ROAD ACCIDENTS IN INDIA

2009

GOVERNMENT OF INDIA

MINISTRY OF ROAD TRANSPORT AND HIGHWAYS

TRANSPORT RESEARCH WING

NEW DELHI

F O R E W O R D

Road safety is both a health and development issue of concern considering its magnitude and gravity and the consequent negative impacts on the economy, public health and the general welfare of the people, particularly those with low incomes. Although we have undertaken initiatives and are implementing various road safety improvement programmes, the overall situation as revealed by data is far from satisfactory.

With rising motorization and expanding road network, travel risks and traffic exposure grow at a much faster rate, as the growth of registered vehicles always outnumbers population growth and new roads are constructed. Today road traffic injuries are one of the leading causes of deaths, disabilities and hospitalizations with severe socioeconomic costs across the world.

As per the Commission for Global Road Safety (2009), road traffic accidents kill an estimated 1.3 million people and injure 50 million people per year globally, and global road fatalities are forecast to reach 1.9 million by 2020. It is estimated that the number of deaths from road accidents in Asia is about 700,000 per year, accounting for more than half of the world's road fatalities even though Asia accounted for only 43% of the global vehicle population in 2007.

During the year 2009 there were around 4.9 lakh road accidents which killed 1,25,660 people and injured more than 5 lakh persons in India. These numbers translate into one road accident every minute and one road accident death every four minutes for India. Road traffic injuries and fatalities impose a huge economic burden on developing economies in particular. In India more than half of the road accident victims are in the age group (25-65 years), the key wage earning and child raising age group. The loss of the main bread earner and head of household due to death or disability can be catastrophic, leading to lower living standards and poverty, in addition to the human cost of bereavement.

Road traffic accidents are amenable to remedial action. Many developed countries have witnessed drop in road accidents and casualty numbers by adopting multipronged approach to road safety that encompasses traffic management, road design, safer vehicles, law enforcement, provision of accident care, etc. The challenge for us is to adapt and evaluate these approaches to suit our needs.

The purpose of this publication is to present an in depth analysis and overview of the road accidents in India. The data and analysis on road accidents contained in this volume will help create awareness and assist in informed decision making in the area of road safety. Success of road safety initiatives requires active cooperation and participation of all stakeholders. I hope this document would be useful to administrators, policy makers and civil society organizations involved in the area of road safety.

(R.S.Gujral)
Secretary

New Delhi
March, 2011

P R E F A C E

Transport Research Wing (TRW) of the Ministry of Road Transport & Highways is the nodal agency for providing information/data on various facets of road and road transport. The present issue **"Road Accidents in India : 2009"** attempts to provide data/information relating to road accidents in terms of its magnitude, incidence, spatial spread, its impact, determinants and policy initiatives undertaken by the government to prevent and mitigate its impact. The volume consists of 14 sections, which dwell on various facets of road accidents in India.

As the information contained in the volume is obtained from a large number of source agencies spread across States and Union Territories (UTs), there is a time lag in bringing out collated data. Our endeavour is to reduce the time lag in bringing out the publication with the cooperation of the various source agencies. In particular, we would like to thank source agencies across States/UTs in bringing out this document. Suggestions from the users of information are welcome to improve quality and coverage. The officers and staff of the TRW deserve special mention for considerable effort put in by them leading to the release of this publication.

(Arvind Kumar)
Adviser (Transport Research)

New Delhi
March 2011

OFFICERS AND STAFF ASSOCIATED IN PREPARATION OF THIS PUBLICATION

Shri Kuntal Sensarma, Director

Ms. Nimmi Balani, Junior Investigator

Shri Surender Singh Rawat

List of Contents

List of Charts

List of Tables

List of Boxes

.

List of Annexures

Road Accidents in India

1. Introduction

1.1 Expansion in road network, motorization and urbanization in the country has been accompanied by a rise in road accidents leading to road traffic injuries (RTIs) and fatalities as a major public health concern. Today road traffic injuries are one of the leading causes of deaths, disabilities and hospitalizations with severe socioeconomic costs across the world.

1.2. Studies of the relationship between gross domestic product (GDP) per capita, growth of motor vehicles and road fatalities, have shown that fatality rates increase as GDP increases at relatively low levels of GDP per capita, but then start to decline with continued GDP growth. The peak position on this inverted U-shaped curve is not, however, immutable. The challenge now is to bring about a shift in the relationship between economic growth and road fatalities, so that developing countries benefit from a much earlier improvement than traditional models predict based on the experience of high-income countries (Make Roads Safe, Commission for Global Road Safety; www.makeroadssafe.org).

