

3

CHAPTER


VICTIMS OF ROAD ACCIDENTS

Vulnerable road users account for half of all road traffic deaths globally

Pedestrians, cyclists, and riders of motorized 2- and 3-wheelers and their passengers are collectively known as "vulnerable road users" and account for half

of all road traffic deaths around the world. A higher proportion of vulnerable road users die in low-income countries than in high-income countries (Source : WHO: 10 facts on global road safety)





Vulnerable road users are at additional risk where their needs have not been taken into consideration during the planning of land use or road engineering. In most countries roads are planned and built to allow motor vehicles to travel faster while insufficient thought is given to the needs of pedestrians and cyclists, thus forcing them to face increasing risk in use of roads and road crossings. (Source: WHO: Global Status Report on Road Safety 2013).

- In 2017, 6673 accidents were reported in Delhi, in which 1584 persons lost their lives and 6604 were injured which affected 8188 road accident victims. (Table 3.1)
- 19.3 % of the total road accident victims lost their lives (18.19 % in the year 2016). The fatality rate amongst all road accident victims which had been decreasing steadily for the last few years, increased marginally in 2017. (Table 3.1)
- **Pedestrians are most vulnerable victims in fatal road mishaps.**
- **Pedestrians continued to suffer the highest casualties as victims of road accidents.** During the year 2017, a total of **702 pedestrians lost their lives and 2283 were injured as compared to 682 pedestrians who died and 2551 injured during the year 2016.** This represents **44.31 % of all victims killed** in the year 2017 as compared to 42.86 % in 2016. Proportions for the injured pedestrians were lower at 34.56 % in 2017 as against 35.65% in 2016 (Table 3.2).
- 2551 (35.65%) pedestrians were injured and 682 (42.86%) were killed in 2016.

The trend in the deaths of pedestrians shows that the share of pedestrian deaths range between 40% and 45% of total victims in fatal accidents. (Table 3.2).

Reasons:-

- **Lack of proper and sufficient numbers of pedestrian crossings, Foot Over Bridges (FOB), subways, and non-continuous, intentionally encroached, un-friendly and poorly maintained footpaths, etc., ignorance of road safety rules, disregard of other road users' rights by vehicle drivers are the major reasons of such accidents.**
- **The condition of road crossing facilities is generally poor and not pedestrian friendly. Faulty designing of FOBs, lack of handicap friendly escalators, dark and dingy subways, lack of planning regarding requirement of FOBs/ Subways, connectivity with arterial roads, lack of signages useful for pedestrian safety- all these factors lead to unsafe pedestrians' crossing at level.**
- The share of cyclists as victims of road accidents have remained around 3% to 6% during the last 5 years. In the case of cyclists injured, this percentage has been reducing gradually over last 14 years and has come down from 7% in 2002 to 2.33% in 2017 (Table 3.2).
- **Electric rickshaws** were involved in 9 fatal accidents and 80 simple accidents during the year 2017. 9 persons were killed and 117 persons were injured in these accidents.

TABLE – 3.1
VICTIMS (KILLED and INJURED)

