77	0	3	1	2207	0.070
7:00 PM	8:00 PM	0	0	1547	23	31	9	58	20	31	0	0	0	1719	0.055
8:00 PM	9:00 PM	0	0	1301	20	23	9	51	16	25	0	0	1	1447	0.046
9:00 PM	10:00 PM	0	0	977	15	19	9	47	16	21	0	0	0	1104	0.035
10:00 PM	11:00 PM	0	0	724	8	9	5	60	21	41	0	0	0	868	0.028
11:00 PM	12:00 AM	0	0	504	7	9	5	58	19	45	0	0	0	647	0.021
Total		0	0	26175	1230	1592	417	966	352	686	2	35	3	31458	1.00

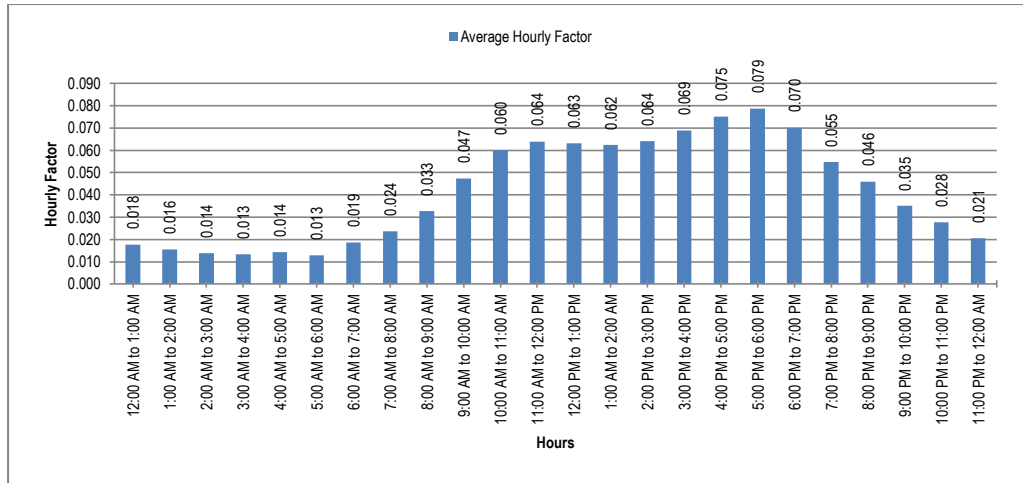


Figure 2-8: Hourly Factor on M-1

2.1.6 Proportion of Traffic in Day and Night on M-1

The traffic count data on M-1 is organized and sorted in a way to calculate proportion of traffic in day and night time. The percentage of traffic moving on M-1 from 8 am in morning to 8 pm in evening and from 8 pm to 8 am is tabulated in Table 2-7 and is graphically presented in Figure 2-9.

Table 2-7: Percentage of Traffic Composition in Day and Night Time on M-1

Vehicle Classification	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
Total	0	0	26175	1230	1592	417	966	352	686	2	35	3	31458
Traffic from 8:00 AM to 8:00 PM	0	0	19952	1014	1399	308	217	103	292	2	13	2	23302
Traffic from 8:00 PM to 8:00 AM	0	0	6223	216	193	109	749	249	394	0	22	1	8156
Percentage of Traffic from 8:00 AM to 8:00 PM	-	-	76.23%	82.44%	87.88%	73.86%	22.46%	29.26%	42.57%	100.00%	37.14%	66.67%	74.07%
Percentage of Traffic from 8:00 PM to 8:00 AM	-	-	23.77%	17.56%	12.12%	26.14%	77.54%	70.74%	57.43%	0.00%	62.86%	33.33%	25.93%

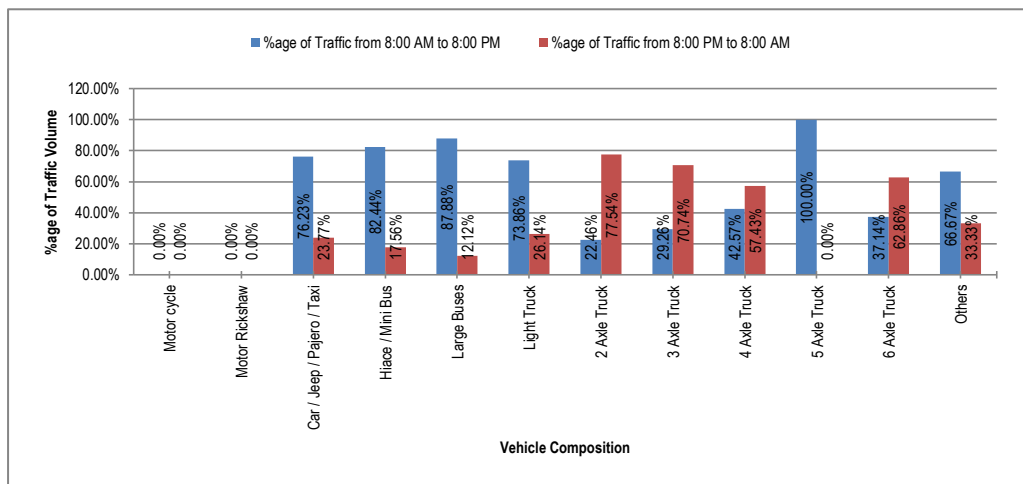


Figure 2-9: Percentage of Traffic Composition in Day and Night Time on M-1

3 NATIONAL HIGHWAY (N-5)

3.1 General

The National Highway N-5 (also known as Grand Trunk Road) is a 1819 Km long and is the longest National Highway in Pakistan, which extends from Karachi in Sindh province to Torkham in the Federally Administered Tribal Areas (FATA). The highway serves as an important north–south road artery, extending through Hyderabad, Moro and Khairpur in Sindh before crossing into Punjab province where it passes through Multan, Sahiwal, Lahore, Gujranwala, Gujrat, Jhelum and Rawalpindi. At Rawalpindi, it turns eastwards and passes through Attock Khurd before crossing the Indus River into Khyber Pakhtunkhwa to continue through Nowshera and Peshawar before entering the Khyber Pass and reaching the border town of Torkham in the FATA. The length of the highway is divided as follows (Table 3-1):

Table 3-1: Length of National Highway (N-5)

Sr. No.	Province	Length (KM)
1	Punjab	1,021
2	Sindh	671
3	Khyber Pakhtunkhwa	127
4	FATA	38

The summary results of traffic count survey conducted near Mullan Mansoor on Torkham – Kamra section of N-5 (Figure 3-1) is illustrated in following sub-sections. The detailed traffic data counted during survey is presented in Annex-2: National Highway N-5.



Figure 3-1: Traffic Count Location on N-5

3.1.1 Vehicles per Day on N-5

The traffic volume per day for each vehicle classification plying on National Highway N-5 is presented in Table 3-2. The table also illustrates daily factor of traffic moving on N-5. The daily traffic volume and daily factor are graphically presented in Figure 3-2 and Figure 3-3 respectively.

Table 3-2: Traffic Volume per day on Motorway N-5

Date	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total	Daily Factor
1	2267	259	7270	3372	370	419	822	849	241	96	267	10	16242	0.043
2	2510	272	8329	4034	422	433	1001	1025	267	76	201	3	18573	0.049
3	2120	239	6439	3194	446	369	1204	1410	279	119	230	0	16049	0.043
4	2079	226	6288	3315	459	387	1179	1455	282	109	254	4	16037	0.043
5	1205	155	5837	3357	531	373	1084	1072	273	108	222	1	14218	0.038
6	1165	163	5655	3275	403	354	920	845	178	96	166	4	13224	0.035
7	1752	206	5893	3315	439	365	938	767	218	92	204	1	14190	0.038
8	2303	246	6603	3704	365	387	860	836	239	93	219	2	15857	0.042

Date	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total	Daily Factor
9	2795	290	7259	4295	425	393	1078	1117	286	113	210	2	18263	0.048
10	2065	218	6111	3549	416	361	1053	1193	251	87	256	4	15564	0.041
11	1880	194	6146	3535	417	373	1079	1226	239	130	204	5	15428	0.041
12	1056	135	4650	2163	650	347	2459	809	156	92	148	5	12670	0.034
13	2178	208	4813	2293	596	352	2273	735	236	94	165	4	13947	0.037
14	2242	231	5468	2747	520	365	2091	958	232	93	176	8	15131	0.040
15	2047	224	6194	2805	487	366	1372	1169	223	116	149	5	15157	0.040
16	1908	216	6842	3039	513	407	929	1077	211	89	140	6	15377	0.041
17	1642	206	5409	2413	402	335	1085	1431	245	89	146	5	13408	0.036
18	1582	196	5168	2399	339	348	955	1389	245	102	170	2	12895	0.034
19	2054	229	5089	2231	347	308	919	1266	251	80	108	4	12886	0.034
20	2002	221	6757	0	0	318	701	1084	238	82	135	6	11544	0.031
21	1710	194	7029	0	0	314	863	1103	229	60	135	0	11637	0.031
22	1955	218	6572	0	0	288	654	999	200	80	101	3	11070	0.029
23	1908	206	5361	0	0	274	622	855	163	55	117	1	9562	0.025
24	1857	203	5574	0	0	292	500	548	165	46	96	0	9281	0.025
25	1839	196	3864	0	0	241	316	482	154	42	97	0	7231	0.019
26	1710	181	3174	0	0	205	189	382	116	39	63	0	6059	0.016
27	552	90	3169	0	0	189	181	241	58	27	43	0	4550	0.012
28	1219	136	2766	0	0	186	179	211	66	36	35	0	4834	0.013
29	1295	142	2922	0	0	192	155	292	79	24	36	0	5137	0.014
30	1255	147	3006	0	0	196	184	371	76	38	69	0	5342	0.014
31	836	125	3328	0	0	220	373	477	85	34	82	1	5561	0.015
Total	54988	6172	168985	59035	8547	9957	28218	27674	6181	2437	4644	86	376924	1.000

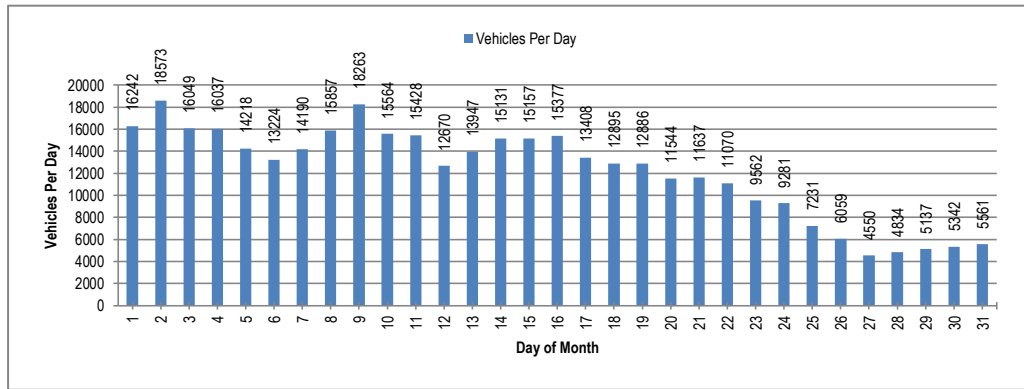


Figure 3-2: Daily Traffic Volume on N-5

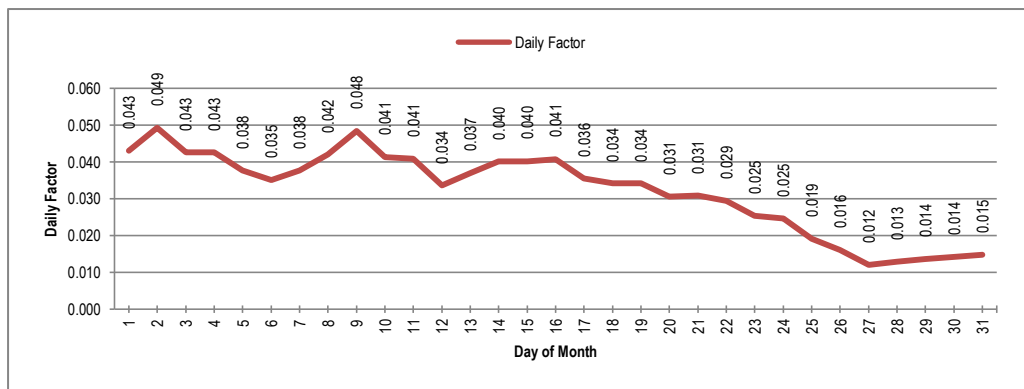


Figure 3-3: Daily Traffic Factor on N-5

3.1.2 Average Daily Traffic on N-5

The Average Daily Traffic (ADT) as calculated from the traffic data is mentioned in Table 3-3.

