

10

CHAPTER

ACCIDENT PRONE ZONES

The GPS mapping of Accident spots:

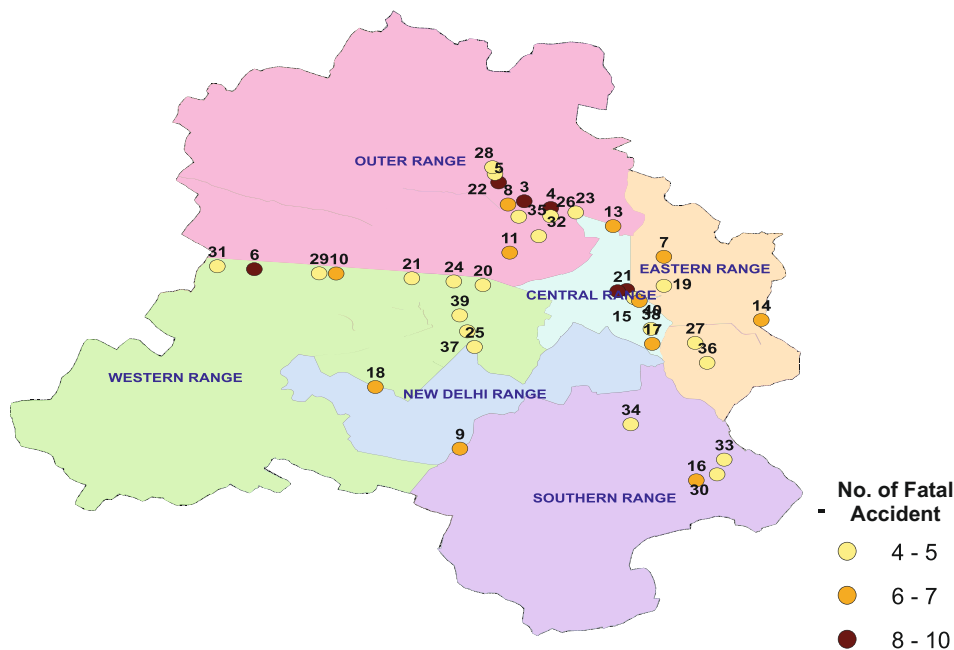
All accident spots are geo-tagged and marked on GIS Map. This helps in advanced analysis including spatial and cluster-based analysis of Accident-Prone Zones (APZ).

- The accident spots of the year were analyzed spatially to identify the cluster points or accident-prone zones on the Delhi Roads. Criteria adopted to filter such Accident Prone Zones is: -
 - i. 3 or more fatal accidents within the circle of diameter of 500meters or
 - ii. 10 or more total accidents in the same region.
- Accidents on all the major and minor roads joining the intersection having direct influence on the traffic movement at such place or junction were taken into consideration.
- The roads inspected on map to identify these accident-prone zones were:
 - (i) All major road corridors of Delhi.
 - (ii) Top 50 roads having maximum fatal accidents during the year 2018.
- 280 accident cluster points were analyzed out of which 110 cluster points were identified as Accident-Prone Zones of the year 2018, as per the above-mentioned criteria. The fatal accidents list in descending order is at Table No. 10.2.

Table 10.1
ACCIDENT PRONE ZONES – 2018

ROAD ACCIDENTS IN ACCIDENT PRONE ZONES – 2018			
ACCIDENTS	SIMPLE	FATAL	TOTAL
2018 (WHOLE YEAR)	4858	1657	6515
APZ-2018	817	429	1246
% SHARE	16.81%	25.89%	19.12%

Map 10.1
ACCIDENT PRONE ZONES OF THE YEAR – 2018 (>4)



Map 10.1
ACCIDENT PRONE ZONES OF THE YEAR – 2018 (>3)