YEAR	PEDESTRIANS		CYCLISTS		CAR OCCUPANTS		SCOOTER / M. CYCLE RIDERS		BUS PASSENGERS		*SLOW MOVING VEHICLES' PULLER AND PASSENGERS		DRIVERS OF ANIMAL DRIVEN VEHICLE		OTHER DRIVERS		TOTAL	
	KLD	INJ	KLD	INJ	KLD	INJ	KLD	INJ	KLD	INJ	KLD	INJ	KLD	INJ	KLD	INJ	KLD	INJ
2003	856	3017	186	508	61	671	436	2100	33	169	48	250	1	2	164	1682	1801	7829
2004	979	3096	181	506	42	684	467	2244	49	209	44	295	1	14	214	949	1977	7997
2005	935	3406	179	528	57	525	568	2293	60	303	46	255	1	12	203	960	2049	8282
2006	1030	3194	154	451	57	611	614	2485	66	269	41	276	0	7	207	987	2169	8280
2007	1071	2831	128	390	64	580	594	2536	44	148	29	198	5	29	205	998	2140	7710
2008	1043	3015	107	353	41	549	641	2355	31	136	19	166	7	24	204	744	2093	7342
2009	1170	2677	121	261	58	444	691	2350	37	121	29	170	6	20	213	893	2325	6936
2010	960	2465	137	309	48	493	705	2438	27	97	37	171	2	14	237	1121	2153	7108
2011	961	2387	107	295	66	423	676	2396	25	96	32	198	1	15	242	1165	2110	6975
2012	828	2261	114	249	64	482	577	2236	16	91	26	121	1	12	240	1181	1866	6633
2013	749	2568	92	305	77	522	613	2573	20	111	32	188	2	28	235	803	1820	7098
2014	749	2949	64	313	51	524	569	3136	7	66	24	296	3	20	204	979	1671	8283
2015	684	2862	71	297	80	632	567	3270	11	53	23	255	2	28	184	861	1622	8258
2016	682	2551	53	218	66	431	572	2911	4	51	34	244	5	37	175	711	1591	7154
2017	702	2283	67	154	53	404	557	2680	7	71	24	198	3	18	171	796	1584	6604

* Hand Cart, Electric rickshaw and Cycle Rickshaw.

TABLE – 3.2
VICTIM PROFILE (% OF TOTAL IN THE YEAR)

YEAR	PEDESTRIANS		CYCLISTS		CAR OCCUPANTS		SCOOTER / M. CYCLE RIDERS		BUS PASSENGERS		*SLOW MOVING VEHICLES' PULLER AND PASSENGERS		DRIVERS OF ANIMAL DRIVEN VEHICLE		OTHER DRIVERS	
	KLD	INJ	KLD	INJ	KLD	INJ	KLD	INJ	KLD	INJ	KLD	INJ	KLD	INJ	KLD	INJ
2003	47.53	38.54	10.33	6.49	3.39	8.57	24.21	26.82	1.83	2.16	2.67	3.19	0.06	0.03	9.11	13.82
2004	49.51	38.71	9.15	6.32	2.12	8.55	23.62	28.06	2.47	2.61	2.22	3.68	0.05	0.17	10.82	11.86
2005	45.63	41.13	8.74	6.37	2.78	6.34	27.72	27.68	2.93	3.66	2.24	3.08	0.05	0.14	9.91	11.60
2006	47.48	38.57	7.2	5.44	2.62	7.37	28.30	30.01	3.04	3.24	1.89	3.33	0.00	0.08	9.72	11.92
2007	50.06	36.71	5.98	5.05	2.99	7.52	27.75	32.89	2.05	1.91	1.35	2.56	0.23	0.37	9.57	12.94
2008	49.88	41.07	5.11	4.85	1.95	7.54	30.63	32.37	1.48	1.86	0.90	2.28	0.33	0.32	9.74	10.22
2009	50.32	38.59	5.20	3.76	2.49	6.40	29.72	33.88	1.59	1.74	1.24	2.45	0.25	0.29	9.16	12.87
2010	44.58	34.67	6.36	4.34	2.23	6.93	32.74	34.29	1.25	1.36	1.72	2.40	0.09	0.19	11.01	15.77
2011	45.55	33.59	5.07	4.15	3.07	6.20	32.06	34.67	1.30	1.29	1.48	2.80	0.04	0.22	11.40	17.10
2012	44.37	34.08	6.10	3.75	3.43	7.27	30.92	33.71	0.86	1.37	1.39	1.82	0.05	0.18	12.9	17.8
2013	41.15	36.17	5.05	4.29	4.23	7.35	33.68	36.24	1.09	1.56	1.75	2.64	0.10	0.39	12.91	11.31
2014	44.82	35.60	3.83	3.77	3.05	6.32	34.05	37.86	0.41	0.79	1.43	3.57	0.17	0.24	12.20	11.81
2015	42.17	34.65	4.37	3.59	4.93	7.65	34.95	39.59	0.67	0.64	1.41	3.08	0.12	0.33	11.34	10.42
2016	42.86	35.65	3.33	3.04	4.14	6.02	35.95	40.69	0.25	0.71	2.13	3.41	0.31	0.51	10.99	9.93
2017	44.31	34.56	4.22	2.33	3.34	6.11	35.16	40.58	0.44	1.07	1.51	2.99	0.18	0.27	10.79	12.05

* Hand Cart, Electric rickshaw and Cycle Rickshaw.