Table 3-3: Average Daily Traffic (ADT) on N-5

Vehicle Classification	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
Total Traffic During the Month	54988	6172	168985	59035	8547	9957	28218	27674	6181	2437	4644	86	376924
Average Daily Traffic	1774	199	5451	1904	276	321	910	893	199	79	150	3	12159

3.1.3 Traffic Distribution on N-5

The composition of traffic per hour plying on North Bound and South Bound is presented in Table 3-4. The percentage of traffic for each vehicle category on North and South Bound is graphically presented in Figure 3-4 and Figure 3-5 respectively.

Table 3-4: Traffic Composition in NB & SB Directions on N-5

Time		Traffic Composition												Total
From	To	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	
North Bound														
12:00 AM	1:00 AM	379	76	1629	542	88	170	623	667	173	93	181	1	4622
1:00 AM	2:00 AM	316	64	1461	529	109	159	653	698	178	102	148	3	4420
2:00 AM	3:00 AM	334	63	1109	497	145	146	789	723	146	65	136	0	4153
3:00 AM	4:00 AM	412	71	1065	524	209	150	1077	846	129	53	125	0	4661
4:00 AM	5:00 AM	311	67	1006	525	245	141	1040	902	133	52	102	0	4524
5:00 AM	6:00 AM	389	72	1100	562	193	144	904	776	85	29	102	0	4356
6:00 AM	7:00 AM	602	104	1827	665	114	165	703	518	99	50	92	1	4940
7:00 AM	8:00 AM	1683	182	3013	840	116	204	638	545	140	53	88	1	7503
8:00 AM	9:00 AM	2595	246	4874	1046	134	265	552	677	161	63	95	0	10708
9:00 AM	10:00 AM	2755	261	6034	1184	149	281	450	692	170	62	128	2	12168
10:00 AM	11:00 AM	3006	272	7302	1303	124	311	337	589	184	53	71	0	13552
11:00 AM	12:00 PM	3152	281	7959	1260	80	337	323	431	172	63	99	1	14158
12:00 PM	1:00 PM	3038	277	8067	1382	102	333	316	443	193	44	82	1	14278
1:00 PM	2:00 PM	3016	271	7969	1342	154	329	439	736	181	65	74	0	14576
2:00 PM	3:00 PM	3215	291	8088	1437	147	333	485	596	180	46	99	0	14917
3:00 PM	4:00 PM	3776	340	8807	1526	140	376	506	629	234	58	123	0	16515
4:00 PM	5:00 PM	3754	334	9017	1554	120	365	510	588	239	79	115	1	16676
5:00 PM	6:00 PM	3496	313	8505	1597	114	369	501	511	196	74	126	1	15803
6:00 PM	7:00 PM	2848	272	8089	1456	135	341	578	585	253	84	153	5	14799
7:00 PM	8:00 PM	1982	200	6769	1309	105	314	620	587	237	89	133	2	12347
8:00 PM	9:00 PM	1115	145	5022	1010	107	254	624	639	184	100	116	0	9316
9:00 PM	10:00 PM	661	105	4019	882	67	215	594	485	155	72	160	1	7416
10:00 PM	11:00 PM	499	92	2867	695	57	188	657	514	149	95	164	0	5977
11:00 PM	12:00 AM	422	86	2140	576	60	175	688	683	193	101	190	6	5320
Total		43756	4485	117738	24243	3014	6065	14607	15060	4164	1645	2902	26	237705
South Bound														
12:00 AM	1:00 AM	76	19	355	365	152	113	292	699	48	24	119	0	2262
1:00 AM	2:00 AM	50	20	188	213	131	109	188	481	39	14	88	0	1521
2:00 AM	3:00 AM	50	18	160	154	93	100	94	393	33	4	38	0	1137
3:00 AM	4:00 AM	18	16	118	121	60	87	52	324	22	6	32	0	856
4:00 AM	5:00 AM	8	17	172	182	46	90	55	213	11	0	25	0	819
5:00 AM	6:00 AM	37	22	339	368	58	89	67	158	26	3	47	0	1214
6:00 AM	7:00 AM	95	29	683	787	72	109	165	163	30	5	57	0	2195
7:00 AM	8:00 AM	533	74	1969	1652	149	151	319	174	50	10	43	1	5125
8:00 AM	9:00 AM	858	104	3022	2060	196	188	463	233	62	25	40	1	7252
9:00 AM	10:00 AM	896	113	3452	2206	226	199	606	281	63	11	40	1	8094
10:00 AM	11:00 AM	925	105	3326	2306	238	200	698	273	80	17	32	4	8204
11:00 AM	12:00 PM	888	113	3636	2274	248	213	796	367	58	21	46	0	8660
12:00 PM	1:00 PM	824	113	3500	2316	254	209	787	415	91	21	68	7	8605
1:00 PM	2:00 PM	623	96	3271	2246	266	193	804	407	106	30	68	5	8115
2:00 PM	3:00 PM	535	89	3246	2348	243	193	797	504	93	30	64	3	8145
3:00 PM	4:00 PM	727	103	3829	2436	277	213	820	617	142	48	93	4	9309
4:00 PM	5:00 PM	896	120	4229	2617	354	228	905	766	163	59	117	4	10458
5:00 PM	6:00 PM	967	122	4078	2495	374	239	955	705	156	60	94	8	10253
6:00 PM	7:00 PM	802	120	3669	2074	423	221	1008	808	163	71	78	14	9451
7:00 PM	8:00 PM	529	79	2890	1736	421	194	965	1025	156	88	91	2	8176
8:00 PM	9:00 PM	343	67	2049	1321	391	161	853	1037	138	89	100	3	6552
9:00 PM	10:00 PM	225	49	1489	1046	330	143	761	908	126	71	149	3	5300
10:00 PM	11:00 PM	172	43	952	829	269	131	662	897	79	56	108	0	4198
11:00 PM	12:00 AM	155	36	625	640	262	119	499	766	82	29	105	0	3318
Total		11232	1687	51247	34792	5533	3892	13611	12614	2017	792	1742	60	139219

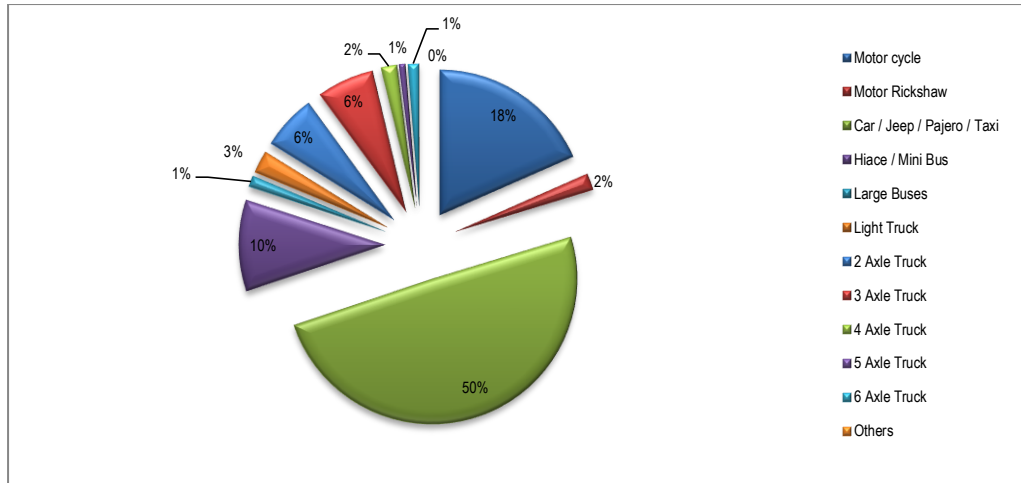


Figure 3-4: Percentage of Vehicle Composition in NB Direction of N-5

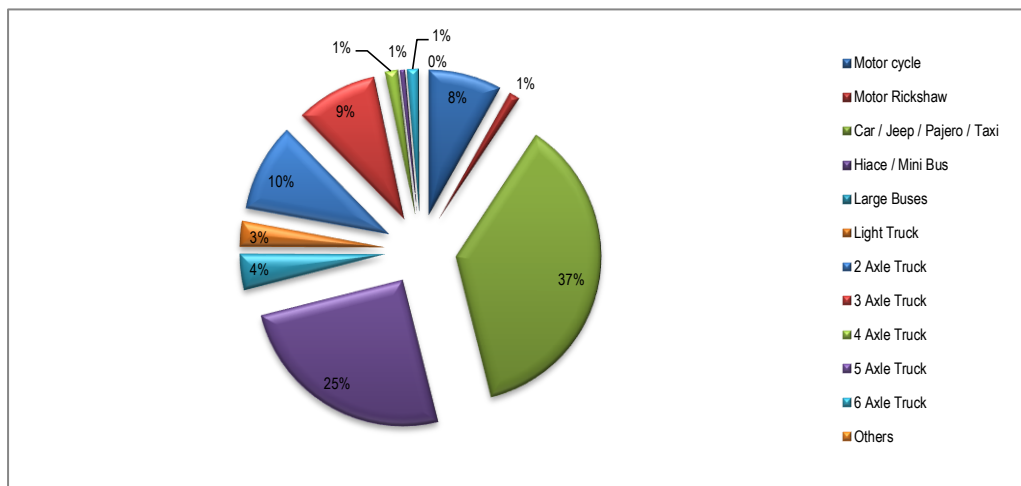


Figure 3-5: Percentage of Vehicle Composition in SB Direction of N-5

The summary of traffic distributed in both directions is tabulated in Table 3-5 and is graphically presented in Figure 3-6.

Table 3-5: Directional Distribution of Traffic Volume on N-5

Vehicle Classification	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
North Bound (NB) Traffic	43756	4485	117738	24243	3014	6065	14607	15060	4164	1645	2902	26	237705
South Bound (SB) Traffic	11232	1687	51247	34792	5533	3892	13611	12614	2017	792	1742	60	139219
Total	54988	6172	168985	59035	8547	9957	28218	27674	6181	2437	4644	86	376924
Percentage of Traffic in NB Direction	79.57	72.67	69.67	41.07	35.26	60.91	51.76	54.42	67.37	67.50	62.49	30.23	63.06
Percentage of Traffic in SB Direction	20.43	27.33	30.33	58.93	64.74	39.09	48.24	45.58	32.63	32.50	37.51	69.77	36.94

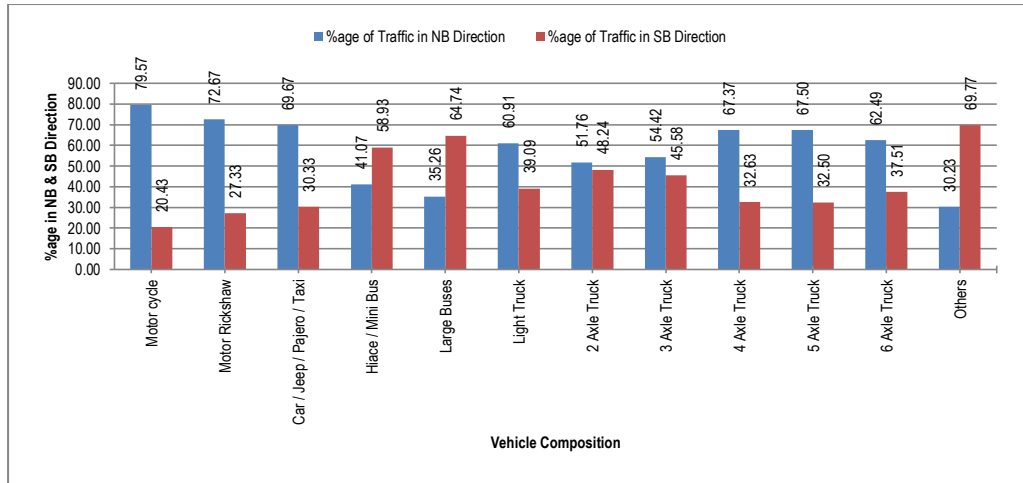


Figure 3-6: Directional Distribution of Traffic Volume on N-5

3.1.4 Weekly Trend of Traffic on N-5

The average movement of traffic on N-5 over the week is calculated and is tabulated in Table 3-6 and is graphically presented in Figure 3-7.