2. Cost of Road Accidents

2.1 Accidents carry high economic and social costs, which are not easy to ascertain. The cost of road related injuries and accidents can be assessed in terms of (a) medical costs (b) other costs related to administrative, legal and police expenditure (c) collateral damage in terms of damage to property and motor vehicle and (d) loss due to income foregone arising out of absence from work or impairment/disability or untimely death. Besides accident survivors often live poor quality of life and have to live with pain and suffering which are difficult to estimate. In developing countries with very little asset ownership and lack of credible social safety net,

accidents adversely impact the welfare of dependents of accident victims. Hence it is imperative to assess the magnitude and dimensions of road accidents so as to assist in formulating road safety policies.

2.2 In economic terms, the cost of road crash injuries is estimated at roughly 1 percent of gross national product (GNP) in low-income countries, 1.5 percent in middle-income countries and 2 percent in high-income countries. The direct economic costs of global road crashes have been estimated at US $ 518 Billion, with the costs in low income countries estimated at US $ 65 Billion (World Report on Road Traffic Injury Prevention, page 5, WHO, 2004). These estimates take account only of the direct economic costs – mainly lost productivity – rather than the full social costs often recognized by industrialized countries. For India the socio-economic cost of road accidents in 1999-2000 was estimated at 3 % of GDP (Tenth Five Year Plan Vol II, page 963).

3. Trends in accidents, injuries, fatalities, motor vehicles & road network

3.1 Occurrence of accident is an outcome of interplay of a number of factors, which among others include length of road network, vehicle population, human population and adherence/enforcement of road safety regulations etc. Higher exposure to road accident risk may be mitigated by behavioral standards (adherence to road safety regulations) and policy intervention (enforcement).

Long Term Trends

3.2 The Compound annual growth rate (CAGR) in number of accidents, injuries, fatalities and motor vehicles (registered) have moderated during 1990s (1990-2000) after a spurt during the 1980s (1980 to 1990) (Table 1). Moderation in the growth of accidents, fatalities and injuries during 1990s has taken place in the backdrop of lower growth in the number of registered vehicles and step up in the growth of road network. However, post-2000 (up to 2009) growth rate of fatalities has accelerated vis-à-vis the preceding decade (1990-2000).

Table 1: Growth in Select Accident Related Parameters: Compound Annual Growth Rate (CAGR) in percent					
Period	**Number of Accidents**	**Number of Injuries**	**Number of Fatalities**	**Number of Registered vehicles**	**Road Length (in kilometers)**
1980/1970	3.0	4.5	5.2	12.4	2.3
1990/1980	6.3	8.4	8.5	15.5	2.9
2000/1990	3.3	5.0	3.8	9.8	5.3
2009/2000	2.4	2.9	5.3	10.0	2.7*
Note: * refers to 2008/2000. The latest year for which road length data is available is 2008.					

Between 1970 and 2009 the number of accidents increased by 4.3 times with more than 7 fold increase in injuries and about 8.7 times increase in fatalities in the backdrop of about 64 fold increase in the number registered motor vehicles and three fold increase in road network (Annex-I).

Recent Trends in Number of Accidents, Injuries and Fatalities

- During the calendar year 2009, number of accidents reported at 4,86,384 was higher by 0.35 per cent compared with 4,84,704 accidents reported in the year 2008.

- In comparison, the number of persons killed as a result of road accidents at 1,25,660 was higher by 4.8% in 2009 compared with the preceding year. However, the number of persons injured declined to 5,15,458 (a fall of 1.5%).