Figure - 3.1 VICTIMS KILLED IN 2017 (1584)

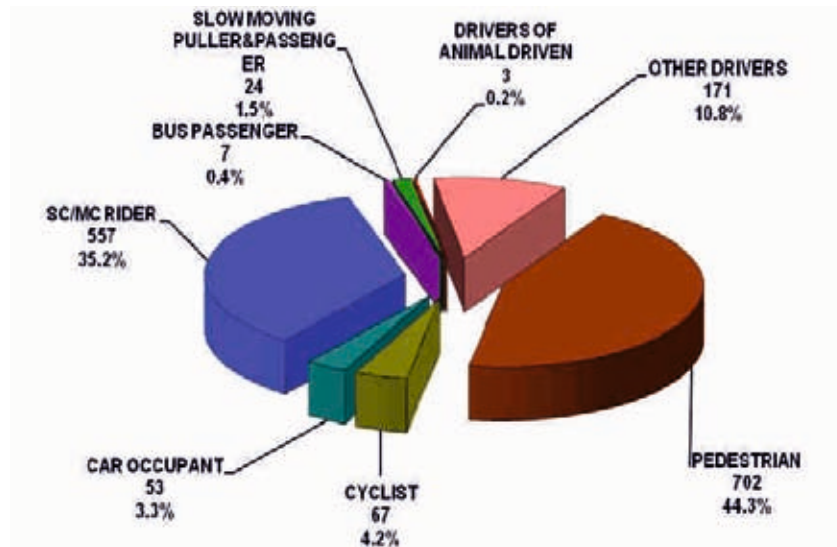
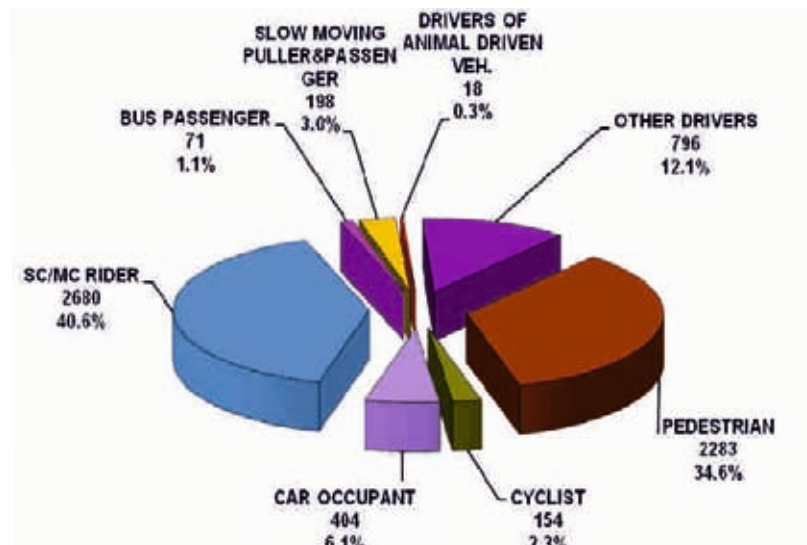


Figure - 3.2 VICTIMS INJURED IN 2017 (6604)



Trend in the case of two wheelers (scooter and motor cycle) riders :

- This is the next most vulnerable category of victims and accounted for **557 (35.16%) of all fatalities in accidents in Delhi and 2680 (40.58%) of all injured victims in 2017**. The number of two wheeler rider victims injured in road accidents decreased by about 11% from 3270 (2015) to 2680 (2017).
- Accident data suggests that **two-wheeler riders have been involved in 1 of every 3 deaths or injuries**. One important fact that can be noted from Table 3.2 is that the share of two-wheelers as victims (fatalities and injuries) is gradually increasing.