Table 3-6: Weekly Trend of Traffic on N-5

Vehicle Classification	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
Sunday	1973	218	5912	1976	244	330	773	829	196	82	154	4	12693
Monday	2075	226	6159	2274	272	341	763	889	201	74	147	2	13423
Tuesday	1704	198	5372	1831	253	315	843	1012	205	75	162	2	11973
Wednesday	1845	203	5367	2312	304	337	882	1138	230	96	181	3	12898
Thursday	1506	175	4688	1938	382	308	1163	882	199	80	135	3	11458
Friday	1474	171	5099	1392	250	303	1019	726	178	75	127	4	10816
Saturday	1731	192	5289	1516	240	308	1018	760	186	70	138	2	11448

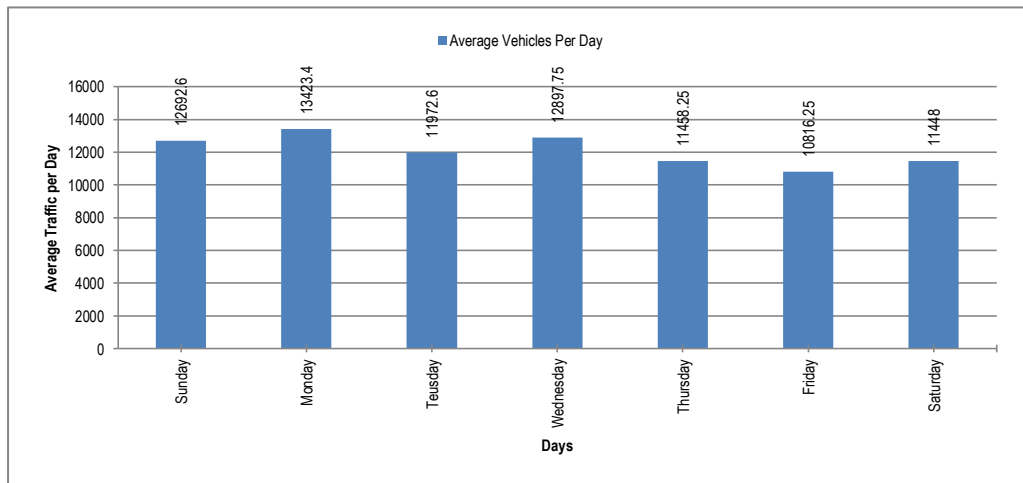


Figure 3-7: Weekly Trend of Traffic on N-5

3.1.5 Hourly Volume on N-5

The average hourly volume of traffic on N-5 is calculated and is tabulated in Table 3-7. The table also presents hourly factor of traffic on N-5. The hourly factor is graphically presented in Figure 3-8.

Table 3-7: Average Hourly Volume and Hourly Factor on N-5

Time		Average Hourly Volume														Average Hourly Factor
From	To	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total		
12:00 AM	1:00 AM	15	3	64	29	8	9	30	44	7	4	10	0	222	0.018	
1:00 AM	2:00 AM	12	3	53	24	8	9	27	38	7	4	8	0	192	0.016	
2:00 AM	3:00 AM	12	3	41	21	8	8	28	36	6	2	6	0	171	0.014	
3:00 AM	4:00 AM	14	3	38	21	9	8	36	38	5	2	5	0	178	0.015	
4:00 AM	5:00 AM	10	3	38	23	9	7	35	36	5	2	4	0	172	0.014	
5:00 AM	6:00 AM	14	3	46	30	8	8	31	30	4	1	5	0	180	0.015	
6:00 AM	7:00 AM	22	4	81	47	6	9	28	22	4	2	5	0	230	0.019	
7:00 AM	8:00 AM	71	8	161	80	9	11	31	23	6	2	4	0	407	0.033	
8:00 AM	9:00 AM	111	11	255	100	11	15	33	29	7	3	4	0	579	0.048	
9:00 AM	10:00 AM	118	12	306	109	12	15	34	31	8	2	5	0	654	0.054	
10:00 AM	11:00 AM	127	12	343	116	12	16	33	28	9	2	3	0	702	0.058	
11:00 AM	12:00 PM	130	13	374	114	11	18	36	26	7	3	5	0	736	0.061	
12:00 PM	1:00 PM	125	13	373	119	11	17	36	28	9	2	5	0	738	0.061	
1:00 PM	2:00 PM	117	12	363	116	14	17	40	37	9	3	5	0	732	0.060	
2:00 PM	3:00 PM	121	12	366	122	13	17	41	35	9	2	5	0	744	0.061	
3:00 PM	4:00 PM	145	14	408	128	13	19	43	40	12	3	7	0	833	0.069	
4:00 PM	5:00 PM	150	15	427	135	15	19	46	44	13	4	7	0	875	0.072	
5:00 PM	6:00 PM	144	14	406	132	16	20	47	39	11	4	7	0	841	0.069	
6:00 PM	7:00 PM	118	13	379	114	18	18	51	45	13	5	7	1	782	0.064	
7:00 PM	8:00 PM	81	9	312	98	17	16	51	52	13	6	7	0	662	0.054	
8:00 PM	9:00 PM	47	7	228	75	16	13	48	54	10	6	7	0	512	0.042	
9:00 PM	10:00 PM	29	5	178	62	13	12	44	45	9	5	10	0	410	0.034	
10:00 PM	11:00 PM	22	4	123	49	11	10	43	46	7	5	9	0	328	0.027	
11:00 PM	12:00 AM	19	4	89	39	10	9	38	47	9	4	10	0	279	0.023	
Total		1774	200	5452	1903	278	320	910	893	199	78	150	1	12159	1.00	

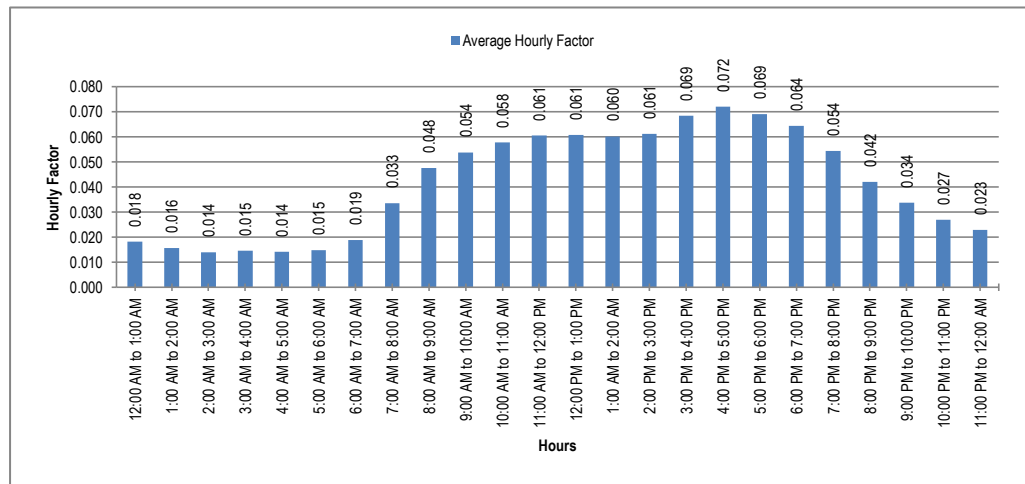


Figure 3-8: Hourly Factor on N-5

3.1.6 Proportion of Traffic in Day and Night on N-5

The traffic count data on N-5 is organized and sorted in a way to calculate proportion of traffic in day and night time. The percentage of traffic moving on N-5 from 8 am in morning to 8 pm in evening and from 8 pm to 8 am is tabulated in Table 3-8 and is graphically presented in Figure 3-9.

Table 3-8: Percentage of Traffic Composition in Day and Night Time on N-5

Vehicle Classification	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
Total	1774	200	5452	1903	278	320	910	893	199	78	150	1	12159
Traffic from 8:00 AM to 8:00 PM	1487	150	4312	1403	163	207	491	434	120	39	67	1	8874
Traffic from 8:00 PM to 8:00 AM	287	50	1140	500	115	113	419	459	79	39	83	0	3284
Percentage of Traffic from 8:00 AM to 8:00 PM	83.82 %	75.00%	79.09 %	73.73 %	58.63 %	64.69 %	53.96 %	48.60 %	60.30 %	50.00 %	44.67 %	100.00 %	72.98 %
Percentage of Traffic from 8:00 PM to 8:00 AM	16.18 %	25.00%	20.91 %	26.27 %	41.37 %	35.31 %	46.04 %	51.40 %	39.70 %	50.00 %	55.33 %	0.00%	27.01 %

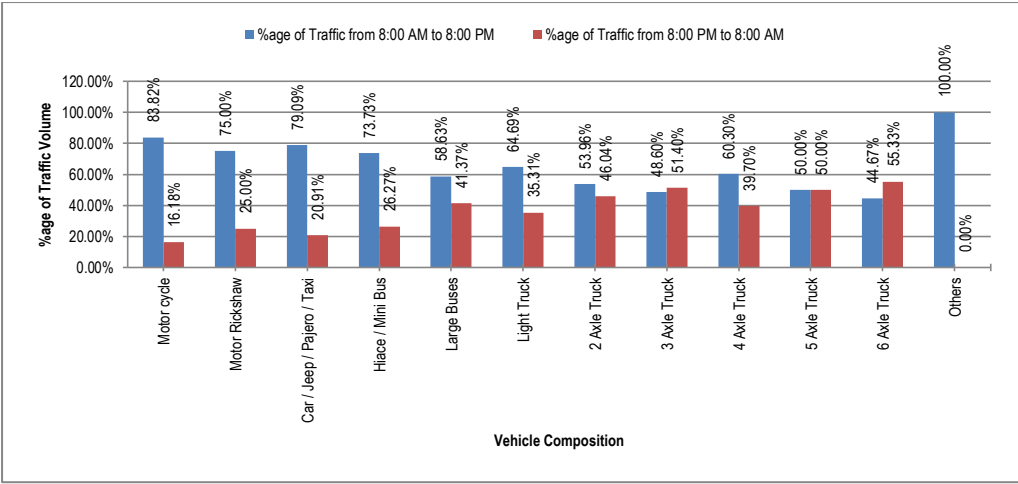


Figure 3-9: Percentage of Traffic Composition in Day and Night Time on N-5

4 NATIONAL HIGHWAY (N-35)

4.1 General

The Karakoram Highway (N-35) with a total length of 803 Km connects provinces of Punjab, Khyber Pakhtunkhwa and Gilgit-Baltistan with China's western Xinjiang Uyghur Autonomous Region. On the Chinese side it becomes the China National Highway 314. The highway passes through Karakoram mountain range at an elevation of 4,714 meters making it a popular tourist attraction. The summary results of traffic count survey conducted near Jharikas Interchange on N-35 (Figure 4-1) are illustrated in following sub-sections. The detailed traffic data counted during survey is presented in Annex-3: National Highway N-35.