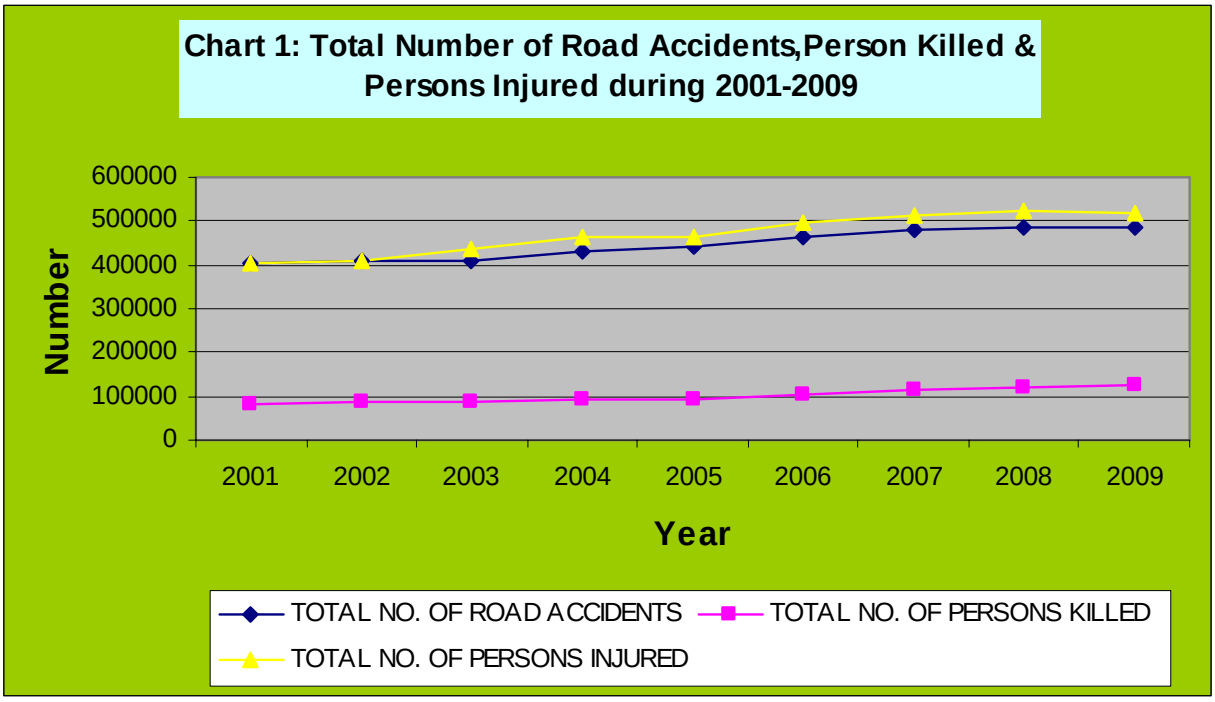
- The total number of road accidents, injuries and deaths increased at CAGR of 2.4%, 2.9% and 5.3 % respectively between the years 2000 and 2009.

Profile of road accidents

3.3 The total number of road accidents reported by all the States/ Union Territories (UTs) in the year 2009 were 4,86,384 of which 1,10,993 were fatal i.e. 22.8% of the road accidents were fatal. The number of persons killed in the accidents were 1,25,660 (i.e. an average of one fatality per 4.4 accidents). Table 2 indicates that the proportion of fatal accidents in total road accidents has consistently increased since 2001 from 17.6% to 22.8% in 2009. The severity of road accidents, measured in terms of persons killed per 100 accidents, had also increased from 19.9 in 2001 to 25.8 in 2009.

Table 2: Number of Accidents and Number of Persons Involved : 2001 to 2009					
Year	Number of Accidents		Number of Persons		Accident Severity*
	Total	Fatal	Killed	Injured	
2001	4,05,637	71,219 (17.6)	80,888	4,05,216	19.9
2002	4,07,497	73,650 (18.1)	84,674	4,08,711	20.8
2003	4,06,726	73,589 (18.1)	85,998	4,35,122	21.1
2004	4,29,910	79,357 (18.5)	92,618	4,64,521	21.5
2005	4,39,255	83,491(19.0)	94,968	4,65,282	21.6
2006	4,60,920	93,917(20.4)	1,05,749	4,96,481	22.9
2007	4,79,216	1,01,161(21.1)	1,14,444	5,13,340	23.9
2008	4,84,704	1,06,591(22.0)	1,19,860	5,23,193	24.7
2009(P)	4,86,384	1,10,993(22.8)	1,25,660	5,15,458	25.8
(P): Provisional. Source: Information supplied by States/UTs (Police Departments). Figures within parentheses indicate share of fatal accidents (i.e. involving death) to total accidents. * Accident Severity : No. of Persons Killed per 100 Accidents					

3.4 **The magnitude of road accidents and fatalities in India is alarming. This is evident from the fact that every hour there are about 56 accidents (about one accident every minute). Similarly, every hour more than 14 deaths occur due to road accidents i.e. one death in every 4 minutes.**



