

5

CHAPTER

TEMPORAL TRENDS

Human movement is influenced by the time, day and month of the year. It affects the vehicular movement and the number of accidents occurring at different times of the day, days of the week and months of the year.

Temporal trends of different types of accidents, hour-wise, day-wise and month-wise comparative analysis reveals the following important/significant conclusions:

- Table 5.1 depicts the comparative figures of different severity of accidents by the

day of the week. In case of fatal accidents, it has been observed that total fatal accidents in 2017 have slightly increased in comparison to year 2016.

- Accidents on Saturday and Thursday decreased by margin of 24 and 11 respectively, but there is an increase of fatal accidents on all other weekdays.
- The number of fatal accidents were minimum on Wednesday (196) in 2017 as well as 2016 (186).

TABLE - 5.1

ACCIDENT TREND ON WEEKDAYS

TYPE OF ACCIDENT	SUNDAY		MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY		SATURDAY		TOTAL	
	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017
FATAL	235	238	228	251	230	232	186	196	226	215	210	224	233	209	1548	1565
NON-FATAL	881	736	920	731	804	681	763	716	829	758	806	745	824	741	5827	5108
TOTAL	1116	974	1148	982	1034	913	949	912	1055	973	1016	969	1057	950	7375	6673

Time-wise analysis of fatal accidents, in figure 5.1(a) reveals accidents increasing gradually from 1800 hrs. (49) onwards to

peak by 2300 hrs. (119), the highest figure of fatal accidents.

Time-wise Fatal accidents-2017

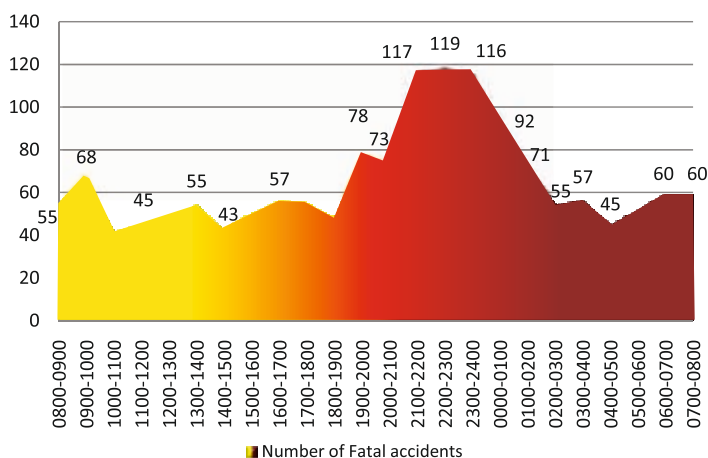


Figure 5.1

- Thereafter, accidents start decreasing gradually till 0300 hrs (55). The trend continues to remain low till 0900 hrs (55). From 0900 hrs to 1900 hrs., it remains low with some variations and again starts rising after 1900 hrs. The same trend persisted in the year 2016 also with marginal variations. (Table 5.4)
- **The reasons for maximum number of fatal accidents between 1900 hrs and 0200 hrs is that during this period, the no-entry time restrictions on commercial vehicles are lifted.**
 - **It also overlaps with the evening**

peak hours of traffic. There is a sudden surge in different categories of vehicles on the roads which creates the conditions for collisions, knock downs, etc.

- **Poor light conditions on various roads** and streets also contribute in causing more accidents.
- **Drunken driving is another big factor** in causing more accidents.
- After 0100 hrs fall in volume of pedestrians, slow moving vehicles and non-commercial traffic on road and lesser movements of commercial traffic leads to minimum number of accidents after 0200 hrs.