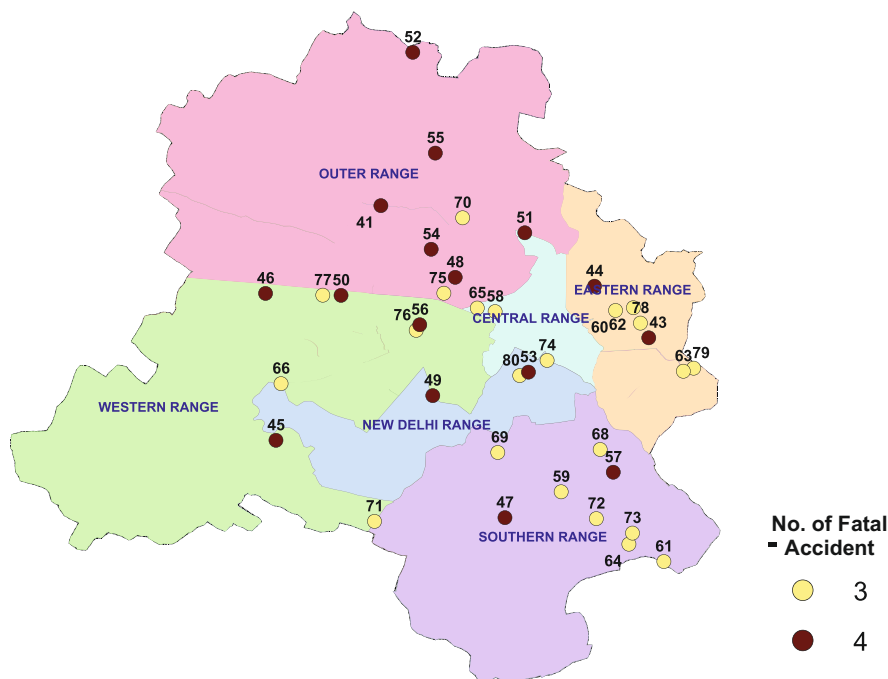


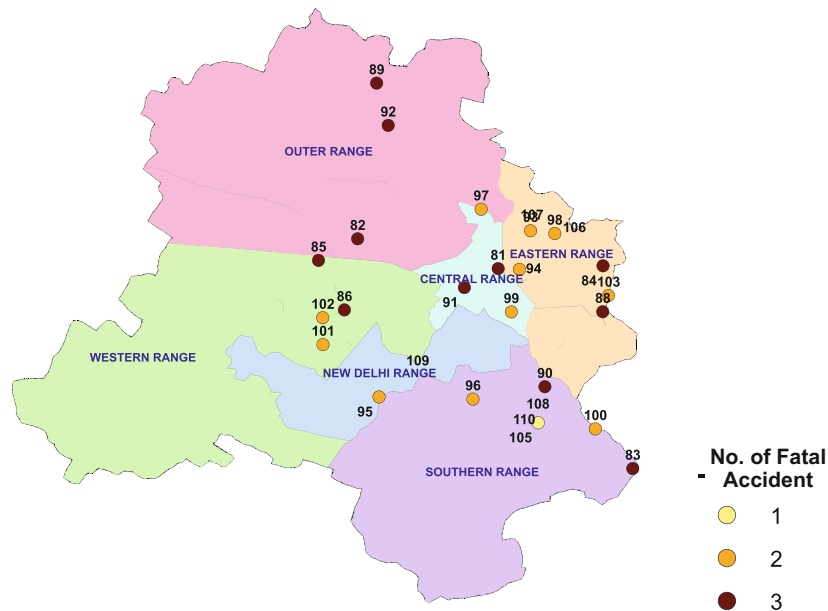
Table 10.2
ACCIDENTS PRONE ZONE 2018

S.NO.	ACCIDENT PRONE ZONES	SIMPLE ACCIDENTS	FATAL ACCIDENTS	TOTAL ACCIDENTS	ROAD NAME
1.	ISBT KASHMIRI GATE	14	10	24	RING ROAD
2.	KASHMIRI GATE CHOWK BOULEVARD ROAD	12	9	21	BOULEVARD ROAD
3.	BHALSWA CHOWK	8	9	17	OUTER RING ROAD
4.	MUKUNDPUR CHOWK	16	8	24	OUTER RING ROAD
5.	LIBASPUR BUS STAND	10	8	18	GTK ROAD
6.	GHEWRA MORE	5	8	13	ROHTAK ROAD
7.	5TH PUSTA USMAN PUR	11	7	18	PUSTA ROAD
8.	MUKARBA CHOWK	9	7	16	GTK ROAD
9.	MAHIPALPUR FLYOVER	5	7	12	NH-8
10.	RAJDHANI PARK	4	7	11	ROHTAK ROAD
11.	PREM BARI PULL	3	7	10	RING ROAD
12.	WAZIRABAD	16	6	22	OUTER RING ROAD
13.	NIRANKARI COLONY	11	6	17	OUTER RING ROAD
14.	ANAND VIHAR ISBT	9	6	15	ROAD NO.56
15.	HANUMAN MANDIR YAMUNA BAZAR	7	6	13	RING ROAD
16.	INDIRA KALYAN VIHAR RED LIGHT	6	6	12	ANAND MAI MARG
17.	ITO/I P FLYOVER	5	6	11	RING ROAD
18.	SEC-1,2 RED LIGHT DWARKA	5	6	11	ROAD NO.201
19.	SHASTRI PARK/IT PARK	17	5	22	G.T.ROAD
20.	PUNJABI BAGH CHOWK	15	5	20	RING ROAD
21.	PEERAGARHI CHOWK	15	5	20	OUTER RING ROAD
22.	SWAROOP NAGAR	13	5	18	GTK ROAD
23.	METRO STATION MADIPUR	10	5	15	ROHTAK ROAD
24.	BURARI CHOWK	10	5	15	OUTER RING ROAD
25.	NARAINA	9	5	14	RING ROAD
26.	MAJLIS PARK METRO STATION	8	5	13	ROAD NO.51
27.	SHAKARPUR CHUNGI	7	5	12	VIKAS MARG
28.	SIRASPUR	6	5	11	GTK ROAD
29.	MUNDKA METRO STATION	5	5	10	ROHTAK ROAD
30.	SARITA VIHAR METRO STATION	4	5	9	MATHURA ROAD
31.	TIKRI VILLAGE	4	5	9	ROHTAK ROAD
32.	AZAD PUR CHOWK	3	5	8	GTK ROAD
33.	JASOLA VIHAR	2	5	7	ROAD NO 13A
34.	MOOL CHAND	12	4	16	RING ROAD
35.	JAHANGIR PURI METRO STATION GTK ROAD	10	4	14	GTK ROAD
36.	AKSHARDHAM MANDIR	9	4	13	NH-24
37.	RAJOURI GARDEN	7	4	11	RING ROAD
38.	MAYA PURI CHOWK	7	4	11	RING ROAD
39.	RAJGHAT	7	4	11	RING ROAD
40.	SHAHBAD DAIRY	6	4	10	BAWANA ROAD
41.	NIGAM BODH GHAT	6	4	10	RING ROAD
42.	PUSTA NEW USMANPUR	5	4	9	YAMUNA PUSTA ROAD
43.	BUS STAND JAGAT PURI	5	4	9	ROAD NO 57
44.	HOTEL BULBUL MUNDKA	5	4	9	ROHTAK ROAD
45.	GOYALA DAIRY VILLAGE	5	4	9	GOYLA DAIRY ROAD
46.	SINGHOLA VILLAGE	5	4	9	GTK ROAD
47.	LADO SARAI CROSSING	5	4	9	MEHRAULI BADARPUR RD

48.	BRAR SQUARE	4	4	8	RING ROAD
49.	SURAJMAL METRO STATION	4	4	8	ROHTAK ROAD
50.	SINGHU BORDER	4	4	8	GTK ROAD
51.	ITI DHEERPUR	4	4	8	OUTER RING ROAD
52.	WAZIR PUR DEPOT	4	4	8	RING ROAD
53.	SANTOM HOSPITAL OUTER RING ROAD	3	4	7	OUTER RING ROAD
54.	GURUDWARA BANGLA SAHIB	3	4	7	BKS MARG
55.	BUDHPUR GANDA NALA/HANUMAN MANDIR	2	4	6	GTK ROAD
56.	SHAMSHAN GHAT PUNJABI BAGH	2	4	6	RING ROAD
57.	MODI MILL FLYOVER	0	4	4	OUTER RING ROAD
58.	SHASTRI NAGAR METRO STATION	15	3	18	VIR BANDA BAIRAGI MR
59.	CHIRAG DELHI FLYOVER	12	3	15	JOSEF BRIJ TITO MARG
60.	TOLL PLAZA BADARPUR	10	3	13	MATHURA ROAD
61.	SEELAMPUR T POINT	10	3	13	G.T.ROAD
62.	SHYAM LAL COLLEGE	10	3	13	G.T.ROAD
63.	UNDER PASS GAJIPUR	10	3	13	NH-24
64.	OKHLA MORE	9	3	12	MEHRAULI BADARPUR RD
65.	METRO STATION INDERLOK	8	3	11	VIR BANDA BAIRAGI MR
66.	KAKROLA DWARKA MORE	8	3	11	NAJAFGARH ROAD
67.	ASHRAM CHOWK	7	3	10	RING ROAD
68.	AZADPUR SABZI MANDI	7	3	10	GTK ROAD
69.	HYAAT HOTEL	7	3	10	RING ROAD
70.	PREPAID BOOTH MUKARBA CHOWK	7	3	10	OUTER RING ROAD
71.	ESI HOSPITAL RING ROAD	6	3	9	RING ROAD
72.	ESI HOSPITAL, ANAND MAI MARG	6	3	9	ANAND MAI MARG
73.	KIRARI MORE	6	3	9	ROHTAK ROAD
74.	MURGA MANDI FLYOVER	6	3	9	NH-24
75.	TARA APARTMENT	6	3	9	RAVIDAS MARG
76.	RAJOUKARI FLYOVER	6	3	9	NH-8
77.	OUTER CIRCLE CP NEAR MINTO ROAD	6	3	9	OUTER CIRCLE CP
78.	BRITANNIA CHOWK	6	3	9	RING ROAD
79.	METRO STATION KRISHNA NAGAR	6	3	9	ROAD NO 57
80.	DEEPALI CHOWK	5	3	8	OUTER RING ROAD
81.	RML HOSPITAL	5	3	8	BKS MARG
82.	MONESTRY RING ROAD	5	3	8	RING ROAD
83.	UDYOG NAGAR	4	3	7	ROHTAK ROAD
84.	AGRA CANAL ROAD JAIPUR	4	3	7	AGRA CANAL ROAD
85.	CHINTAMANI RED LIGHT SEEMAPURI	4	3	7	G.T.ROAD
86.	SUBHASH NAGAR METRO STATION	4	3	7	NAJAFGARH ROAD
87.	LOHIA PULL	4	3	7	AGRA CANAL ROAD
88.	TELCO GAJIPUR	3	3	6	ROAD NO.56
89.	KHAMPUR VILLAGE	3	3	6	GTK ROAD
90.	DND FLYOVER	2	3	5	RING ROAD
91.	SAI BABA MANDIR NH-1	2	3	5	GTK ROAD
92.	FILMISTAN	2	3	5	RANI JHANSI ROAD
93.	KHAJOORI CHOWK	14	2	16	WAZIRABAD ROAD
94.	SHYAMGIRI MANDIR SHASTRI PARK	12	2	14	G.T.ROAD
95.	SANJAY T-POINT	11	2	13	NH-8
96.	AIIMS	11	2	13	RING ROAD