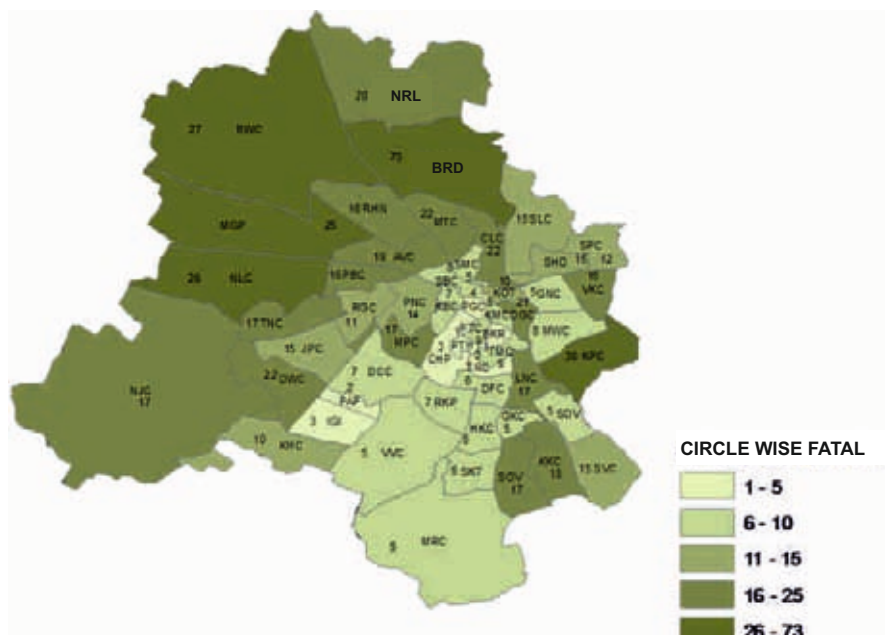
Over the years, the share of deaths of car occupants out of total fatalities has remained between 3% and 5%.

- The share decreased from 4.14% (2016) to 3.34 % (2017). In case of non-fatal injuries; it has remained between 6% and 9% over the years.
- **Bus travel is the safest among the road users** (Table 3.1).

Map 3.1(a) to Map 3.3(b) shows the traffic circle wise concentration of pedestrians, cyclists and two wheeler victims.

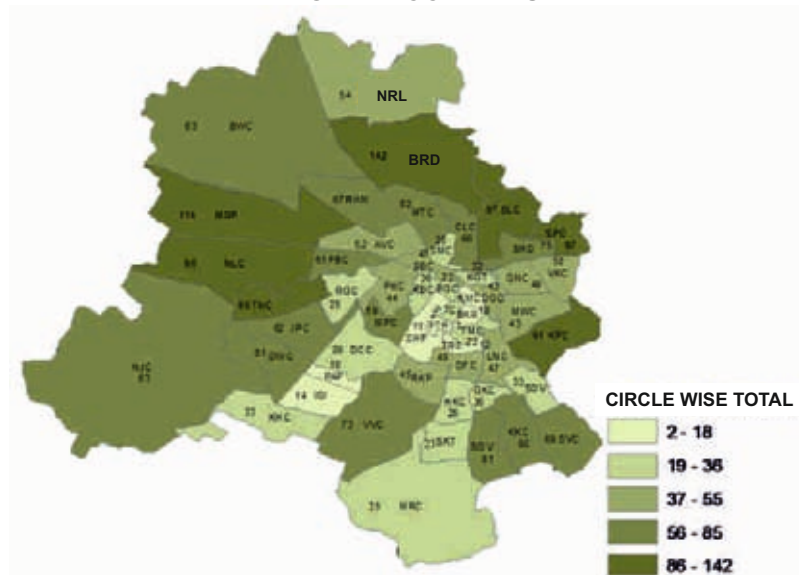
- **More pedestrian fatalities were reported in Northwest, Outer and Western region of Delhi** (Map 3.1a).