TIME-WISE FATAL ACCIDENTS 2017 (1565)

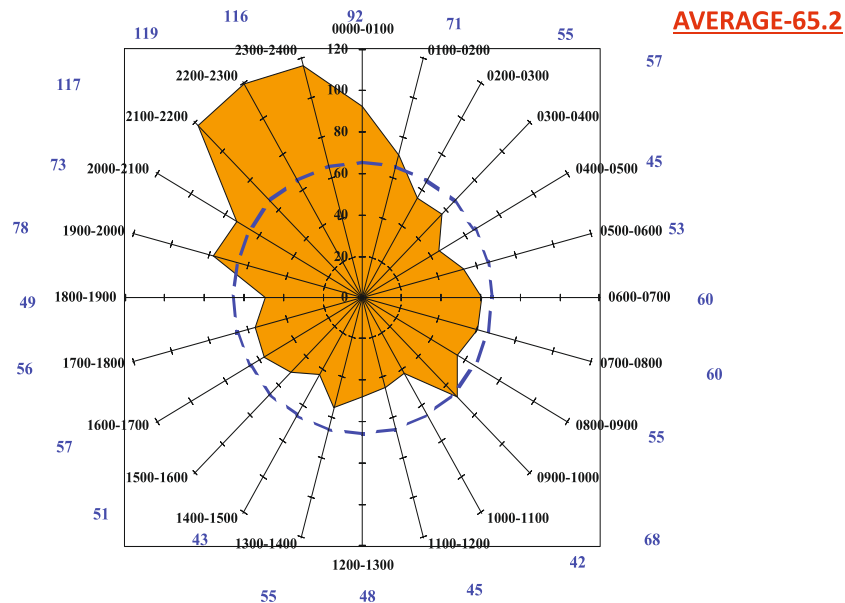


Figure 5.1(a)

In 2017, maximum fatal accidents occurred in October (159), December (148) and March (142) while least occurred in February (109), April (116) and January (120).

TABLE- 5.2
MONTH-WISE TRENDS FATAL OF ACCIDENTS IN- 2016 & 2017

MONTH	FATAL		INJURY		NON-INJURY		TOTAL	
	2016	2017	2016	2017	2016	2017	2016	2017
JANUARY	143	120	456	432	9	6	608	558
FEBRUARY	132	109	480	423	15	6	627	538
MARCH	146	142	537	434	10	6	693	582
APRIL	106	116	454	408	13	6	573	530
MAY	121	127	477	422	9	7	607	556
JUNE	130	132	454	366	5	9	589	507
JULY	133	124	503	427	8	5	644	556
AUGUST	127	128	505	421	10	7	642	556
SEPTEMBER	140	139	439	394	10	10	589	543
OCTOBER	138	159	524	462	13	11	675	632
NOVEMBER	116	121	416	432	19	8	551	561
DECEMBER	116	148	453	396	8	10	577	554
TOTAL	1548	1565	5698	5017	129	91	7375	6673

Accident classifications according to day and night shows that in 2017, 720 fatal accidents occurred during day time whereas 845 occurred during night time (Table 5.3).

- During 2016 there were 718 fatal accidents during day time and 830 during night time. Fatal accidents in day time were uniformly higher than those in night time in all the years from 1992 to 2011. **Since 2012, the number of fatal accidents recorded during day were lesser than during night.** This shows direct correlation between visible and effective police presence during the day. In case of simple accidents, however, the day time figures are higher than night time figures.

Analysis of Time vis-a-vis Victim of fatal accidents indicates, that most pedestrians were involved in fatal accidents from 1900 – 2400 hrs.

- Time between 1900-0100 is most vulnerable for occurrence of accidents involving scooterists / motor cyclists.** Most 'Self' induced accidents occur during the time slot of 2300-0400 hrs. In case of cyclists, the most vulnerable time are 0800-1000 and 1900- 2300 hrs. (Table 5.5).

Table 5.6 shows the distribution of impacting vehicles (at fault) with the time slots.

- From the view point of **vehicles at fault, 700 (44.72%) vehicles were unknown** which implies that they were hit and run cases, as against 41.79 % in 2016. The accidents by 'unknown vehicles' have been recorded at all hours though the number is higher from 2000 – 0100 hrs. The high rate of hit and run accident indicates non-reporting of accused vehicle and the apathy of general public/eye witnesses to report the accidents.