97. C BLOCK YAMUNA VIHAR	10	2	12	WAZIRABAD ROAD
98. GANDHI VIHAR BUS STAND	10	2	12	OUTER RING ROAD
99. KALINDI KUNJ	9	2	11	ROAD NO 13A
100. DELHI GATE	9	2	11	N. SUBHASH MARG
101. DABRI FLYOVER	9	2	11	PANKHA ROAD
102. ANAND VIHAR RAILWAY FLYOVER	8	2	10	ROAD NO.56
103. JANAK PURI EAST	8	2	10	NAJAFGARH ROAD
104. ROUND ABOUT OKHLA ESTATE	9	1	10	ANAND MAI MARG
105. KALKAJI MANDIR	9	1	10	OUTER RING ROAD
106. GOKALPURI	18	0	18	WAZIRABAD ROAD
107. KHAJOORI KHAS PUSTA ROAD	11	0	11	PUSTA ROAD
108. DHAULA KUAN	10	0	10	RING ROAD
109. NEHRU PALACE	10	0	10	OUTER RING ROAD
110. OKHLA MANDI	10	0	10	CAPTAIN GAUD MARG

Map 10.1
ACCIDENT PRONE ZONES OF THE YEAR – 2018 (30)



- Traffic Outer range (25), Southern range (23), Western range (23) and Eastern range (20) have maximum number of Accident-prone zones.
- Among the Traffic Districts, North-West (22), South-East (18), West (18), North-East (11) and East (09) have maximum number of Accident-prone zones.
- The roads of Burari circle (11), Nangloi Circle (8), Kalkaji Circle (7), Sarita Vihar circle (6), Shahdara circle (6), Civil Line Circle (6) and Vivek Vihar (5), have maximum number of accident-prone zones.
- 20 circles have a total number of 91 Accident prone zones which accounted for 364 fatal accidents in the year 2018.

Table 10.3
RANGE WISE NUMBER OF ACCIDENT PRONE ZONES – 2018

RANGE NAME	NUMBER OF ACCIDENT-PRONE ZONES	SIMPLE ACCIDENTS	FATAL ACCIDENTS	TOTAL ACCIDENTS
OUTER RANGE (25)	25	165	120	285
SOUTHERN RANGE (23)	23	159	71	230
WESTERN RANGE (23)	23	152	95	247
EASTERN RANGE (20)	20	185	64	249
CENTRAL RANGE (13)	13	116	61	177
NEW DELHI RANGE (06)	06	40	18	58

Table 10.4

RANGE/DISTRICT WISE NUMBER OF ACCIDENT PRONE ZONES – 2018

RANGE NAME	DISTRICT NAME	NUMBER OF ACCIDENT PRONE ZONES	SIMPLE ACCIDENTS	FATAL ACCIDENTS	TOTAL ACCIDENTS
CENTRAL RANGE (13)	CENTRAL DISTRICT (03)	3	21	12	33
	NORTH DISTRICT (10)	10	95	49	144
EASTERN RANGE (20)	EAST DISTRICT (09)	09	63	33	96
	NORTH EAST DISTRICT (11)	11	122	31	153
NEW DELHI RANGE (06)	DWARKA DISTRICT (03)	03	26	08	34
	NEW DELHI DISTRICT (03)	03	14	10	24
OUTER RANGE (25)	NORTH-WEST DISTRICT (22)	22	151	109	260
	OUTER DISTRICT (03)	03	14	11	25
SOUTHERN RANGE (23)	SOUTH DISTRICT (05)	05	40	19	59
	SOUTH EAST DISTRICT (18)	18	119	52	171
WESTERN RANGE (23)	SOUTH WEST DISTRICT (05)	05	31	15	46
	WEST DISTRICT (18)	18	121	80	201