TOP CIRCLES IN PEDESTRIANS ACCIDENTS FATAL ACCIDENTS



Map 3.1(a) (for area refer to Map 1.3)

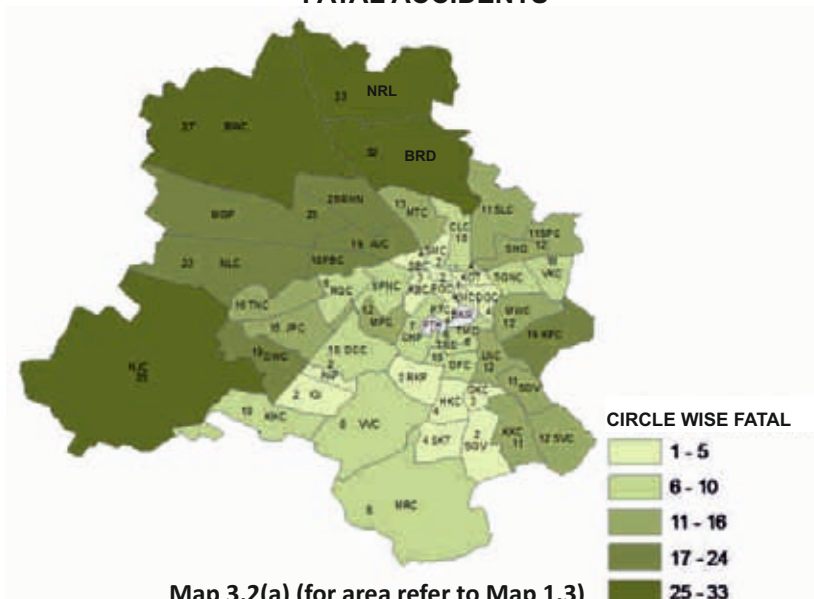
TOTAL ACCIDENTS



Map 3.1(b) (for area refer to Map 1.3)

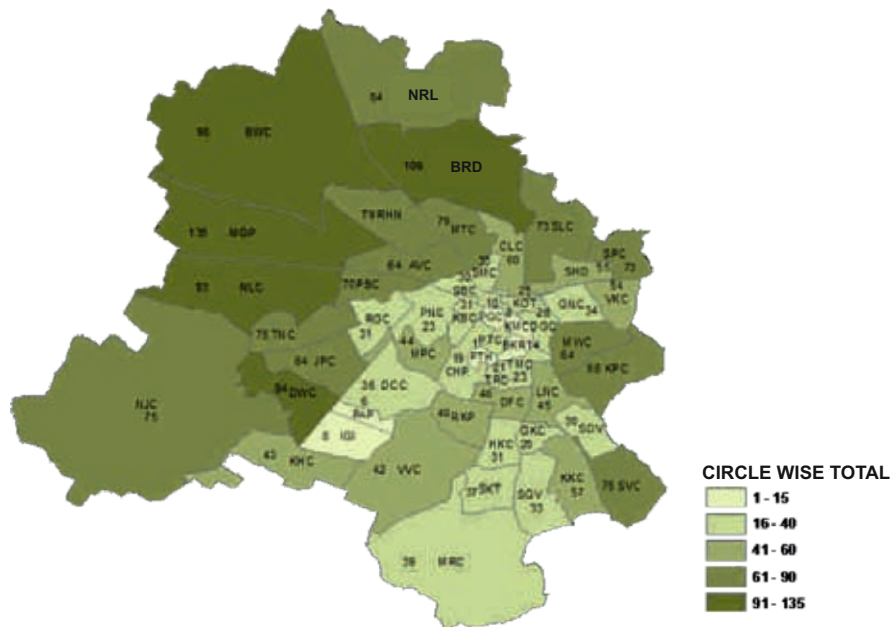
- Similar trend is observed for **two wheeler victims; more vulnerable regions of Narela, Burari, Bawana, Najafgarh and Kalyanpuri** (Map 3.2a).
- The total number of accidents of two wheelers are higher in Mangol Puri, Burari, Bawana, Dwarka, Nangloi, Narela and Kalyanpuri regions (Map 3.2(b))