4. Normalized Indicators of Road Accidents, Injuries & Fatalities: All India Averages

4.1 To get an appropriate measure of incidence of accidents, normalized/standardized accident rates for India have been worked out in terms of number of accidents (a) per lakh persons, (b) per ten thousand motor vehicles and (c) per ten thousand kilometers of the road length. Some of the broad trends at the all-India level are summarized below.

a. Number of accidents per lakh population indicates a rise from 21.2 in 1970 to 22.8 in 1980 followed by a sharp increase to 33.8 in 1990. Between 1995 and 2005 , the figures fluctuated in the range of 38 to 40 ; increasing to above 42 in recent years(2007 and 2008); a slight dip to 41.9 in 2009. Between 1970 and 2009, there had been an increase of about 97% [Chart 2(a)];

b. A significant decline in the number of accidents per ten thousand motor vehicles is discernible from 814 in 1970, 339 in 1980, 148 in 1990, 80 in 2000 and further to 42 in 2009 i.e. decline of almost 95 % since 1970. [Chart 2(b)] ;

c. The trend in the number of accidents per ten thousand kilometers of the road length shows that the number of accidents have increased over the last few decades, from 960 in 1970 to 1027 in 1980; peaked to 1424 in 1990; but declined thereafter fluctuating within a band of 1100 to 1200 per ten thousand kilometers. For the latest year 2008, the figure stood at 1179 [Chart 2(c)].

d. The number of persons injured per lakh of population indicates a more than three fold increase from 13 in 1970 to 44.4 in 2009 [Chart 3(a)]. Similarly, persons killed per lakh of population indicate a four fold jump from 2.7 in 1970 to 10.8 in 2009 [Chart 4(a)] Exposure of population to road accidents leading to deaths and injuries largely depends on the amount of travel undertaken, defined as the number of trips, the distance travelled, or time in the road environment, number of motor vehicles and the amount of motorized traffic, etc. These factors are associated with development and income levels. In high income countries, risk of road accidents arising out of these factors have been reduced

through effective road safety engineering, traffic management, enforcement of traffic laws and the severity of penalties for infringement.

e. As regards number of persons injured and killed per 10,000 vehicles the decline has been dramatic. To some extent decline in this parameter has been brought about by improvements in vehicle crashworthiness and occupant protection. The number of persons injured per 10,000 vehicles has plummeted from 500 in 1970 to about 45 in 2009 [Chart 3(b)]. It is noteworthy that this parameter has consistently declined since 1996 despite sustained high growth in vehicle population. Similarly, the number of persons killed per 10,000 vehicles in the country has also fallen from about 104 in 1970 to less than 11 in 2009. [Chart 4(b)]. However, injuries and deaths per 10,000 motor vehicles as a parameter has a limitation as it does not capture road related accidents and deaths connected with non-motorized forms of transport which are significant in rural areas.

f. The number of persons injured and killed per ten thousand km of road length has more than doubled since 1970. Modern road systems are largely designed for the motor vehicles exposing vulnerable road users to greater risk of accidents. In developing countries, lack of foot-paths, cycle tracks, traffic calming measures to reduce speed where non motorized mode of transport blend with motorized traffic, increases the risk of accidents and its severity. These factors have contributed towards increase in road related accidents, injuries and deaths in relation to rise in terms of road length. High-income countries have made progress in providing facilities for pedestrians and cyclists alongwith speed reduction schemes thereby weakening the nexus between road accidents, injuries and deaths with expansion in road network. The numbers of persons injured per ten thousand km of road length have risen from 590 in 1970 to 1273 in 2008 [Chart 3 (c)]; similarly persons killed per ten thousand km of road length more than doubled from 122 in 1970 to 292 in 2008 [Chart 4(c)]. However, both these parameters have undergone ups and downs over the last decade.