Table 10.5
CIRCLE WISE NUMBER OF ACCIDENT PRONE ZONES – 2018

S.NO.	CIRCLE NAME	NUMBER OF ACCIDENT-PRONE ZONES	SIMPLE ACCIDENTS	FATAL ACCIDENTS	TOTAL ACCIDENTS
1.	BURARI CIRCLE	11	96	64	160
2.	NANGLOI CIRCLE	8	37	39	76
3.	KALKAJI CIRCLE	7	55	17	72
4.	SARITA VIHAR CIRCLE	6	33	21	54
5.	CIVIL LINES CIRCLE	6	63	34	97
6.	SHAHDARA CIRCLE	6	65	24	89
7.	VIVEK VIHAR CIRCLE	5	31	18	49
8.	MODEL TOWN CIRCLE	4	28	17	45
9.	KHAZOORI CIRCLE	4	53	4	57
10.	NARELA CIRCLE	4	14	14	28
11.	ASHOK VIHAR CIRCLE	3	13	14	27
12.	DARYA GANJ CIRCLE	3	21	12	33
13.	KALYAN PURI CIRCLE	3	25	10	35
14.	LAJPAT NAGAR CIRCLE	3	21	10	31
15.	MAYA PURI CIRCLE	3	20	13	33
16.	PARLIAMENT STREET CIRCLE	3	14	10	24
17.	TILAK NAGAR CIRCLE	3	20	8	28
18.	RAJOURI GARDEN CIRCLE	3	15	11	26
19.	SADAR BAZAR CIRCLE	3	25	9	34
20.	PUNJABI BAGH CIRCLE	3	40	15	55
21.	DELHI CANTT CIRCLE	2	21	2	23
22.	SUKHDEV VIHAR CIRCLE	1	0	4	4
23.	BAWANA CIRCLE	1	6	4	10
24.	SEEMA PURI CIRCLE	1	4	3	7
25.	DEFENCE COLONY CIRCLE	1	11	2	13
26.	SAKET CIRCLE	1	5	4	9
27.	DWARKA CIRCLE	1	5	6	11
28.	GREATER KAILASH CIRCLE	1	10	0	10
29.	HAUS KHAS CIRCLE	1	12	3	15
30.	MANDAWALI CIRCLE	1	7	5	12
31.	KAPASHERA CIRCLE	1	6	3	9
32.	KOTWALI CIRCLE	1	7	6	13
33.	R.K. PURAM CIRCLE	1	7	3	10
34.	MANGOL PURI CIRCLE	1	5	3	8
35.	ROHINI CIRCLE	1	3	4	7
36.	VASANT VIHAR CIRCLE	1	5	7	12
37.	NAJAF GARH CIRCLE	1	5	4	9
38.	JANAK PURI CIRCLE	1	9	2	11
TOTAL		110	817	429	1246

Roads with number of Accident Prone Zones are given in **Table No. 10.6**. Top 19 roads have 96 Accident Prone Zones and 376 fatal accidents occurred at these places during the year 2018.

- The Ring Road (22), Outer Ring Road (14) and GTK Road (12) have the maximum number of dangerous stretches on them.

Table 10.6
ROAD WISE NUMBER OF ACCIDENT PRONE ZONES – 2018

SNO	ROAD NAME	NUMBER OF ACCIDENT PRONE ZONES	SIMPLE ACCIDENT	FATAL ACCIDENTS	TOTAL ACCIDENTS
1.	RING ROAD	22	156	91	247
2.	OUTER RING ROAD	14	124	60	184
3.	GTK ROAD	12	74	55	129
4.	ROHTAK ROAD	9	47	44	91
5.	G.T. ROAD	5	53	16	69
6.	ANAND MAI MARG	3	21	10	31
7.	NAJAFGARH ROAD	3	20	8	28
8.	NH-24	3	25	10	35
9.	NH-8	3	22	12	34
10.	WAZIRABAD ROAD	3	42	4	46
11.	ROAD NO.56	3	20	11	31
12.	MEHRAULI BADARPUR ROAD	2	14	7	21
13.	BKS MARG	2	8	7	15
14.	VIR BANDA BAIRAGI MARG	2	23	6	29
15.	MATHURA ROAD	2	14	8	22
16.	ROAD NO 13A	2	11	7	18
17.	AGRA CANAL ROAD	2	8	6	14
18.	ROAD NO 57	2	11	7	18
19.	PUSTA ROAD	2	22	7	29
Total		96	715	376	1091
20.	VIKAS MARG	1	7	5	12
21.	BAWANA ROAD	1	6	4	10
22.	RAVIDAS MARG	1	6	3	9
23.	BOULEVARD ROAD	1	12	9	21
24.	CAPTAIN GAUD MARG	1	10	0	10
25.	N. SUBHASH MARG	1	9	2	11
26.	GOYLA DAIRY ROAD	1	5	4	9
27.	ROAD NO.201	1	5	6	11
28.	JOSEF BRIJ TITO MARG	1	12	3	15
29.	OUTER CIRCLE CP	1	6	3	9
30.	PANKHA ROAD	1	9	2	11
31.	YAMUNA PUSTA ROAD	1	5	4	9
32.	ROAD NO.51	1	8	5	13
33.	RANI JHANSI ROAD	1	2	3	5
TOTAL		110	817	429	1246

Few important points revealed during study of these accident-prone zones are listed below:

- Accident prone zones have further been identified as **Pedestrian (33), Two wheelers (15), Cyclist (05) and HTVs (13) Accident prone zones** according to the category of the victim as well as the vehicle at fault.
- Prosecution and preventive actions according to the offending and victim vehicle of the place can reduce accidents.

Pedestrian Accident-prone zones:

- **33** out of the 110 accident prone zones are identified as **pedestrian accident-prone zones** based on the criteria of 3 or more fatal or 10 or more total pedestrian accidents within the range of 500 meter diameter. (Table 10.7)

Pedestrian facilities like FOBs, footpaths, safe boarding places, etc. needs to be improved at these places.

Map 10.2
PEDESTRIANS ACCIDENT PRONE ZONES – 2018



Table 10.7
PEDESTRIAN ACCIDENT PRONE ZONES – 2018

S.NO.	ACCIDENT PRONE ZONES	(FATAL ACCIDENT SENIORITY)		
		SIMPLE ACCIDENTS	FATAL ACCIDENTS	TOTAL ACCIDENTS
1.	ISBT K GATE	8	7	15
2.	GHEWRA MORE	2	6	8
3.	5TH PUSTA USMANPUR	4	5	9
4.	LIBAS PUR BUS STAND	4	5	9
5.	BHALSWA CHOWK	3	5	8
6.	SEC-1,2 RED LIGHT	3	5	8
7.	PREM BARI PULL	1	5	6
8.	KASHMIRI GATE CHOWK	8	4	12
9.	INDIRA KALYAN VIHAR RED LIGHT	4	4	8
10.	RAJ GHAT	3	4	7
11.	SIRASPUR	3	4	7
12.	HANUMAN MANDIR	2	4	6
13.	MUKARBA CHOWK	2	4	6
14.	RAJDHANI PARK	2	4	6
15.	TIKRI VILLAGE	1	4	5
16.	MAHIPALPUR FLYOVER	0	4	4
17.	METRO STATION MADIPUR	7	3	10
18.	PEERA GARHI CHOWK	6	3	9
19.	AZADPUR SABZI MANDI	6	3	9
20.	SHAKAR PUR CHUNGI	5	3	8
21.	TARA APPARTMENT	5	3	8
22.	FILMISTAN	2	3	5
23.	PUSTA NEW USMAN PUR	2	3	5
24.	SARITA VIHAR METRO STATION	2	3	5
25.	AKSHARDHAM MANDIR	1	3	4
26.	AZAD PUR CHOWK	1	3	4
27.	BUS STAND JAGAT PURI	1	3	4
28.	SUBHASH NAGAR METRO STN	1	3	4
29.	MUNDKA METRO STATION	1	3	4
30.	BUDHPUR GANDA NALA/HANUMAN MANDIR BUDHPUR	0	3	3
31.	GURUDWARA BANGLA SAHIB	0	3	3
32.	SHASTRI NAGAR METRO STN	8	2	10
33.	KHAJOORI CHOWK	9	1	10