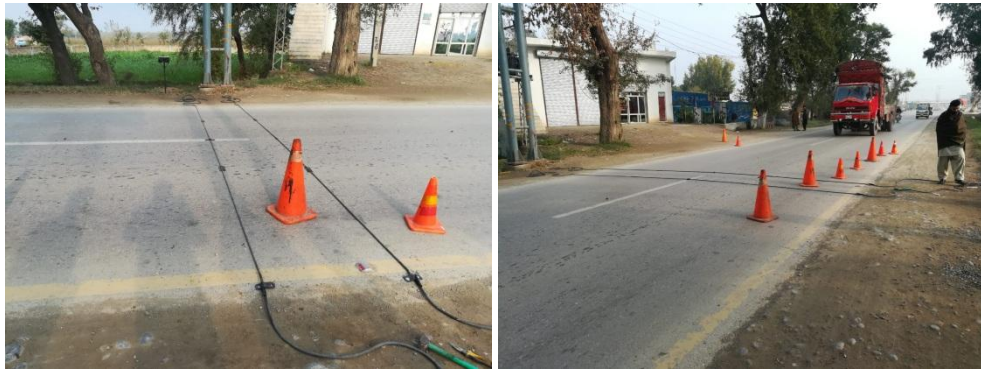


Figure 4-1: Traffic Count Location on N-35

4.1.1 Vehicles per Day on N-35

The traffic volume per day for each vehicle classification plying on National Highway N-35 is presented in Table 4-1. The table also illustrates daily factor of traffic moving on N-35. The daily traffic volume and daily factor are graphically presented in Figure 4-2 and Figure 4-3 respectively.

Table 4-1: Traffic Volume per day on Motorway N-35

Date	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total	Daily Factor
1	3486	769	5915	1687	150	272	630	646	240	41	32	0	13868	0.046
2	3043	821	5273	1594	169	258	966	798	223	44	19	4	13212	0.043
3	3143	816	4931	1509	173	246	1005	879	229	38	37	1	13007	0.043
4	2527	686	4787	1625	195	255	1277	790	229	26	44	4	12445	0.041
5	1724	434	4676	1509	196	237	1080	572	128	20	19	0	10595	0.035
6	1466	404	4830	1510	184	218	922	330	84	14	18	0	9980	0.033
7	1284	357	4686	1334	158	214	757	340	67	16	14	0	9227	0.030
8	2033	575	5353	1466	144	238	643	292	105	9	19	0	10877	0.036
9	3031	741	5495	1650	184	255	903	597	177	13	21	1	13068	0.043
10	2776	729	5032	1545	198	256	1159	793	157	25	29	0	12699	0.042
11	2413	645	4860	1524	193	258	1288	923	152	38	26	0	12320	0.040
12	1669	455	4657	1427	209	244	1014	724	123	22	29	0	10573	0.035
13	2714	700	4884	1546	206	240	821	656	177	28	46	2	12020	0.040
14	2956	778	5374	1625	177	247	872	801	177	35	41	3	13086	0.043
15	3288	860	5786	1692	172	269	972	862	222	38	30	1	14192	0.047
16	2742	772	5291	1715	208	271	778	956	194	25	26	5	12983	0.043
17	2097	548	4640	1535	244	239	853	1119	162	42	33	15	11527	0.038
18	2120	557	4642	1599	295	257	834	1084	200	35	37	12	11672	0.038
19	2085	567	4623	1599	240	237	759	1090	221	36	46	12	11515	0.038
20	2000	512	5812	0	0	231	651	960	196	48	39	15	10464	0.034
21	2140	617	6690	0	0	256	704	1066	185	44	54	17	11773	0.039
22	2949	738	6328	0	0	225	699	991	233	42	42	4	12251	0.040
23	2640	692	5011	0	0	202	672	1023	171	49	28	0	10488	0.034
24	952	270	3804	0	0	183	534	679	90	21	35	7	6575	0.022
25	954	284	2068	0	0	129	186	393	55	18	36	0	4123	0.014
26	1060	266	1695	0	0	112	163	392	42	6	19	0	3755	0.012
27	280	107	1378	0	0	109	121	290	16	5	14	0	2320	0.008
28	960	272	1608	0	0	128	132	259	51	20	20	0	3450	0.011

Date	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total	Daily Factor
29	1098	314	1612	0	0	109	138	298	40	5	10	0	3624	0.012
30	1025	284	1503	0	0	114	172	420	46	6	33	0	3603	0.012
31	619	196	1383	0	0	111	199	394	36	10	21	0	2969	0.010
Total	63274	16766	134627	29691	3695	6620	21904	21417	4428	819	917	103	304261	1.000

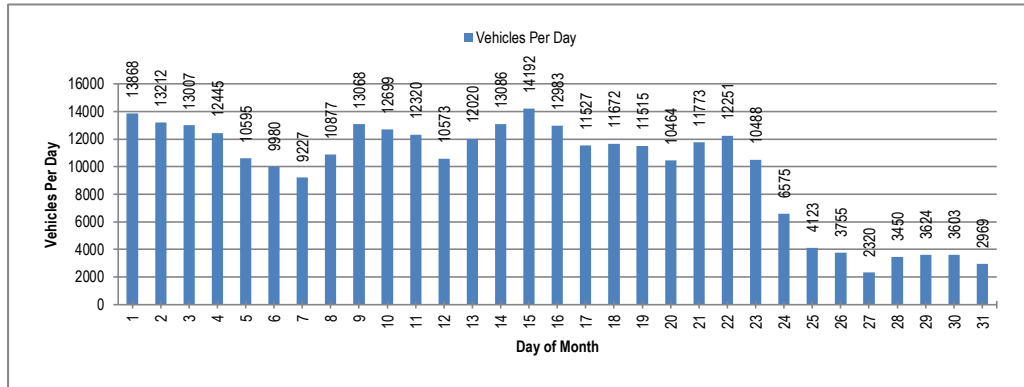


Figure 4-2: Daily Traffic Volume on N-35

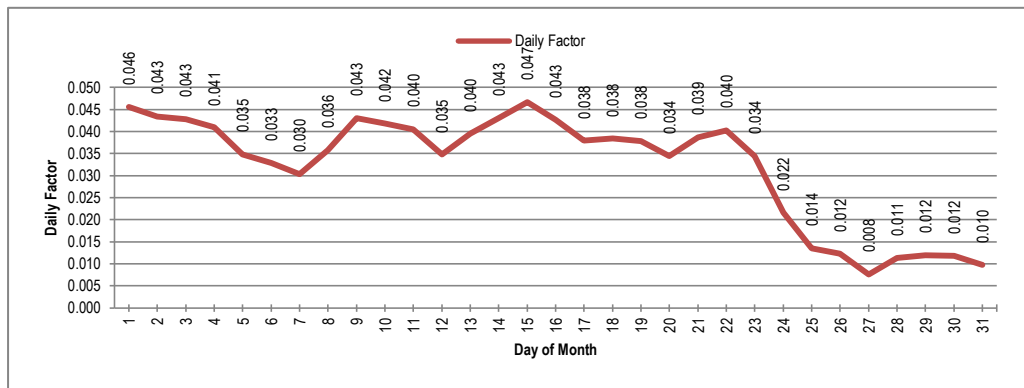


Figure 4-3: Daily Traffic Factor on N-35

4.1.2 Average Daily Traffic on N-35

The Average Daily Traffic (ADT) as calculated from the traffic data is mentioned in Table 4-2.

Table 4-2: Average Daily Traffic (ADT) on N-35

Vehicle Classification	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
Total Traffic During the Month	63274	16766	134627	29691	3695	6620	21904	21417	4428	819	917	103	304261
Average Daily Traffic	2041	541	4343	958	119	214	707	691	143	26	30	3	9816

4.1.3 Traffic Distribution on N-35

The composition of traffic per hour plying on North Bound and South Bound is presented in Table 4-3. The percentage of traffic for each vehicle category on North and South Bound is graphically presented in Figure 4-4 and Figure 4-5 respectively.

Table 4-3: Traffic Composition in NB & SB Directions on N-35

Time		Traffic Composition												
From	To	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
North Bound														
12:00 AM	1:00 AM	144	54	626	200	53	65	551	290	38	4	29	0	2054

Time		Traffic Composition												
From	To	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
1:00 AM	2:00 AM	147	57	375	173	22	61	519	273	32	3	7	0	1669
2:00 AM	3:00 AM	118	49	321	132	26	65	452	285	33	3	18	0	1502
3:00 AM	4:00 AM	91	39	276	127	23	63	372	204	22	5	1	0	1223
4:00 AM	5:00 AM	138	57	355	165	17	66	335	156	18	1	11	0	1319
5:00 AM	6:00 AM	262	87	552	164	49	66	327	150	28	3	1	0	1689
6:00 AM	7:00 AM	590	170	1448	386	66	89	314	277	39	5	4	0	3388
7:00 AM	8:00 AM	1250	362	2342	539	51	130	270	350	55	2	14	1	5366
8:00 AM	9:00 AM	2107	558	3510	703	104	167	197	281	114	6	6	0	7753
9:00 AM	10:00 AM	2612	661	4152	806	52	179	259	255	102	14	4	2	9098
10:00 AM	11:00 AM	2853	729	4638	907	50	198	265	319	146	10	5	2	10122
11:00 AM	12:00 PM	2992	793	4829	874	57	203	294	335	139	16	7	3	10542
12:00 PM	1:00 PM	2775	678	4726	944	70	197	251	350	132	14	12	1	10150
1:00 PM	2:00 PM	2532	652	4556	848	36	183	293	366	118	21	8	0	9613
2:00 PM	3:00 PM	2516	638	4413	838	47	177	262	319	104	12	16	4	9346
3:00 PM	4:00 PM	2854	706	4727	887	63	201	338	296	152	24	9	4	10261
4:00 PM	5:00 PM	3176	801	4890	940	69	191	407	343	168	33	22	7	11047
5:00 PM	6:00 PM	3450	892	5102	1003	97	214	357	392	204	28	17	2	11758
6:00 PM	7:00 PM	3112	798	4512	856	51	191	389	337	172	21	19	0	10458
7:00 PM	8:00 PM	1948	467	3696	722	72	160	514	293	130	19	13	2	8036
8:00 PM	9:00 PM	873	237	2592	549	49	120	541	277	68	13	12	0	5331
9:00 PM	10:00 PM	480	141	1823	398	88	106	545	288	44	10	15	0	3938
10:00 PM	11:00 PM	308	98	1233	329	103	87	573	270	41	11	22	0	3075
11:00 PM	12:00 AM	206	77	890	269	96	79	578	308	43	7	31	0	2584
Total		37534	9801	66584	13759	1411	3258	9203	7014	2142	285	303	28	151322
South Bound														
12:00 AM	1:00 AM	181	64	1021	341	72	90	810	828	72	12	41	0	3532
1:00 AM	2:00 AM	171	63	801	334	73	78	920	964	90	20	25	0	3539
2:00 AM	3:00 AM	140	54	605	262	100	72	785	845	60	9	19	0	2951
3:00 AM	4:00 AM	107	44	609	256	186	66	617	744	67	14	18	0	2728
4:00 AM	5:00 AM	162	54	612	245	176	67	624	661	43	4	9	0	2657
5:00 AM	6:00 AM	152	58	720	244	118	68	559	483	39	3	6	0	2450
6:00 AM	7:00 AM	367	116	1132	341	177	79	436	304	25	0	9	0	2986
7:00 AM	8:00 AM	1116	332	1981	458	104	119	312	253	51	4	7	1	4738
8:00 AM	9:00 AM	1533	416	3068	647	55	152	283	290	82	20	10	1	6557
9:00 AM	10:00 AM	1689	433	3805	815	74	165	226	300	94	18	11	6	7636
10:00 AM	11:00 AM	2004	540	4105	868	55	185	298	400	113	19	15	7	8609
11:00 AM	12:00 PM	1980	542	4393	904	56	185	335	389	123	16	13	7	8943
12:00 PM	1:00 PM	1828	474	4359	945	85	192	309	371	123	19	6	7	8718
1:00 PM	2:00 PM	1720	449	4277	874	73	177	341	485	134	29	30	6	8595
2:00 PM	3:00 PM	1901	498	4597	960	96	190	336	715	147	43	30	8	9521
3:00 PM	4:00 PM	2008	508	5193	1088	71	211	359	718	143	39	37	9	10384
4:00 PM	5:00 PM	2004	510	5276	1140	147	207	471	782	163	45	22	9	10776
5:00 PM	6:00 PM	2101	542	5190	1148	117	223	461	558	147	32	33	9	10561
6:00 PM	7:00 PM	1926	507	4539	946	108	189	468	440	155	23	24	3	9328
7:00 PM	8:00 PM	1160	293	3581	848	81	170	710	648	127	50	41	2	7711
8:00 PM	9:00 PM	598	167	2859	648	53	136	756	775	60	22	36	0	6110
9:00 PM	10:00 PM	363	111	2143	572	63	121	747	722	74	18	34	0	4968
10:00 PM	11:00 PM	298	107	1878	554	67	121	785	899	78	42	76	0	4905
11:00 PM	12:00 AM	231	83	1299	494	77	99	753	829	76	33	62	0	4036
Total		25740	6965	68043	15932	2284	3362	12701	14403	2286	534	614	75	152939