TABLE – 5.3
ACCIDENTS CLASSIFIED ACCORDING TO DAY AND NIGHT

YEAR	FATAL ACCIDENTS		INJURY ACCIDENTS		NON-INJURY ACCIDENTS		TOTAL ACCIDENTS	
	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT
1998	951	727	3861	2633	303	212	5115	3572
1999	967	740	3652	2862	289	223	4908	3825
2000	894	705	4076	2759	355	256	5325	3720
2001	876	601	3761	2516	290	216	4927	3333
2002	853	563	3996	1891	265	165	5114	2619
2003	924	605	3937	1958	251	173	5112	2736
2004	1026	657	4042	1831	299	219	5367	2707
2005	1042	646	4342	1891	280	166	5664	2703
2006	1100	818	4151	2105	195	139	5446	3062
2007	1045	858	3604	2175	260	263	4909	3296
2008	882	825	3559	1945	151	201	4592	2971
2009	1143	1042	3207	1713	75	51	4425	2806
2010	1044	1041	3098	1811	31	31	4173	2883
2011	1040	1005	3271	1865	33	34	4344	2904
2012	886	906	2973	1814	54	60	3913	2780
2013	841	937	3600	2015	76	97	4517	3049
2014	804	825	4266	2519	102	107	5172	3451
2015	784	798	3895	2448	66	94	4745	3340
2016	718	830	3512	2186	61	68	4291	3084
2017	720	845	3056	1961	46	45	3822	2851

DAY HOURS: 8AM TO 9PM.
NIGHT HOURS: 9 PM TO 8AM.

TABLE 5.4
ACCIDENTS CLASSIFIED ACCORDING TO THE TIME OF OCCURRENCE

S.NO.	TIME SLOT	SIMPLE ACCIDENTS					FATAL ACCIDENTS				
		2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
1	0000-0100	187	237	292	235	222	114	78	111	92	92
2	0100-0200	122	176	174	177	132	71	68	73	73	71
3	0200-0300	106	123	127	118	100	60	46	42	77	55
4	0300-0400	88	105	88	77	91	48	53	43	34	57
5	0400-0500	79	102	95	82	110	52	46	50	52	45
6	0500-0600	83	135	141	116	115	64	54	55	62	53
7	0600-0700	149	180	156	159	129	69	71	69	62	60
8	0700-0800	207	239	241	200	172	60	65	60	53	60
9	0800-0900	200	258	241	238	195	59	65	68	61	55
10	0900-1000	291	318	300	235	224	62	63	51	50	68
11	1000-1100	232	277	273	246	208	57	57	62	44	42
12	1100-1200	248	304	279	236	234	70	53	44	39	45
13	1200-1300	251	300	274	261	230	62	63	58	58	48
14	1300-1400	267	316	269	272	192	56	56	52	45	55
15	1400-1500	297	363	293	287	258	65	53	70	58	43
16	1500-1600	279	327	328	283	222	54	61	51	47	51
17	1600-1700	328	363	322	280	227	66	59	40	56	57
18	1700-1800	293	335	293	266	242	59	58	62	50	56
19	1800-1900	315	375	330	299	277	68	59	64	50	49
20	1900-2000	289	412	349	298	255	64	84	81	66	78
21	2000-2100	386	420	410	372	338	99	73	81	94	73
22	2100-2200	377	459	442	412	323	116	107	95	99	117
23	2200-2300	407	497	419	359	347	147	120	120	114	119
24	2300-2400	307	373	367	319	265	136	117	80	112	116
25	UNK. TIME	0	0	0	0	0	0	0	0	0	0
TOTAL		5788	6994	6503	5827	5108	1778	1629	1582	1548	1565