Two wheelers Accident prone zones:

- **15** out of the 110 accident prone zones are identified as **Two-wheeler accident prone**

zones based on the criteria of 3 or more fatal or 10 or more total two-wheeler accidents within the range of 500 meter diameter. (Table 10.8)

Map 10.3
TWO WHEELERS ACCIDENT PRONE ZONES – 2018

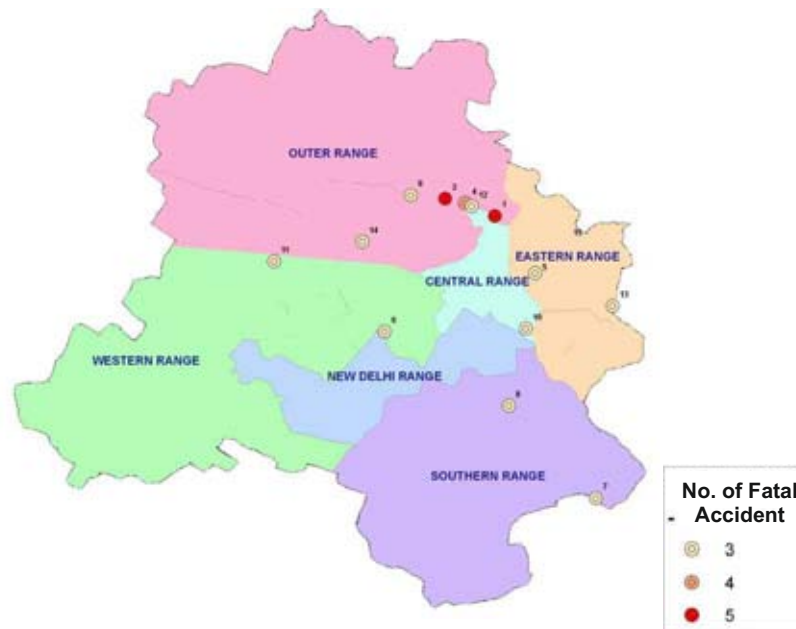


Table 10.8
TWO-WHEELER ACCIDENT PRONE ZONES – 2018

(FATAL ACCIDENT SENIORITY)

S.NO.	ACCIDENT PRONE ZONES	SIMPLE ACCIDENTS	FATAL ACCIDENTS	TOTAL ACCIDENTS
1.	NIRANKARI COLONY	7	5	12
2.	MUKUND PUR CHOWK	3	5	8
3.	WAZIRABAD	5	4	9
4.	BURARI CHOWK	4	4	8
5.	SHASTRI PARK/IT PARK	8	3	11
6.	MUKARBA CHOWK	6	3	9
7.	TOLL PLAZA BADARPUR	5	3	8
8.	MOOL CHAND	4	3	7
9.	NARAINA	3	3	6
10.	ITO/I P FLYOVER	3	3	6
11.	RAJDHANI PARK	2	3	5
12.	ITI DHEERPUR	2	3	5
13.	ANAND VIHAR ISBT	1	3	4
14.	DEEPALI CHOWK	0	3	3
15.	GOKALPURI	10	0	10

These places either have high density two-wheeler movement or, these are on high speed corridors or may have too many openings of minor roads onto the major road or, lack nearby 'U' turn or, lack road crossing facility which prompts the rider to ride on the wrong side and indulge in random movement of two wheelers. Roads at such places have to be studied and redesigned for safe movement of two-wheelers. Pseudo two-wheeler tracks can be tested at some places.

Cyclist Accident prone zones:

- **05** accident prone zones are identified as **Cyclist accident prone zones** based on the criteria of 2 or more total cyclist accidents within the range of 500 meter diameter. (Table 10.9)

Map 10.4
CYCLISTS ACCIDENT PRONE ZONES – 2018



Table 10.9
CYCLIST ACCIDENT PRONE ZONES – 2018

(FATAL ACCIDENT SENIORITY)

S.NO.	ACCIDENT PRONE ZONES	SIMPLE ACCIDENTS	FATAL ACCIDENTS	TOTAL ACCIDENTS
1.	JASOLA VIHAR	0	2	2
2.	MAJLIS PARK METRO STATION	1	1	2
3.	KAKROLA DWARKA MORE	2	0	2
4.	JANAKPURI EAST	2	0	2
5.	ISBT KASHMIRI GATE	2	0	2

These are the places having high cyclist movement. Continuous **NMV tracks with safe road crossing facility for cycles**, by slowing down other vehicle movement are needed at these points. **Separate underpasses or FOBs where ever possible for slow moving vehicles** can also be proposed.

HTVs Accident prone zones:

- **13** accident prone zones are identified as **HTVs accident prone zones** by the criteria of 3 or more total accidents by HTVs within the range of 500 meter diameter. (Table 10.10)

Map 10.5
HTVs ACCIDENT PRONE ZONES – 2018

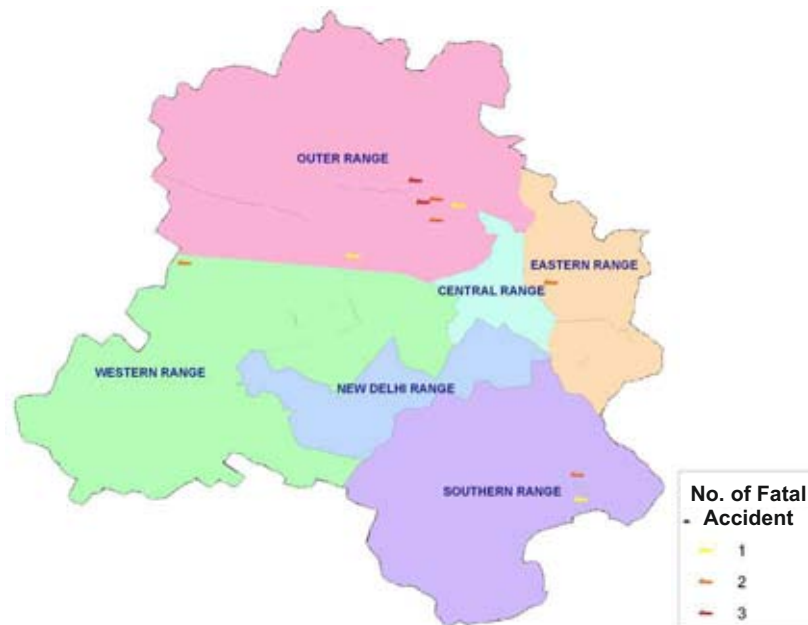


Table 10.10
HTVs ACCIDENT PRONE ZONES – 2018

(FATAL ACCIDENT SENIORITY)