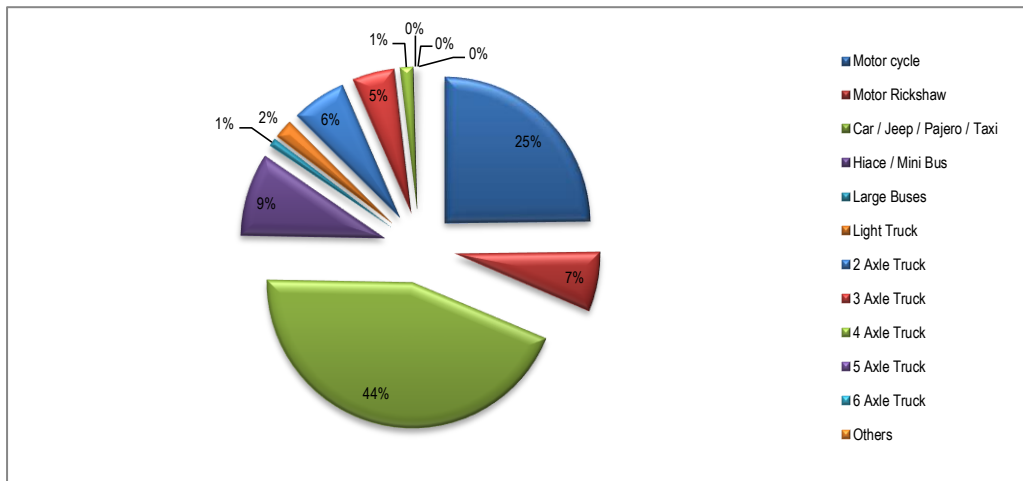


Figure 4-4: Percentage of Vehicle Composition in NB Direction of N-35

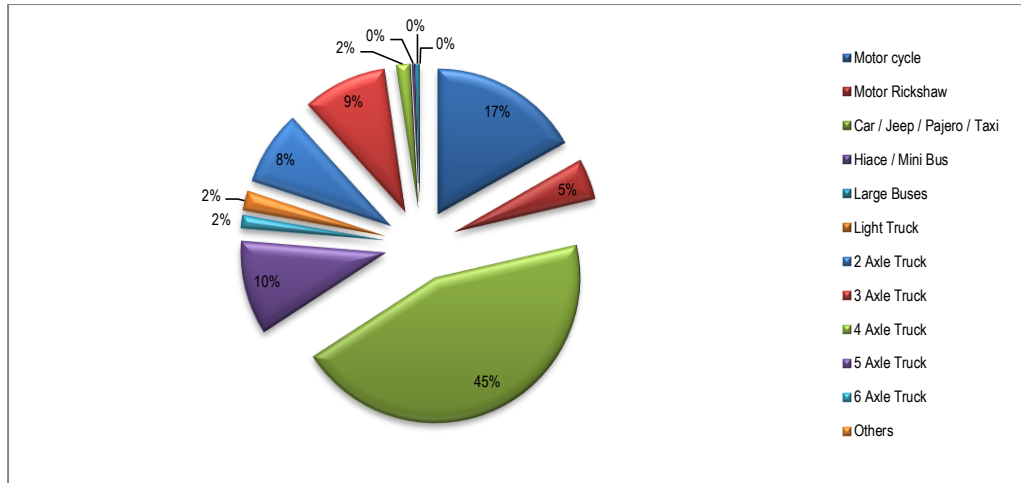


Figure 4-5: Percentage of Vehicle Composition in SB Direction of N-35

The summary of traffic distributed in both directions is tabulated in Table 4-4 and is graphically presented in Figure 4-6.

Table 4-4: Directional Distribution of Traffic Volume on N-35

Vehicle Classification	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
North Bound (NB) Traffic	37534	9801	66584	13759	1411	3258	9203	7014	2142	285	303	28	151322
South Bound (SB) Traffic	25740	6965	68043	15932	2284	3362	12701	14403	2286	534	614	75	152939
Total	63274	16766	134627	29691	3695	6620	21904	21417	4428	819	917	103	304261
Percentage of Traffic in NB Direction	59.32	58.46	49.46	46.34	38.19	49.21	42.02	32.75	48.37	34.80	33.04	27.18	49.73
Percentage of Traffic in SB Direction	40.68	41.54	50.54	53.66	61.81	50.79	57.98	67.25	51.63	65.20	66.96	72.82	50.27

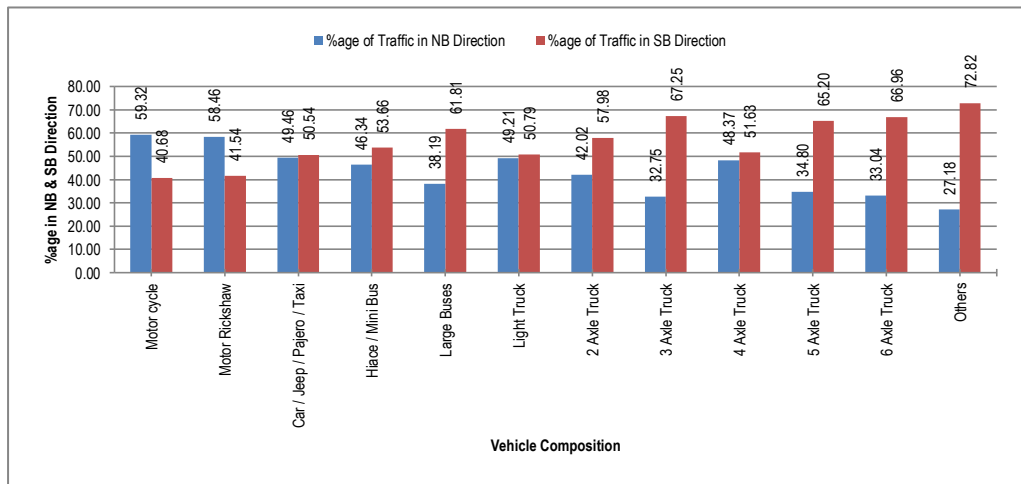


Figure 4-6: Directional Distribution of Traffic Volume on N-35

4.1.4 Weekly Trend of Traffic on N-35

The average movement of traffic on N-35 over the week is calculated and is tabulated in Table 4-5 and is graphically presented in Figure 4-7.

Table 4-5: Weekly Trend of Traffic on N-35

Vehicle Classification	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
Sunday	2571	651	4999	969	93	223	616	618	168	27	27	1	10962
Monday	2496	662	4515	992	112	220	698	759	162	27	25	2	10671
Tuesday	1917	512	3958	918	123	207	750	773	135	27	31	5	9355.4
Wednesday	2004	543	4089	1187	171	225	896	798	159	29	36	4	10140

Vehicle Classification	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
Thursday	1635	431	3913	1134	161	208	754	695	129	21	28	3	9109.5
Friday	1615	431	4226	764	98	200	629	559	118	24	29	4	8696
Saturday	1835	506	4590	740	84	211	616	617	120	29	32	5	9384

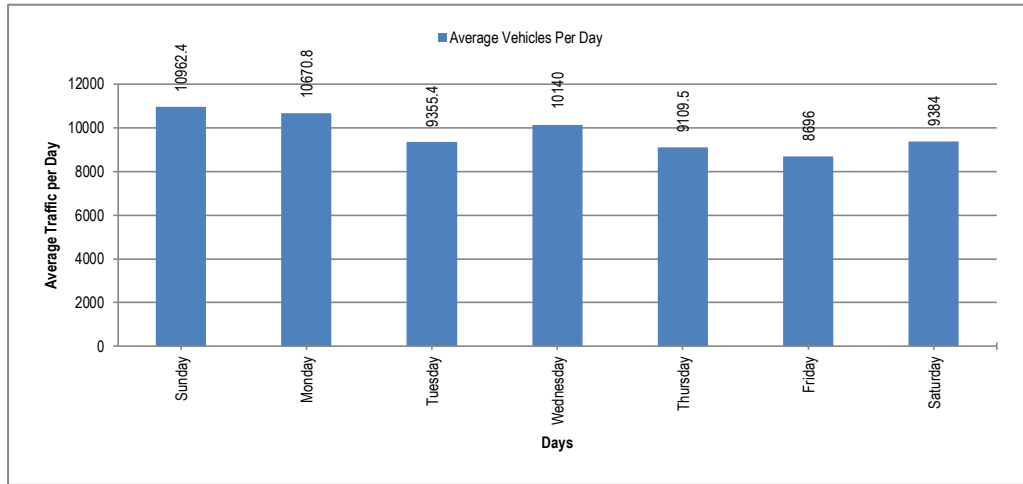


Figure 4-7: Weekly Trend of Traffic on N-35

4.1.5 Hourly Volume on N-35

The average hourly volume of traffic on N-35 is calculated and is tabulated in Table 4-6. The table also presents hourly factor of traffic on N-35. The hourly factor is graphically presented in Figure 4-8.