TABLE-5.5
TIME Vs VICTIM (FATAL ACCIDENTS) – 2017

TIMESLOT	HTV'S	LGV'S	BUSES	CAR/TAXI	TSR'S	SC/MC	VICTIMS							TOTAL
							E_RICKSHAW'S	CYCLISTS	CYCLE RICKSHAW'S	PEDESTRIANS	SELF	PASSANGERS	OTHERS	
0000-0100	1	2	1	6	3	39	0	2	0	34	4	0	0	92
0100-0200	2	1	1	8	1	19	0	4	1	28	6	0	0	71
0200-0300	0	3	0	4	2	21	0	2	0	18	5	0	0	55
0300-0400	1	1	0	5	2	13	0	0	1	25	8	0	1	57
0400-0500	3	1	0	1	4	15	0	0	0	18	2	0	1	45
0500-0600	2	0	0	1	4	17	0	1	1	24	1	0	2	53
0600-0700	1	2	0	2	6	11	1	3	1	28	2	0	3	60
0700-0800	0	0	0	2	1	20	0	3	2	30	2	0	0	60
0800-0900	0	0	0	2	0	13	0	8	0	28	3	1	0	55
0900-1000	0	0	1	1	1	26	0	5	0	27	5	2	0	68
1000-1100	0	0	0	0	2	13	0	2	1	22	1	0	1	42
1100-1200	0	0	0	0	1	25	1	1	0	14	2	1	0	45
1200-1300	0	0	0	4	1	21	1	1	0	19	0	0	1	48
1300-1400	0	0	0	1	0	23	1	1	0	27	2	0	0	55
1400-1500	0	0	0	1	1	20	0	0	0	18	2	1	0	43
1500-1600	0	0	0	3	0	20	0	0	0	22	5	1	0	51
1600-1700	1	1	0	2	0	19	0	3	1	25	5	0	0	57
1700-1800	0	0	0	2	1	13	0	2	1	33	3	1	0	56
1800-1900	0	0	0	0	0	12	0	3	1	31	2	0	0	49
1900-2000	1	1	0	3	1	30	0	4	1	34	3	0	0	78
2000-2100	0	0	0	1	1	22	0	4	2	41	2	0	0	73
2100-2200	0	1	0	0	0	48	0	9	2	54	3	0	0	117
2200-2300	0	1	0	4	2	56	0	4	1	47	4	0	0	119
2300-2400	0	3	0	4	3	35	0	3	2	54	9	0	3	116
TOTAL	12	17	3	57	37	551	4	65	18	701	81	7	12	1565

TABLE-5.6
TIME Vs VEHICLE AT FAULT (FATAL ACCIDENTS) – 2017

TIMESLOT	VEHICLE AT FAULT							TOTAL
	HTV'S	LGV'S	BUSES	CAR/TAXI	SC/MC	UNKNOWN VEHICLES	OTHERS VEHICLES	
0000-0100	13	9	2	12	3	50	3	92
0100-0200	10	3	2	11	6	39	0	71
0200-0300	11	5	1	6	4	26	2	55
0300-0400	7	1	2	6	5	35	1	57
0400-0500	8	3	1	6	2	24	1	45
0500-0600	8	2	1	6	6	30	0	53
0600-0700	3	7	5	14	2	27	2	60
0700-0800	4	2	6	14	4	26	4	60
0800-0900	1	1	8	18	3	19	5	55
0900-1000	6	4	17	10	2	24	5	68
1000-1100	6	7	4	6	4	13	2	42
1100-1200	6	5	6	8	4	13	3	45
1200-1300	6	2	3	12	3	19	3	48
1300-1400	8	6	6	12	1	18	4	55
1400-1500	5	8	2	13	4	11	0	43
1500-1600	4	3	4	10	9	17	4	51
1600-1700	10	3	6	11	7	16	4	57
1700-1800	2	4	6	14	11	18	1	56
1800-1900	2	4	0	12	8	20	3	49
1900-2000	6	2	9	11	16	30	4	78
2000-2100	3	0	6	9	8	44	3	73
2100-2200	14	3	6	21	8	61	4	117
2200-2300	12	1	4	16	8	73	5	119
2300-2400	14	6	3	29	12	47	5	116
TOTAL	169	91	110	287	140	700	68	1565

- HTVs committed fatal accidents at all hours. However, number of accidents was highest between 2100 hrs to 0300 hrs.
- Cars were involved in fatal accidents at all hours of the day and night with higher numbers during night hours. Cars caused most accidents in time period between 2100- 0200 hrs.
- Buses caused most fatal accidents from 0600 – 1000 and 1900 – 2200hrs. Two-wheeler riders caused most accidents from 1500- 0000 hrs. (Table 5.6).