S.NO.	ACCIDENT PRONE ZONES	SIMPLE ACCIDENTS	FATAL ACCIDENTS	TOTAL ACCIDENTS
1.	LIBAS PUR BUS STAND	4	3	7
2.	MUKARBA CHOWK	1	3	4
3.	SHASTRI PARK/IT PARK	3	2	5
4.	BHALSWA CHOWK	2	2	4
5.	TIKRI VILLAGE	1	2	3
6.	INDIRA KALYAN VIHAR RED LIGHT	1	2	3
7.	AZADPUR SABZI MANDI	1	2	3
8.	MUKUND PUR CHOWK	4	1	5
9.	OKHLA MORE	2	1	3
10.	SWAROOP NAGAR	4	0	4
11.	SANJAY T-POINT	3	0	3
12.	KALINDI KUNJ	3	0	3
13.	JAHANGIR PURI METRO STATION	3	0	3

These places have more heavy vehicle movement and are mostly on NHs and Ring road/Outer Ring road.

Hit and run Accident prone zones:

- **61** accident prone zones are identified as **Hit and run accident prone zones** identified by the criteria of 3 or more fatal

or 4 or more total Hit and run accident cases within the range of 500-meter diameter. (Table 10.11)

- Fixing **CCTV cameras** and placing **CATs ambulance** at these places can be effective in preventing fatalities.

Map 10.7 (a)
HIT ANT RUN ACCIDENT PRONE ZONES – 2018

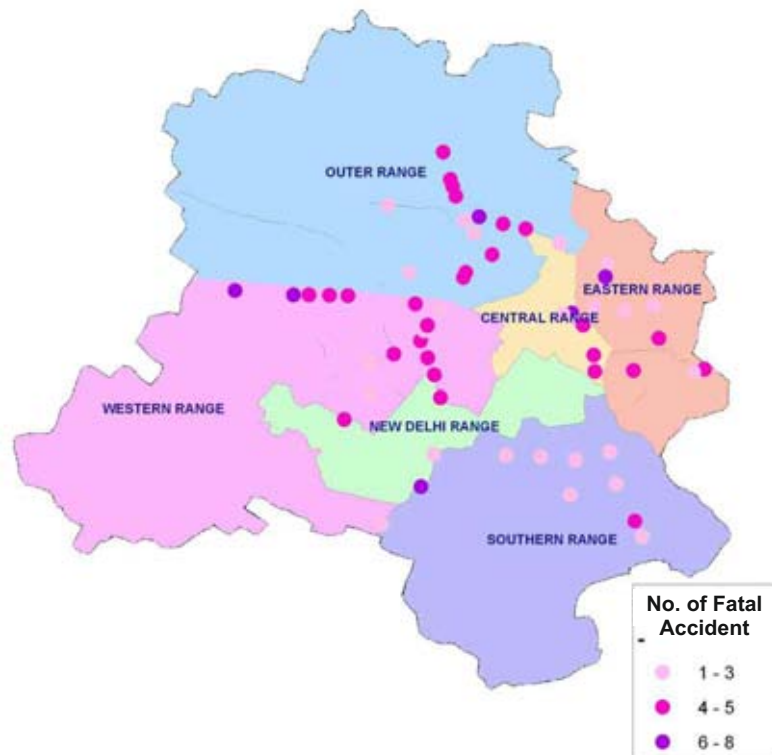


Table 10.11
HIT AND RUN ACCIDENT PRONE ZONES – 2018

(FATAL ACCIDENT SENIORITY)

S.NO.	ACCIDENT PRONE ZONES	SIMPLE ACCIDENTS	FATAL ACCIDENTS	TOTAL ACCIDENTS
1.	ISBT KASHMIRI GATE	5	8	13
2.	MAHIPALPUR FLYOVER	1	6	7
3.	BHALSWA CHOWK	4	5	9
4.	5TH PUSTA USMANPUR	3	5	8
5.	GHEWRA MORE	1	5	6
6.	MUNDKA METRO STATION	1	5	6
7.	SWAROOP NAGAR	5	4	9
8.	RAJOURI GARDEN	4	4	8
9.	WAZIRABAD	3	4	7
10.	LIBAS PUR BUS STAND	3	4	7
11.	HANUMAN MANDIR	3	4	7
12.	RAJDHANI PARK	3	4	7
13.	SEC-1,2 RED LIGHT	2	4	6
14.	PREM BARI PULL	2	4	6
15.	SURAJMAL METRO STATION	1	4	5
16.	METRO STATION MADIPUR	6	3	9
17.	KIRARI MORE	5	3	8
18.	MAYA PURI CHOWK	4	3	7
19.	SIRASPUR	4	3	7
20.	NARAINA	4	3	7
21.	MUKUND PUR CHOWK	3	3	6
22.	INDIRA KALYAN VIHAR RED LIGHT	3	3	6
23.	AZAD PUR CHOWK	3	3	6
24.	RAJ GHAT	2	3	5
25.	SHAMSHAN GHAT PUNJABI BAGH	2	3	5
26.	SHAKAR PUR CHUNGI	2	3	5
27.	BURARI CHOWK	2	3	5
28.	WAZIR PUR DEPOT	2	3	5
29.	BRAR SQUARE	1	3	4
30.	BUDHPUR GANDA NALA/HANUMAN MANDIR BUDHPUR	1	3	4
31.	ITO/I P FLYOVER	1	3	4
32.	BUS STAND JAGAT PURI	0	3	3
33.	MURGA MANDI FLYOVER	0	3	3
34.	SUBHASH NAGAR METRO STN	0	3	3
35.	PUNJABI BAGH CHOWK	8	2	10
36.	NIRANKARI COLONY	5	2	7
37.	KHAJOORI CHOWK	5	2	7
38.	SINGHOLA VILLAGE	4	2	6
39.	JANAKPURI EAST	4	2	6
40.	DEEPALI CHOWK	3	2	5
41.	ASHRAM CHOWK	3	2	5

S.NO.	ACCIDENT PRONE ZONES	SIMPLE ACCIDENTS	FATAL ACCIDENTS	TOTAL ACCIDENTS
42.	CHIRAG DELHI FLYOVER	3	2	5
43.	RAJOUKARI FLYOVER	3	2	5
44.	UNDER PASS GAJIPUR	3	2	5
45.	SHYAMGIRI MANDIR SHASTRI PARK	3	2	5
46.	SEELAMPUR T POINT	3	2	5
47.	MUKARBA CHOWK	3	2	5
48.	JAHANGIR PURI METRO STATION	3	2	5
49.	NIGAM BODH GHAT	3	2	5
50.	DABRI FLYOVER	6	1	7
51.	ESI HOSPITAL	5	1	6
52.	MOOL CHAND	5	1	6
53.	SANJAY T-POINT	5	1	6
54.	HYAAT HOTEL	5	1	6
55.	AIIMS	5	1	6
56.	ESI HOSPITAL, ANAND MAI MARG	4	1	5
57.	KASHMIRI GATE CHOWK	4	1	5
58.	SHAHBAD DAIRY	4	1	5
59.	KALKAJI MANDIR	4	1	5
60.	PUSTA NEW USMAN PUR	4	1	5
61.	SHASTRI NAGAR METRO STN	6	0	6

These are the places with high speed corridors and the places where there is heavy vehicle movement during the night.