TOP CIRCLES IN TWO-WHEELERS ACCIDENTS FATAL ACCIDENTS



Map 3.2(a) (for area refer to Map 1.3)

TOTAL ACCIDENTS

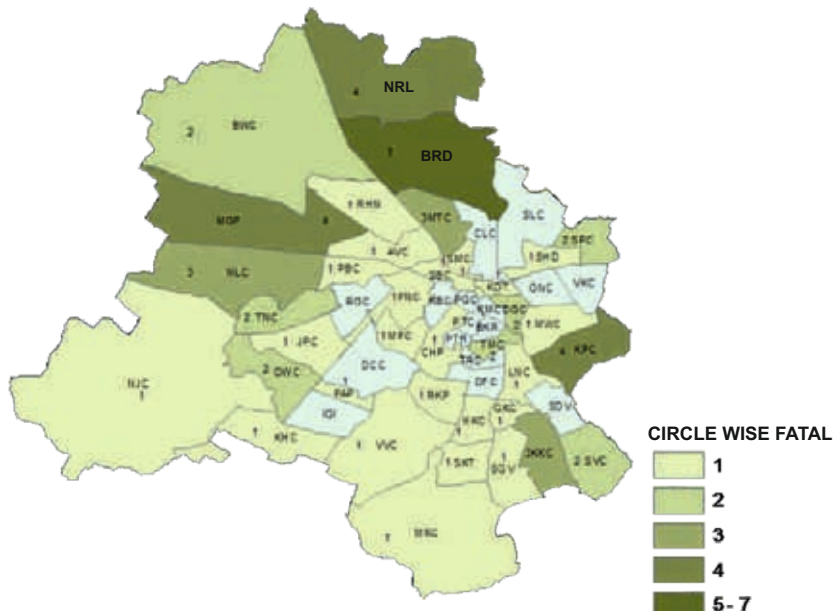


Map 3.2(b) (for area refer to Map 1.3)

- Cyclists are more vulnerable in Burari, Narela, Mangolpuri and Kalyan puri region (Map 3.3a).

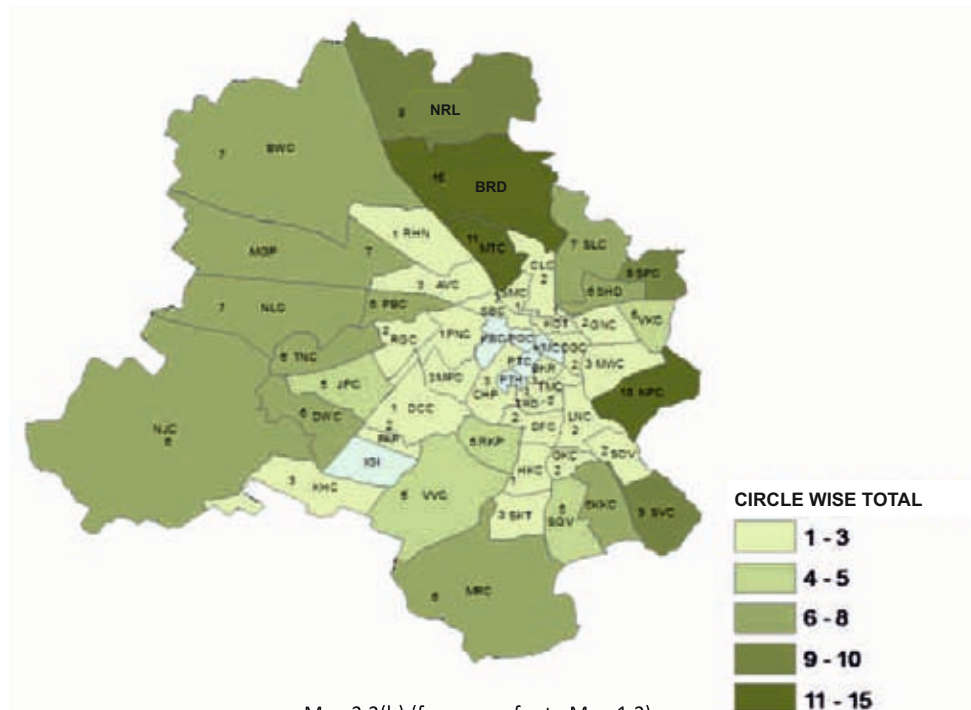
TOP CIRCLES IN CYCLIST ACCIDENTS

FATAL ACCIDENTS



Map 3.3(a) (for area refer to Map 1.3)