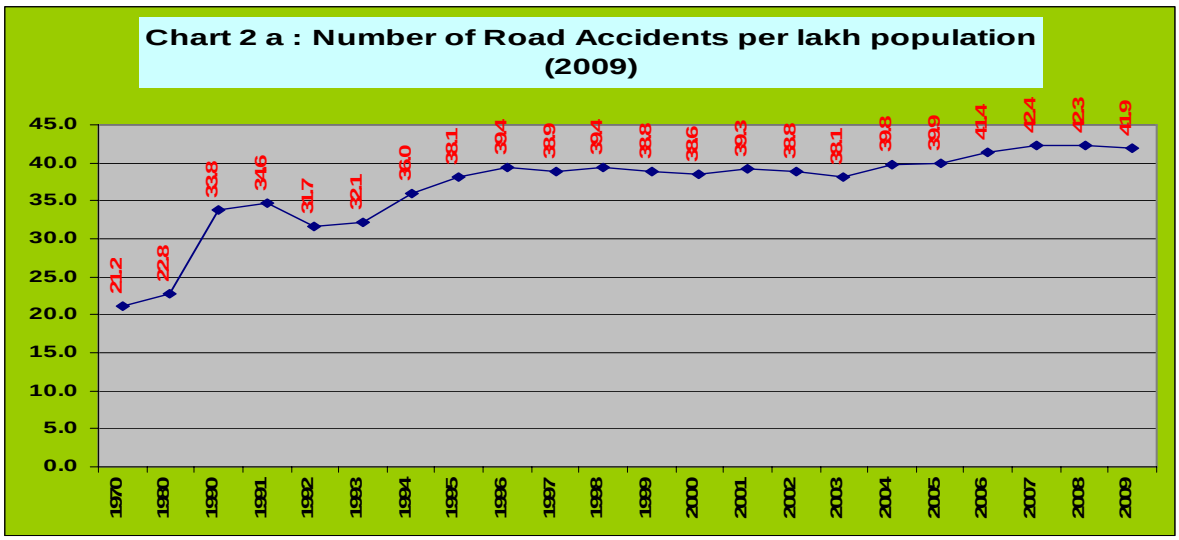


Chart 2 a : Number of Road Accidents per lakh population (2009)
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
21.2
22.8
33.8
34.6
31.7
32.1
36.0
38.1
39.4
38.9
39.4
38.8
38.6
39.3
38.8
38.1
39.8
39.9
41.4
42.4
42.3
41.9
1970
1980
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009

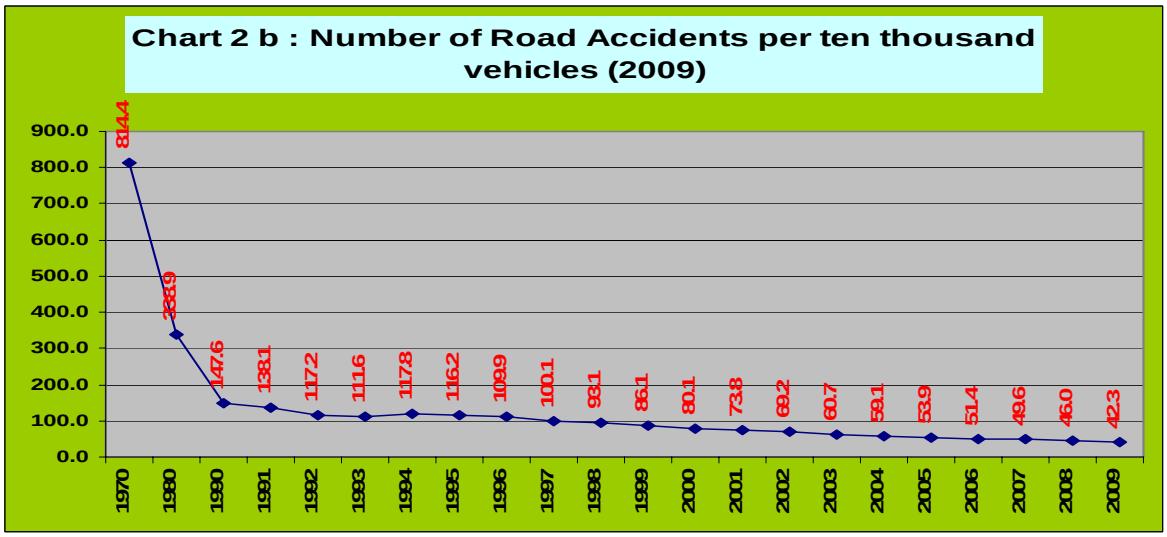


Chart 2 b : Number of Road Accidents per ten thousand vehicles (2009)
900.0
800.0
700.0
600.0
500.0
400.0
300.0
200.0
100.0
0.0
814.4
338.9
147.6
138.1
117.2
111.6
117.8
116.2
109.9
100.1
93.1
86.1
80.1
73.8
69.2
60.7
59.1
53.9
51.4
49.6
46.0
42.3
1970
1980
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009