Day time Accident prone zones:

- **28** accident prone zones were found to be

more vulnerable zones during day time by the criteria of 3 or more fatal or 10 or more total accidents within the range of 500 meter diameter. (Table 10.12)

Map 10.8
DAY TIME ACCIDENT PRONE ZONES – 2018



Table 10.12
DAY TIME ACCIDENT PRONE ZONES – 2018

S.NO.	ACCIDENT PRONE ZONES	(FATAL ACCIDENT SENIORITY)		
		SIMPLE ACCIDENTS	FATAL ACCIDENTS	TOTAL ACCIDENTS
1.	ISBT KASHMIRI GATE	11	6	17
2.	KASHMIRI GATE CHOWK	8	6	14
3.	GHEWRA MORE	4	5	9
4.	WAZIRABAD	12	4	16
5.	BURARI CHOWK	8	4	12
6.	NIRANKARI COLONY	7	4	11
7.	ANAND VIHAR ISBT	5	4	9
8.	BHALSWA CHOWK	5	4	9
9.	MUKUND PUR CHOWK	3	4	7
10.	TIKRI VILLAGE	1	4	5
11.	LIBAS PUR BUS STAND	7	3	10
12.	SHYAM LAL COLLEGE	7	3	10
13.	5TH PUSTA USMANPUR	6	3	9
14.	MUKARBA CHOWK	6	3	9
15.	RML HOSPITAL	5	3	8
16.	HOTEL BULBUL MUNDKA	5	3	8
17.	METRO STATION INDERLOK	5	3	8
18.	PUSTA NEW USMAN PUR	3	3	6
19.	INDIRA KALYAN VIHAR RED LIGHT	3	3	6
20.	SEC-1,2 RED LIGHT	3	3	6
21.	PREM BARI PULL	2	3	5
22.	BUDHPUR GANDA NALA/HANUMAN MANDIR BUDHPUR	2	3	5
23.	RAJDHANI PARK	1	3	4
24.	JASOLA VIHAR	1	3	4
25.	SIRASPUR	1	3	4
26.	SHASTRI PARK/IT PARK	9	1	10
27.	GOKALPURI	15	0	15
28.	SEELAMPUR T POINT	10	0	10

Night time Accident prone zones:

- **44 accident prone zones were found to be vulnerable zones during night time** by the criteria of 3 or more fatal or 10 or more total accidents within the range of 500 meter diameter. (Table 10.13)
- **Proper illumination and reflective markings and signages alongwith cats eye** can reduce accidents at these places.

Map 10.9
NIGHT TIME ACCIDENT PRONE ZONES – 2018

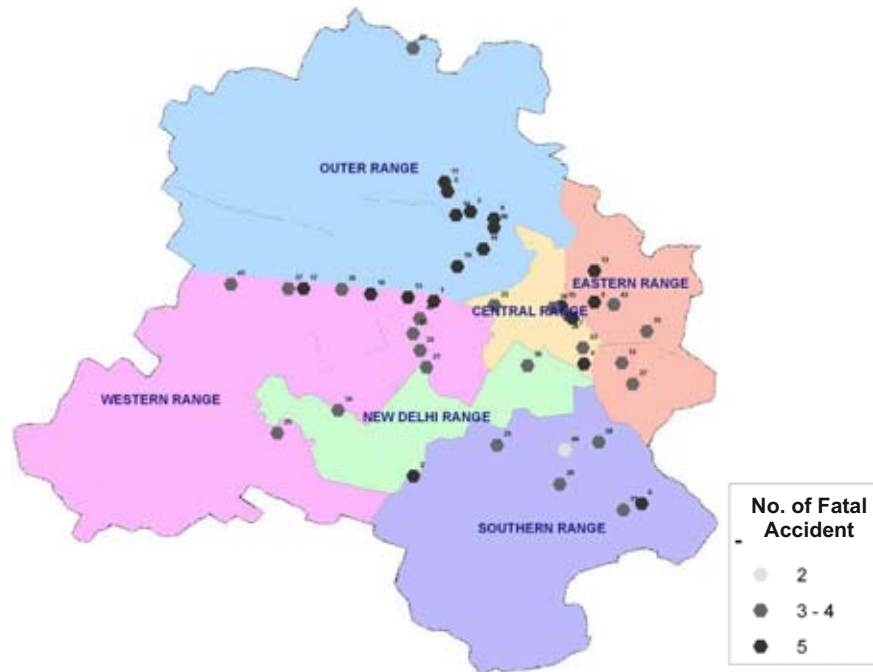


Table 10.13
NIGHT TIME ACCIDENT PRONE ZONES – 2018

S.NO.	ACCIDENT PRONE ZONES	(FATAL ACCIDENT SENIORITY)		
		SIMPLE ACCIDENTS	FATAL ACCIDENTS	TOTAL ACCIDENTS
1.	PUNJABI BAGH CHOWK	7	5	12
2.	MAHIPALPUR FLYOVER	5	5	10
3.	BHALSWA CHOWK	3	5	8
4.	ITO/I P FLYOVER	3	5	8
5.	LIBAS PUR BUS STAND	3	5	8
6.	SARITA VIHAR METRO STATION	1	5	6
7.	HANUMAN MANDIR	0	5	5
8.	MUKUND PUR CHOWK	13	4	17