TOTAL ACCIDENTS



Map 3.3(b) (for area refer to Map 1.3)

Demographic classification of all victims:

TABLE – 3.3
CHILDREN AND ADULTS (SEX-WISE) KILLED / INJURED IN ACCIDENTS

YEAR	CHILDREN				ADULTS			
	KILLED		INJURED		KILLED		INJURED	
	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS
1998	38	41	70	60	1980	123	8490	285
1999	30	28	63	80	1878	109	8234	235
2000	41	22	226	88	1840	111	7934	498
2001	68	30	318	143	1615	129	7293	695
2002	46	21	242	116	1560	69	7039	532
2003	105	33	157	87	1603	60	7107	478
2004	65	24	205	112	1797	91	7224	460
2005	51	22	195	92	1854	122	7523	472
2006	39	21	206	114	2004	105	7385	575
2007	120	22	458	117	1891	107	6678	457
2008	136	45	508	122	1790	122	6140	572
2009	131	43	464	144	1993	158	5563	765
2010	111	38	482	138	1835	169	5738	750
2011	107	50	534	160	1772	181	5344	937
2012	119	39	515	148	1553	155	5056	914
2013	83	27	518	140	1548	162	5431	1009
2014	106	32	573	153	1388	145	6522	1035
2015	111	33	570	174	1347	131	6455	1059
2016	98	27	553	142	1336	130	5577	882
2017	91	38	514	141	1318	137	5104	845

Note: - Children means persons up to the age of 18 years

SEX RATIO OF PERSONS KILLED

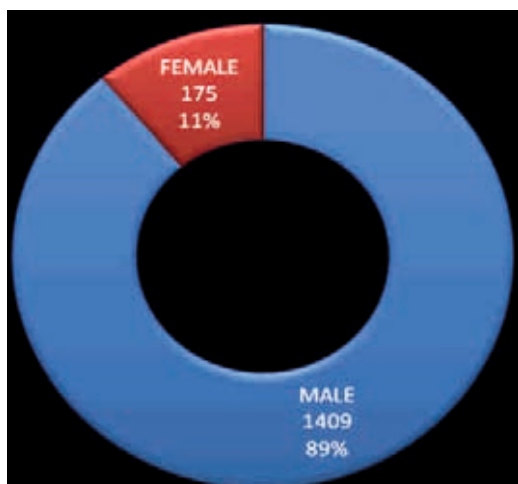


Chart - 3.3 (A)

SEX RATIO OF PERSONS INJURED

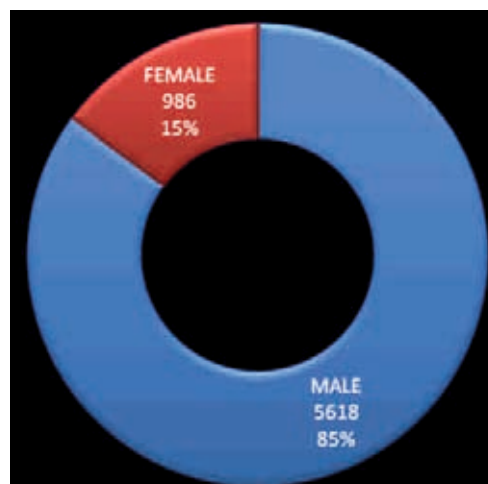


Chart - 3.3 (B)