Table 4-6: Average Hourly Volume and Hourly Factor on N-35

Time		Average Hourly Volume														Average Hourly Factor
From	To	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total		
12:00 AM	1:00 AM	10	4	53	17	4	5	44	36	4	1	2	0	180	0.018	
1:00 AM	2:00 AM	10	4	38	16	3	4	46	40	4	1	1	0	168	0.017	
2:00 AM	3:00 AM	8	3	30	13	4	4	40	36	3	0	1	0	144	0.015	
3:00 AM	4:00 AM	6	3	29	12	7	4	32	31	3	1	1	0	127	0.013	
4:00 AM	5:00 AM	10	4	31	13	6	4	31	26	2	0	1	0	128	0.013	
5:00 AM	6:00 AM	13	5	41	13	5	4	29	20	2	0	0	0	134	0.014	
6:00 AM	7:00 AM	31	9	83	23	8	5	24	19	2	0	0	0	206	0.021	
7:00 AM	8:00 AM	76	22	139	32	5	8	19	19	3	0	1	0	326	0.033	
8:00 AM	9:00 AM	117	31	212	44	5	10	15	18	6	1	1	0	462	0.047	
9:00 AM	10:00 AM	139	35	257	52	4	11	16	18	6	1	0	0	540	0.055	
10:00 AM	11:00 AM	157	41	282	57	3	12	18	23	8	1	1	0	604	0.062	
11:00 AM	12:00 PM	160	43	297	57	4	13	20	23	8	1	1	0	629	0.064	
12:00 PM	1:00 PM	148	37	293	61	5	13	18	23	8	1	1	0	609	0.062	
1:00 PM	2:00 PM	137	36	285	56	4	12	20	27	8	2	1	0	587	0.060	
2:00 PM	3:00 PM	142	37	291	58	5	12	19	33	8	2	1	0	609	0.062	
3:00 PM	4:00 PM	157	39	320	64	4	13	22	33	10	2	1	0	666	0.068	
4:00 PM	5:00 PM	167	42	328	67	7	13	28	36	11	3	1	1	704	0.072	
5:00 PM	6:00 PM	179	46	332	69	7	14	26	31	11	2	2	0	720	0.073	
6:00 PM	7:00 PM	163	42	292	58	5	12	28	25	11	1	1	0	638	0.065	
7:00 PM	8:00 PM	100	25	235	51	5	11	39	30	8	2	2	0	508	0.052	
8:00 PM	9:00 PM	47	13	176	39	3	8	42	34	4	1	2	0	369	0.038	
9:00 PM	10:00 PM	27	8	128	31	5	7	42	33	4	1	2	0	287	0.029	
10:00 PM	11:00 PM	20	7	100	28	5	7	44	38	4	2	3	0	257	0.026	
11:00 PM	12:00 AM	14	5	71	25	6	6	43	37	4	1	3	0	214	0.022	
Total		2038	541	4343	956	119	212	705	689	142	27	30	1	9816	1.000	

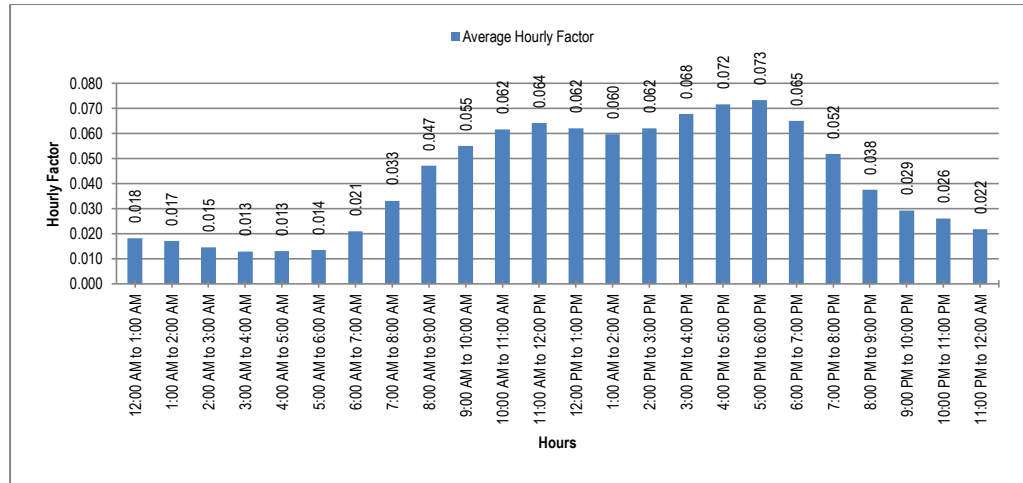


Figure 4-8: Hourly Factor on N-35

4.1.6 Proportion of Traffic in Day and Night on N-35

The traffic count data on N-35 is organized and sorted in a way to calculate proportion of traffic in day and night time. The percentage of traffic moving on N-35 from 8 am in morning to 8 pm in evening and from 8 pm to 8 am is tabulated in Table 4-7 and is graphically presented in Figure 4-9.

Table 4-7: Percentage of Traffic Composition in Day and Night Time on N-35

Vehicle Classification	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
Total	2038	541	4343	956	119	212	705	689	142	27	30	1	9816
Traffic from 8:00 AM to 8:00 PM	1766	454	3424	694	58	146	269	320	103	19	13	1	7267
Traffic from 8:00 PM to 8:00 AM	272	87	919	262	61	66	436	369	39	8	17	0	2536
Percentage of Traffic from 8:00 AM to 8:00 PM	86.65 %	83.92%	78.84 %	72.59 %	48.74 %	68.87 %	38.16 %	46.44 %	72.54 %	70.37 %	43.33 %	100.00 %	74.03 %
Percentage of Traffic from 8:00 PM to 8:00 AM	13.35 %	16.08%	21.16 %	27.41 %	51.26 %	31.13 %	61.84 %	53.56 %	27.46 %	29.63 %	56.67 %	0.00%	25.84 %

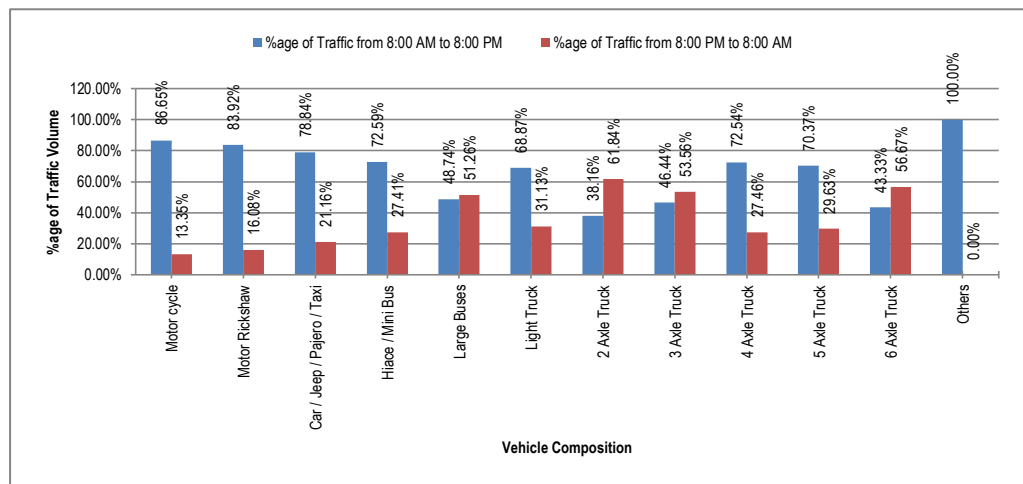


Figure 4-9: Percentage of Traffic Composition in Day and Night Time on N-35

5 NATIONAL HIGHWAY (N-45)

5.1 General

The National Highway N-45 is one of Pakistan National Highway running from Nowshera District to the town of Chitral via Dir in Khyber Pakhtunkhwa. It is a two lane highway with a total length of 309 km. The summary results of traffic count survey conducted near Risalpur on N-45 (Figure 5-1) are illustrated in following sub-sections. The detailed traffic data counted during survey is presented in Annex-4: National Highway N-45.



Figure 5-1: Traffic Count Location on N-45

5.1.1 Vehicles per Day on N-45

The traffic volume per day for each vehicle classification plying on National Highway N-45 is presented in Table 5-1. The table also illustrates daily factor of traffic moving on N-45. The daily traffic volume and daily factor are graphically presented in Figure 5-2 and Figure 5-3 respectively.

Table 5-1: Traffic Volume per day on Motorway N-45

Date	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total	Daily Factor
1	6490	1460	16314	4320	454	756	716	795	683	56	103	23	32170	0.041
2	6585	1769	14805	3601	404	652	944	806	650	63	87	77	30443	0.039
3	6425	1690	14630	3604	413	637	1195	975	660	66	86	72	30453	0.039
4	5760	1574	14435	3767	406	682	1070	870	606	88	75	65	29398	0.037
5	4673	1257	15736	4679	629	734	690	991	498	66	128	27	30108	0.038
6	4908	1318	16657	4843	580	721	639	793	548	95	92	41	31235	0.040
7	4839	1349	16403	4683	632	751	650	886	583	101	86	37	31000	0.040
8	5010	1270	16713	4805	545	762	369	685	618	68	90	36	30971	0.039
9	4766	1370	16298	4812	502	717	605	764	534	64	60	20	30512	0.039
10	5503	1511	16166	4871	646	751	790	865	587	81	91	33	31895	0.041
11	5323	1357	15986	4731	642	731	845	1025	572	66	109	27	31414	0.040
12	5113	1374	16347	4849	622	759	816	966	551	93	100	35	31625	0.040
13	5448	1450	16511	5052	665	754	734	1014	648	109	89	48	32522	0.041
14	5233	1340	15979	4883	593	755	576	859	639	79	118	39	31093	0.040
15	4665	1362	16788	4913	485	711	623	851	520	37	63	33	31051	0.040
16	5406	1496	16983	5107	632	760	860	850	563	81	86	31	32855	0.042
17	5154	1318	16003	4667	634	680	892	1042	515	52	113	37	31107	0.040
18	5232	1384	16076	4796	622	722	907	939	548	74	99	32	31431	0.040
19	5249	1402	16256	4842	635	702	860	1045	593	98	87	35	31804	0.041
20	5218	1303	18459	0	0	706	452	863	589	71	106	34	27801	0.035
21	3717	1045	18035	0	0	650	724	933	432	49	91	15	25691	0.033
22	3951	992	16739	0	0	551	632	757	452	36	81	13	24204	0.031
23	3375	916	12167	0	0	478	599	712	310	36	80	4	18677	0.024
24	1880	524	9732	0	0	429	322	535	150	29	86	1	13688	0.017
25	2676	754	10036	0	0	425	265	478	203	30	92	2	14961	0.019
26	2702	675	9062	0	0	355	269	397	153	20	91	1	13725	0.017
27	1028	337	6147	0	0	299	123	293	42	6	68	1	8344	0.011
28	2153	575	6955	0	0	329	230	349	112	10	68	0	10781	0.014
29	2265	636	7304	0	0	310	257	367	100	13	70	0	11322	0.014
30	2517	682	8103	0	0	338	359	482	145	15	79	1	12721	0.016
31	1298	398	6553	0	0	325	211	445	89	21	94	2	9436	0.012
Total	134562	35888	434378	87825	10741	18932	19224	23632	13893	1773	2768	822	784438	1.000

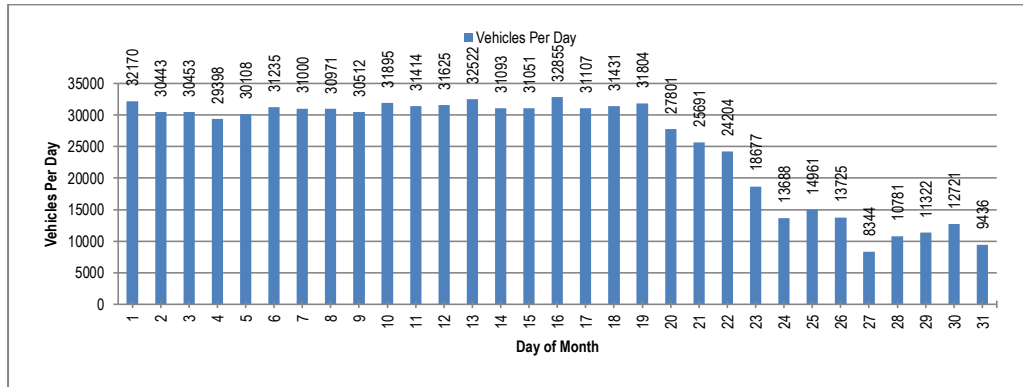


Figure 5-2: Daily Traffic Volume on N-45

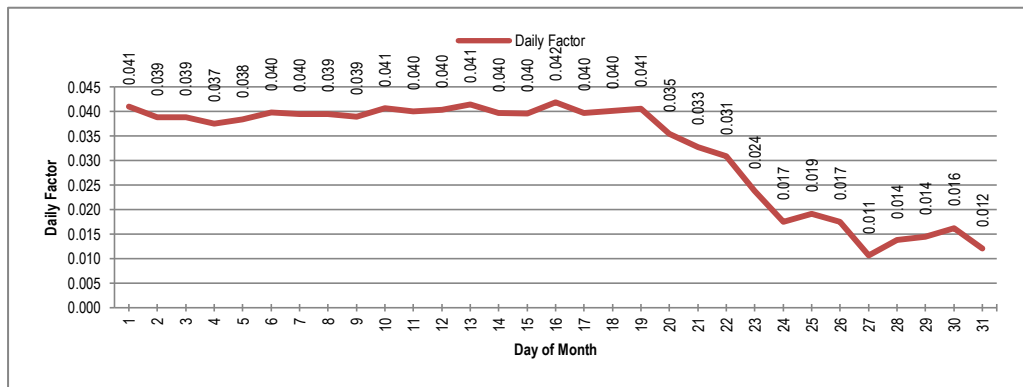


Figure 5-3: Daily Traffic Factor on N-45

5.1.2 Average Daily Traffic on N-45

The Average Daily Traffic (ADT) as calculated from the traffic data is mentioned in Table 5-2.