S.NO.	ACCIDENT PRONE ZONES	SIMPLE ACCIDENTS	FATAL ACCIDENTS	TOTAL ACCIDENTS
9.	SHASTRI PARK/IT PARK	8	4	12
10.	PEERA GARHI CHOWK	7	4	11
11.	SWAROOP NAGAR	5	4	9
12.	5TH PUSTA USMANPUR	5	4	9
13.	METRO STATION MADIPUR	3	4	7
14.	MUKARBA CHOWK	3	4	7
15.	ISBT K GATE	3	4	7
16.	MAJLIS PARK METRO STATION	3	4	7
17.	RAJDHANI PARK	3	4	7
18.	AZAD PUR CHOWK	2	4	6
19.	PREM BARI PULL	1	4	5
20.	CHIRAG DELHI FLYOVER	8	3	11
21.	NARAINA	7	3	10
22.	SHASTRI NAGAR METRO STN	6	3	9
23.	RAJOURI GARDEN	5	3	8
24.	MAYA PURI CHOWK	5	3	8
25.	HYAAT HOTEL	4	3	7
26.	KASHMIRI GATE CHOWK	4	3	7
27.	AKSHARDHAM MANDIR	3	3	6
28.	ASHRAM CHOWK	3	3	6
29.	GOYALA DAIRY VILLAGE	3	3	6
30.	GURUDWARA BANGLA SAHIB	3	3	6
31.	INDIRA KALYAN VIHAR RED LIGHT	3	3	6
32.	RAJ GHAT	3	3	6
33.	SHAKAR PUR CHUNGI	2	3	5
34.	SEC-1,2 RED LIGHT	2	3	5
35.	BUS STAND JAGAT PURI	2	3	5
36.	SURAJMAL METRO STATION	2	3	5
37.	MUNDKA METRO STATION	2	3	5
38.	NIGAM BODH GHAT	2	3	5
39.	SINGHOLA VILLAGE	2	3	5
40.	SINGHU BORDER	1	3	4
41.	GHEWRA MORE	1	3	4
42.	SHAMSHAN GHAT PUNJABI BAGH	0	3	3
43.	SEELAMPUR T POINT	0	3	3
44.	MOOL CHAND	8	2	10

Illumination of the roads is the major influencing factor for night accident prone zones.

The Accident-Prone Zone can broadly be classified into the following zone types:

Table 10.14
ZONE TYPE ACCIDENT PRONE ZONES – 2018

S.NO.	ZONE TYPE	NUMBER OF ACCIDENT PRONE ZONES
1.	MULTI-LEVEL INTERSECTION	24
2.	ROAD STRETCH	20
3.	T-INTERSECTION	15
4.	METRO STATION	12
5.	INTERSECTION	11
6.	HIGHWAY VILLAGE	08
7.	MULTI-INTERSECTION	06
8.	HOSPITAL	04
9.	BUS-STAND	04
10.	EXCHANGE HUB	03
11.	ROUND ABOUT	02
12.	FLYOVER	01
	TOTAL	110

Note:-

- Multilevel intersections** are the intersections which are modified by making flyovers, underpasses, flyover loops at normal intersections eg. Punjabi Bagh chowk, Dhaula Kuan, Mukarba chowk etc.
 - Multi intersection** are the junction points of more than 2 roads or a stretch of single major road having more than 2 minor roads joining within 500 meter stretch.
 - Exchange hubs **are the places where there is a facility of changing of different modes of transport like, city buses, TSRs, Gramin sewa, RTVs, interstate buses, E_rickshaw at the same place eg. ISBT, Peera garhi chowk, Mukarba chowk etc.**
- The above classification does not completely segregate one category from the other, there is some overlapping for e.g. some metro stations are also exchange hubs e.g. Peera garhi chowk. Some Exchange hubs are also multilevel intersections e.g. Mukarba chowk.
 - The classification clearly shows that intersections of different types are more prone to accidents. Multilevel intersections are the most dangerous.

- Other accident-prone places are places of high foot fall eg. Bus stands, metro stations exchange hubs etc. This indicates the lack of proper systematic and planned last mile connectivity of public transport system at these spots:

- These points lack safe, systematic transport exchange facility (metro buses, buses, TSR, E-rickshaw etc) for passengers.
- The points do not have safe boarding facilities for passengers to board buses/RTVs etc (People stand, wait and board from road).
- There is also lack of proper and enough information about the facilities available for change of vehicles like TSR, E-rickshaw and feeder buses etc. which causes random movement of people, depending on their visible senses.

Correction of Accident Prone Zones:

- Field officers study and analyze these spots for the causative factors of accidents like:
 - Slopes.
 - Embankments.
 - Road curvatures.

4. Road surface.
5. Line of sight visibility.
6. Angle of intersections.
7. Cuts in central verges.
8. Need for FOBs/Subways.

The preventive measures are suggested to other civic agencies for maintenance.

- The field officers send proposals through Traffic Engineering Branch for improvement in road structure and road design. The proposals can be of short term, having immediate effects, like:
 - (i) Speed calming measures
 - (ii) Making fresh road markings
 - (iii) Fixing cautionary and informative boards
 - (iv) Proper illumination at the spot and fixing of reflective gadgets (cats eyes, road blinkers, thermoplast road markings, reflective bollards etc.)
 - (v) Nose protection
 - (vi) Modification or some change of traffic movement
 - (vii) Fixing of railing on road side or on divider
- The long-term measures for removing of traffic related problems, (regulation and accidents) from the spot are also identified, which are as follows:
 - (i) Suggesting Underpass/FOB
 - (ii) Developing footpath for pedestrians
 - (iii) Proper waiting/ boarding place/ platform for pedestrians
 - (iv) Developing service lanes
 - (v) Change in route of buses or other transport vehicles

- (vi) Displacing bus stands.
- (vii) Closure of cuts on roads.
- (viii) Making oval round-about etc.

- Accordingly, corrective measures listed above were undertaken. This was accompanied by Enforcement and Road Safety Education.

The comparison of the list of Accident Prone Zones of the year 2017 and 2018 reveals that:

- (i) out of 145 Accident Prone Zones of 2017, 83 spots mentioned did not come under the above criteria and thus did not find place in the list of Accident Prone Zones of the year 2018.
- (ii) 108 Accident Prone Zones show increase in fatal accidents in the year 2018 as compared to 2017. Kashmiri gate chowk (+8), Prem bari pul (+7), Ghewra more (+6) and Indira Kalyan vihar (+6) have maximum increase in fatal accidents in the year.
- (iii) 172 Accident Prone Zones show decrease in total accidents in the year 2018 as compared to 2017. Jagat puri (-14), Hasanpur Depot Road No 57 (-14), Jahangirpuri Bus Stand Outer Ring Road (-14), Vikaspuri Flyover (-14), Petrol Pump Road No.51 (-12) and Majnu Ka Tila (-12) have maximum decrease in total accidents in the year 2018.
- Around 25.9% of total fatal accidents (429 out of 1657) occurred in the road-stretch at APZ which is around 80 kms. in length.
- 168 (40%) out of these are hit and run cases. CCTV cameras can be proposed to be installed and CATS Ambulances can be positioned at these points to reduce the fatality and ensure quicker response to accidents.