TABLE – 3.3 (A)
AGE GROUP (SEX-WISE) KILLED / INJURED IN ROAD ACCIDENTS- 2017

AGE GROUP	PERSONS KILLED			PERSONS INJURED		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
<10 YEARS	39	25	64	166	77	243
11-18 YEARS	52	13	65	348	64	412
19-30 YEARS	369	32	401	1593	218	1811
31-40 YEARS	238	25	263	830	136	966
>40 YEARS	333	55	388	1222	251	1473
UNKNOWN AGE	378	25	403	1459	240	1699
TOTAL	1409	175	1584	5618	986	6604

TABLE – 3.3 (B)
AGE GROUP (SEX-WISE) KILLED / INJURED IN ROAD ACCIDENTS- 2016

AGE GROUP	PERSONS KILLED			PERSONS INJURED		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
<10 YEARS	48	23	71	175	66	241
11-18 YEARS	50	4	54	378	76	454
19-30 YEARS	390	23	413	1724	237	1961
31-40 YEARS	211	22	233	887	125	1012
>40 YEARS	304	50	354	1166	226	1392
UNKNOWN AGE	431	35	466	1800	294	2094
TOTAL	1434	157	1591	6130	1024	7154

AGE PROFILE OF PERSONS KILLED

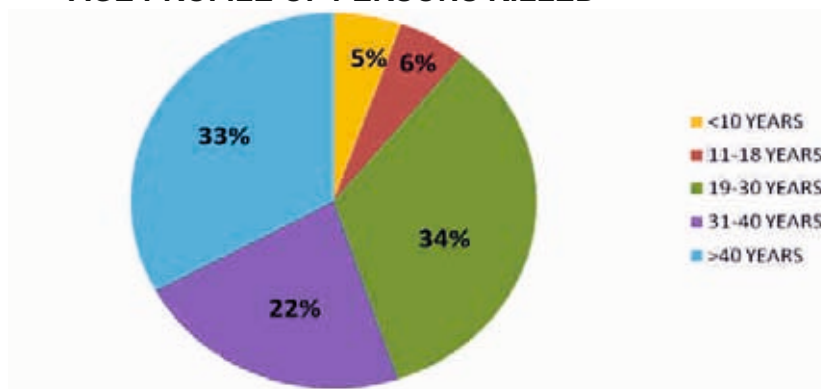


Chart - 3.4 (A)

AGE PROFILE OF PERSONS INJURED

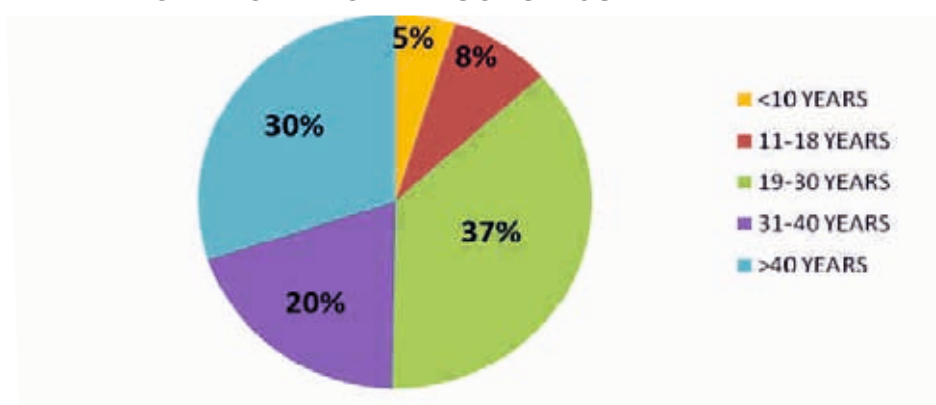


Chart - 3.4 (B)

Demographic classification of all victims:

- Males outnumber females as victims of road accident. In all, 1318 male adults and 137 female adults were killed while 5104 male adults and 845 female adults were injured. **In 2017, 89 % of all victims who died were male** while in the year 2016, the figure was 90.13%.
- Out of the total minor **victims of fatal crashes, 91 were boys and 38 were girls, whereas 514 boys and 141 girls were injured.** (Table 3.3).