Table 5-2: Average Daily Traffic (ADT) on N-45

Vehicle Classification	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
Total Traffic During the Month	134562	35888	434378	87825	10741	18932	19224	23632	13893	1773	2768	822	784438
Average Daily Traffic	4341	1158	14012	2833	346	611	620	762	448	57	89	27	25304

5.1.3 Traffic Distribution on N-45

The composition of traffic per hour plying on North Bound and South Bound is presented in Table 5-3. The percentage of traffic for each vehicle category on North and South Bound is graphically presented in Figure 5-4 and Figure 5-5 respectively.

Table 5-3: Traffic Composition in NB & SB Directions on N-45

Time		Traffic Composition												
From	To	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
North Bound														
12:00 AM	1:00 AM	63	53	1247	269	17	140	258	290	18	32	31	0	2418
1:00 AM	2:00 AM	46	43	817	192	28	131	219	300	15	6	17	0	1814
2:00 AM	3:00 AM	34	37	525	127	14	125	152	259	23	9	13	0	1318
3:00 AM	4:00 AM	31	38	431	121	20	132	163	238	12	11	7	0	1204
4:00 AM	5:00 AM	107	61	535	146	26	121	205	250	4	1	3	0	1459
5:00 AM	6:00 AM	535	167	879	239	71	129	296	254	37	2	9	0	2618
6:00 AM	7:00 AM	2089	537	2458	494	77	183	359	325	83	11	16	0	6632

Time		Traffic Composition												
From	To	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
7:00 AM	8:00 AM	8382	2205	6813	1440	253	355	475	415	506	20	16	45	20925
8:00 AM	9:00 AM	7729	1915	9841	1873	190	446	454	373	597	26	7	40	23491
9:00 AM	10:00 AM	7050	1888	11607	2113	173	511	510	459	546	25	28	31	24941
10:00 AM	11:00 AM	7018	1867	13101	2388	146	538	664	538	562	26	24	30	26902
11:00 AM	12:00 PM	6926	1822	14169	2461	181	586	666	575	526	37	25	29	28003
12:00 PM	1:00 PM	6422	1499	13458	2430	146	574	684	571	531	29	46	14	26404
1:00 PM	2:00 PM	5573	1460	12477	2247	134	499	604	546	354	28	55	16	23993
2:00 PM	3:00 PM	6192	1512	13189	2383	135	510	692	501	436	39	47	22	25658
3:00 PM	4:00 PM	6716	1714	14895	2601	200	604	812	571	598	25	83	23	28842
4:00 PM	5:00 PM	7211	1796	15203	2638	208	590	790	569	690	40	61	36	29832
5:00 PM	6:00 PM	6738	1804	14476	2669	203	603	699	522	607	35	85	22	28463
6:00 PM	7:00 PM	5924	1531	13937	2527	190	565	601	525	495	46	63	27	26431
7:00 PM	8:00 PM	4027	966	12075	2139	132	481	631	513	297	47	86	11	21405
8:00 PM	9:00 PM	2145	568	8154	1581	151	344	542	506	119	12	75	2	14199
9:00 PM	10:00 PM	1355	385	5452	1114	91	274	412	406	101	32	82	0	9704
10:00 PM	11:00 PM	535	200	3590	708	60	216	352	404	40	34	80	0	6219
11:00 PM	12:00 AM	174	84	2106	453	32	161	250	336	30	10	47	0	3683
Total		93022	24152	191435	35353	2878	8818	11490	10246	7227	583	1006	348	386558
South Bound														
12:00 AM	1:00 AM	123	85	914	343	107	150	174	456	74	58	124	1	2609
1:00 AM	2:00 AM	134	94	632	234	177	149	192	495	127	71	133	1	2439
2:00 AM	3:00 AM	111	65	436	206	143	141	117	399	111	19	52	0	1800
3:00 AM	4:00 AM	75	81	385	215	157	147	122	548	99	49	107	0	1985
4:00 AM	5:00 AM	130	66	456	236	209	138	105	465	90	5	48	1	1949
5:00 AM	6:00 AM	190	89	809	242	167	146	198	505	105	49	80	0	2580
6:00 AM	7:00 AM	296	128	2403	765	224	168	131	505	67	41	54	0	4782
7:00 AM	8:00 AM	1480	448	7743	1845	358	346	316	468	309	32	26	3	13374
8:00 AM	9:00 AM	1995	568	12289	2656	404	471	224	450	211	47	29	5	19349
9:00 AM	10:00 AM	2025	589	14971	3093	417	597	355	539	275	29	82	29	23001
10:00 AM	11:00 AM	2643	755	17085	3637	610	655	436	582	352	23	54	7	26839
11:00 AM	12:00 PM	2776	747	18222	3881	574	721	539	779	402	56	39	68	28804
12:00 PM	1:00 PM	2993	788	18616	3884	601	721	591	707	446	53	74	40	29514
1:00 PM	2:00 PM	2693	730	16682	3434	451	596	526	603	408	33	91	21	26268
2:00 PM	3:00 PM	3374	870	17795	3416	406	601	560	558	439	58	48	25	28150
3:00 PM	4:00 PM	3761	1003	20917	3876	467	725	540	649	510	103	52	55	32658
4:00 PM	5:00 PM	4137	1079	20571	3989	354	749	507	744	673	68	67	66	33004
5:00 PM	6:00 PM	3716	1040	19847	3881	334	741	393	594	545	86	43	57	31277
6:00 PM	7:00 PM	3501	908	17976	3600	303	633	355	524	471	90	51	45	28457
7:00 PM	8:00 PM	2598	656	14556	3154	283	507	312	622	421	66	96	27	23298
8:00 PM	9:00 PM	1302	411	8618	2321	295	354	343	583	215	56	96	5	14599
9:00 PM	10:00 PM	783	240	5644	1697	325	271	225	603	143	36	114	0	10081
10:00 PM	11:00 PM	432	169	3559	1224	318	221	248	495	75	31	97	13	6882
11:00 PM	12:00 AM	272	127	1817	643	179	166	225	513	98	31	105	5	4181
Total		41540	11736	242943	52472	7863	10114	7734	13386	6666	1190	1762	474	397880

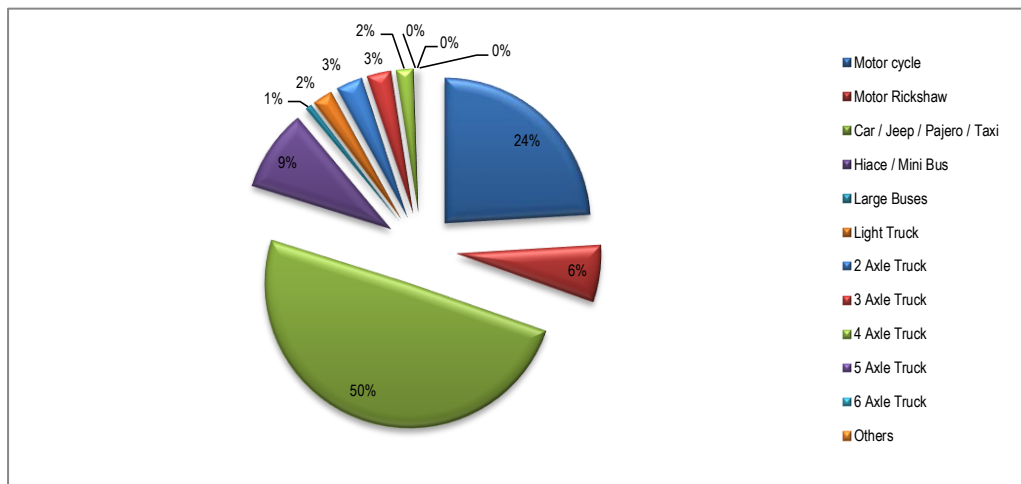


Figure 5-4: Percentage of Vehicle Composition in NB Direction of N-45

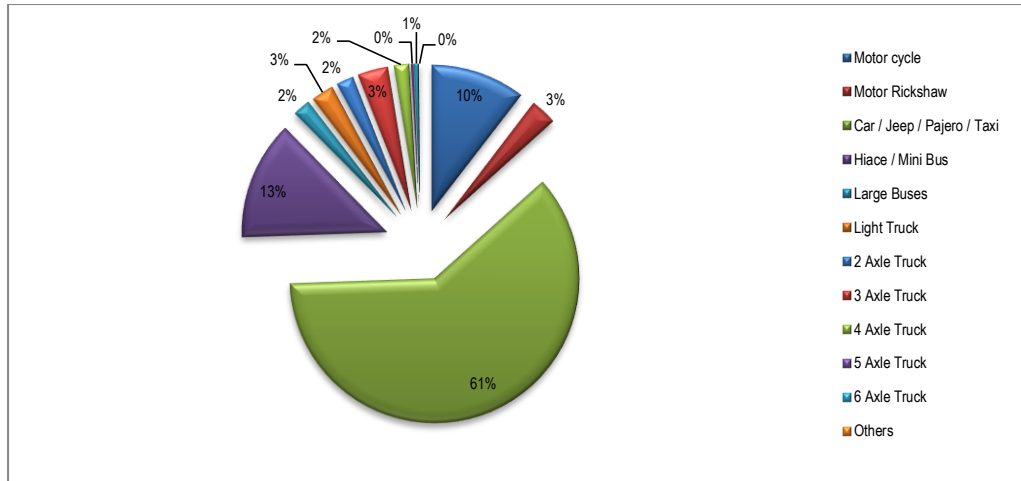


Figure 5-5: Percentage of Vehicle Composition in SB Direction of N-45

The summary of traffic distributed in both directions is tabulated in Table 5-4 and is graphically presented in Figure 5-6.

Table 5-4: Directional Distribution of Traffic Volume on N-45

Vehicle Classification	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
North Bound (NB) Traffic	93022	24152	191435	35353	2878	8818	11490	10246	7227	583	1006	348	386558
South Bound (SB) Traffic	41540	11736	242943	52472	7863	10114	7734	13386	6666	1190	1762	474	397880
Total	134562	35888	434378	87825	10741	18932	19224	23632	13893	1773	2768	822	784438
Percentage of Traffic in NB Direction	69.13	67.30	44.07	40.25	26.79	46.58	59.77	43.36	52.02	32.88	36.34	42.34	49.28
Percentage of Traffic in SB Direction	30.87	32.70	55.93	59.75	73.21	53.42	40.23	56.64	47.98	67.12	63.66	57.66	50.72

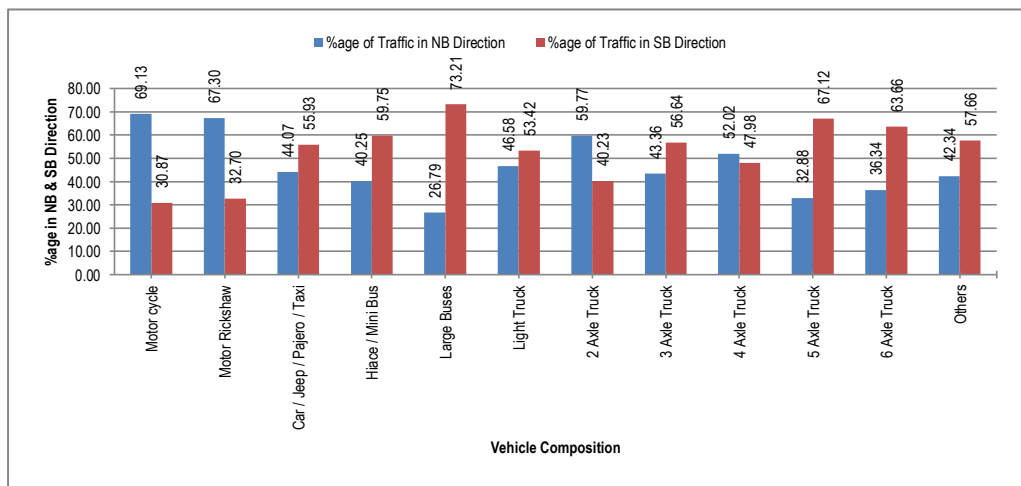


Figure 5-6: Directional Distribution of Traffic Volume on N-45

5.1.4 Weekly Trend of Traffic on N-45

The average movement of traffic on N-45 over the week is calculated and is tabulated in Table 5-5 and is graphically presented in Figure 5-7.

Table 5-5: Weekly Trend of Traffic on N-45

Vehicle Classification	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
Sunday	4476	1144	14772	2808	297	618	519	691	475	42	81	21	25944
Monday	4530	1247	13671	2704	308	589	673	723	440	52	78	27	25042
Tuesday	4052	1088	12617	2628	339	564	682	772	400	50	94	29	23316
Wednesday	4748	1267	14133	3324	418	640	772	828	482	65	94	32	26801

Vehicle Classification	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
Thursday	4434	1177	14350	3593	472	638	659	850	449	69	102	25	26816
Friday	4151	1102	14444	2474	311	620	487	741	457	70	89	31	24976
Saturday	3986	1077	14343	2392	306	621	545	757	442	60	91	23	24641

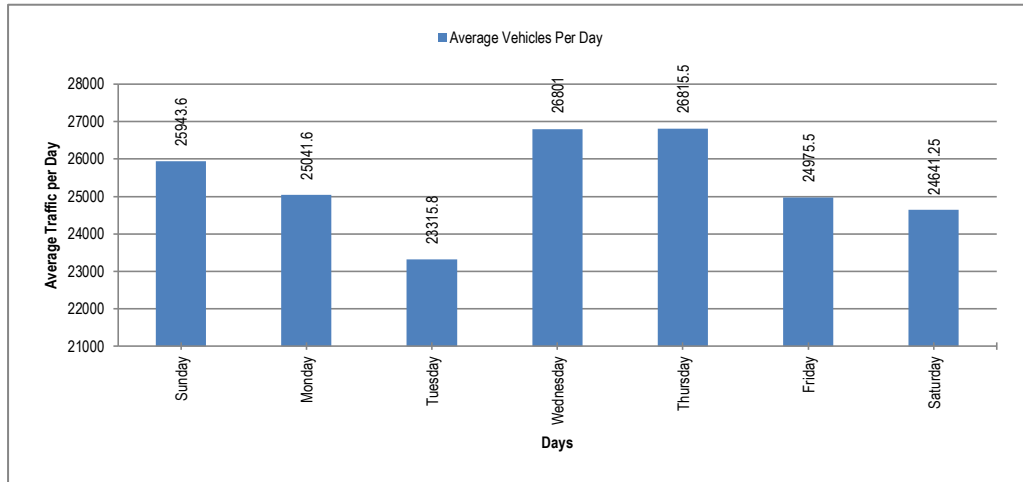


Figure 5-7: Weekly Trend of Traffic on N-45

5.1.5 Hourly Volume on N-45

The average hourly volume of traffic on N-45 is calculated and is tabulated in Table 5-6. The table also presents hourly factor of traffic on N-45. The hourly factor is graphically presented in Figure 5-8.

Table 5-6: Average Hourly Volume and Hourly Factor on N-45

Time		Average Hourly Volume													Average Hourly Factor
From	To	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total	
12:00 AM	1:00 AM	6	4	70	20	4	9	14	24	3	3	5	0	162	0.006
1:00 AM	2:00 AM	6	4	47	14	7	9	13	26	5	2	5	0	137	0.005
2:00 AM	3:00 AM	5	3	31	11	5	9	9	21	4	1	2	0	101	0.004
3:00 AM	4:00 AM	3	4	26	11	6	9	9	25	4	2	4	0	103	0.004
4:00 AM	5:00 AM	8	4	32	12	8	8	10	23	3	0	2	0	110	0.004
5:00 AM	6:00 AM	23	8	54	16	8	9	16	24	5	2	3	0	168	0.007
6:00 AM	7:00 AM	77	21	157	41	10	11	16	27	5	2	2	0	368	0.015
7:00 AM	8:00 AM	318	86	470	106	20	23	26	28	26	2	1	2	1106	0.044
8:00 AM	9:00 AM	314	80	714	146	19	30	22	27	26	2	1	1	1382	0.055
9:00 AM	10:00 AM	293	80	857	168	19	36	28	32	26	2	4	2	1547	0.061
10:00 AM	11:00 AM	312	85	974	194	24	38	35	36	29	2	3	1	1734	0.069
11:00 AM	12:00 PM	313	83	1045	205	24	42	39	44	30	3	2	3	1832	0.072
12:00 PM	1:00 PM	304	74	1035	204	24	42	41	41	32	3	4	2	1804	0.071
1:00 PM	2:00 PM	267	71	941	183	19	35	36	37	25	2	5	1	1621	0.064
2:00 PM	3:00 PM	309	77	999	187	17	36	40	34	28	3	3	2	1736	0.069
3:00 PM	4:00 PM	338	88	1155	209	22	43	44	39	36	4	4	3	1984	0.078
4:00 PM	5:00 PM	366	93	1154	214	18	43	42	42	44	3	4	3	2027	0.080
5:00 PM	6:00 PM	337	92	1107	211	17	43	35	36	37	4	4	3	1927	0.076
6:00 PM	7:00 PM	304	79	1029	198	16	39	31	34	31	4	4	2	1771	0.070
7:00 PM	8:00 PM	214	52	859	171	13	32	30	37	23	4	6	1	1442	0.057
8:00 PM	9:00 PM	111	32	541	126	14	23	29	35	11	2	6	0	929	0.037
9:00 PM	10:00 PM	69	20	358	91	13	18	21	33	8	2	6	0	638	0.025
10:00 PM	11:00 PM	31	12	231	62	12	14	19	29	4	2	6	0	423	0.017
11:00 PM	12:00 AM	14	7	127	35	7	11	15	27	4	1	5	0	254	0.010
Total		4342	1159	14013	2835	346	612	620	761	449	57	91	26	25306	1.000

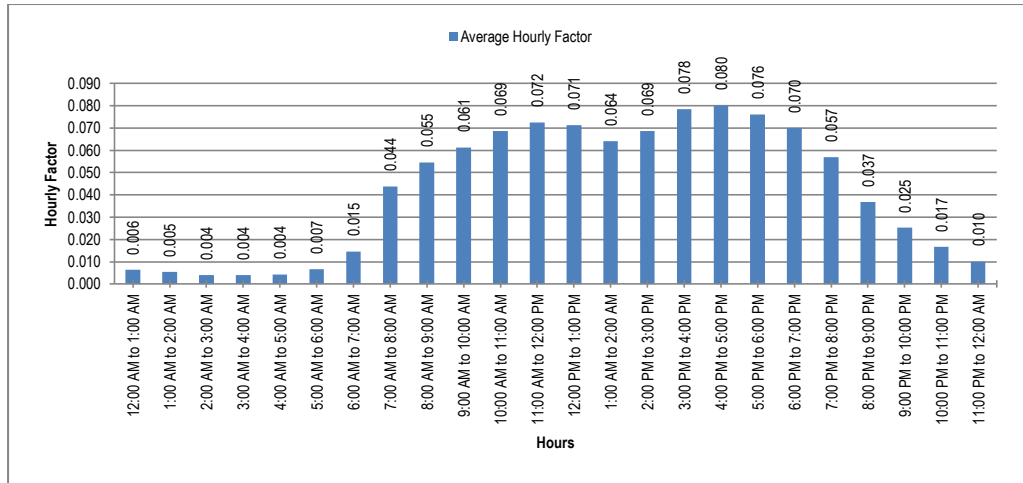


Figure 5-8: Hourly Factor on N-45

5.1.6 Proportion of Traffic in Day and Night on N-45

The traffic count data on N-45 is organized and sorted in a way to calculate proportion of traffic in day and night time. The percentage of traffic moving on N-45 from 8 am in morning to 8 pm in evening and from 8 pm to 8 am is tabulated in Table 5-7 and is graphically presented in Figure 5-9.

Table 5-7: Percentage of Traffic Composition in Day and Night Time on N-45

Vehicle Classification	Motor cycle	Motor Rickshaw	Car / Jeep / Pajero / Taxi	Hiace / Mini Bus	Large Buses	Light Truck	2 Axle Truck	3 Axle Truck	4 Axle Truck	5 Axle Truck	6 Axle Truck	Others	Total
Total	4342	1159	14013	2835	346	612	620	761	449	57	91	26	25306
Traffic from 8:00 AM to 8:00 PM	3671	954	11869	2290	232	459	423	439	367	36	44	24	20808
Traffic from 8:00 PM to 8:00 AM	671	205	2144	545	114	153	197	322	82	21	47	2	4503
Percentage of Traffic from 8:00 AM to 8:00 PM	84.55%	82.31%	84.70%	80.78%	67.05%	75.00%	68.23%	57.69%	81.74%	63.16%	48.35%	92.31%	82.23%
Percentage of Traffic from 8:00 PM to 8:00 AM	15.45%	17.69%	15.30%	19.22%	32.95%	25.00%	31.77%	42.31%	18.26%	36.84%	51.65%	7.69%	17.79%

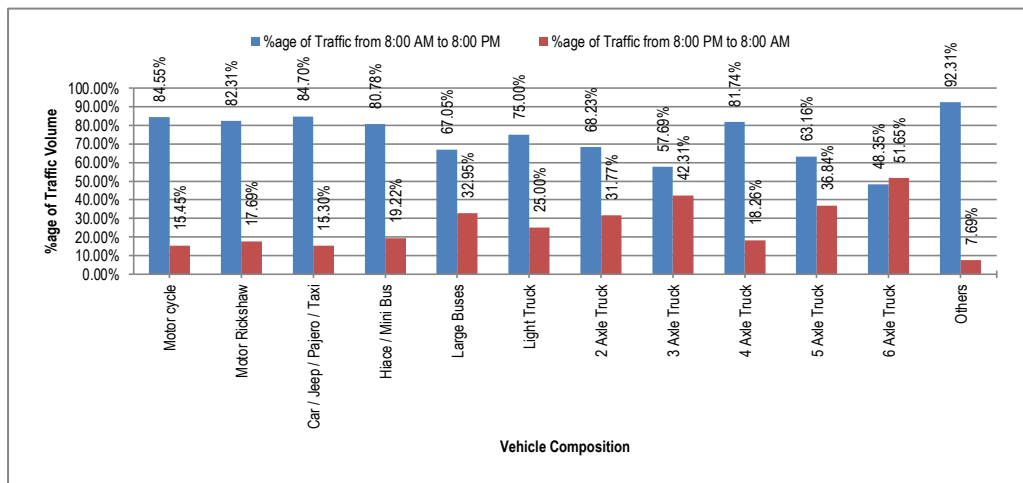


Figure 5-9: Percentage of Traffic Composition in Day and Night Time on N-45

Annexures

Annex-1: Motorway M-1

Annex-2: National Highway N-5

Annex-3: National Highway N-35

Annex-4: National Highway N-45