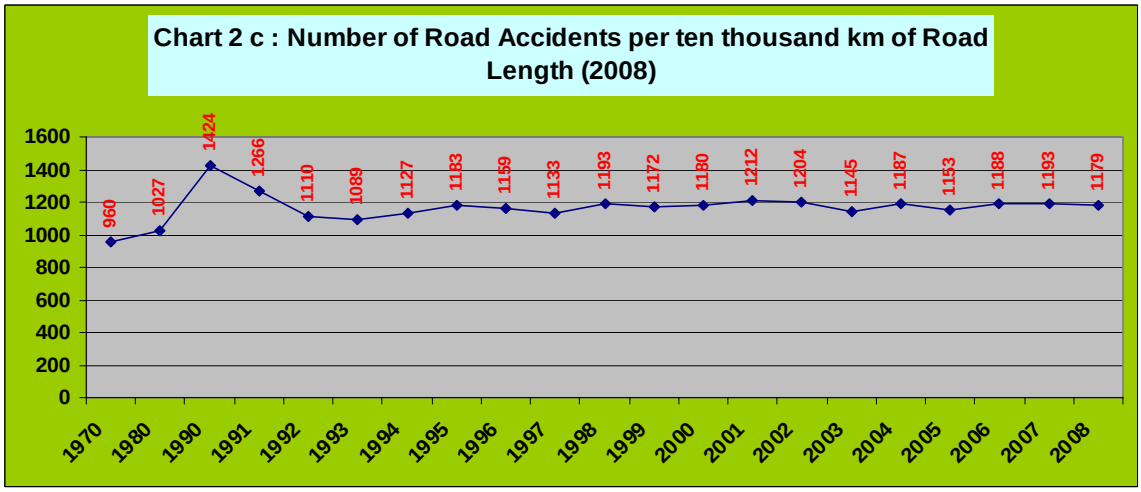


Chart 2 c : Number of Road Accidents per ten thousand km of Road Length (2008)
1600
1400
1200
1000
800
600
400
200
0
960
1027
1424
1266
1110
1089
1127
1183
1159
1133
1193
1172
1180
1212
1204
1145
1187
1153
1188
1193
1179
1970
1980
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008

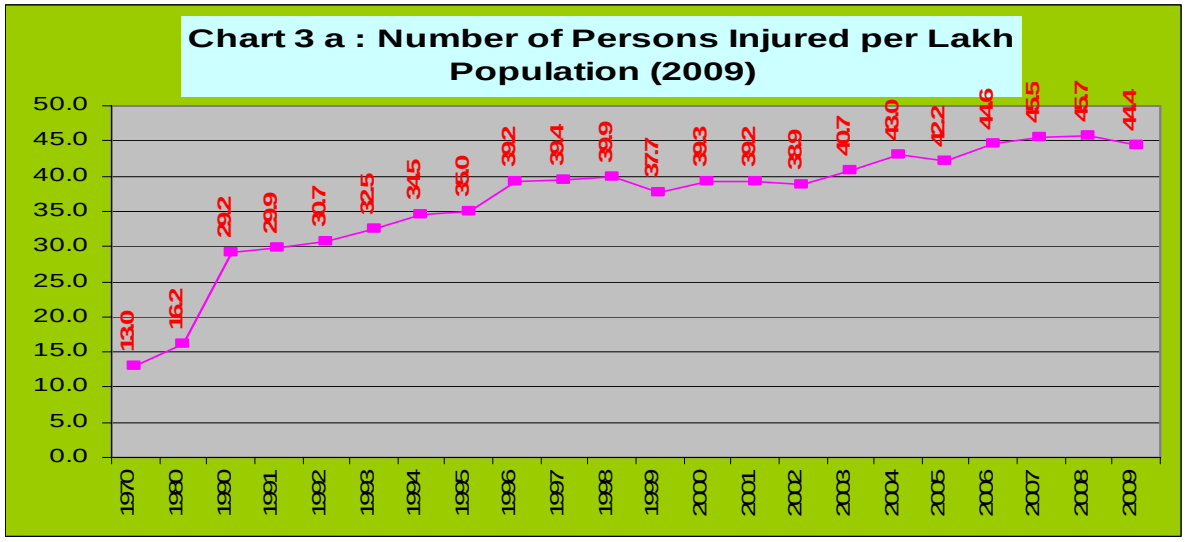


Chart 3 a : Number of Persons Injured per Lakh Population (2009)
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
13.0
16.2
29.2
29.9
30.7
32.5
34.5
35.0
39.2
39.4
39.9
37.7
39.3
39.2
38.9
40.7
43.0
42.2
44.6
45.5
45.7
44.4
1970
1980
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009

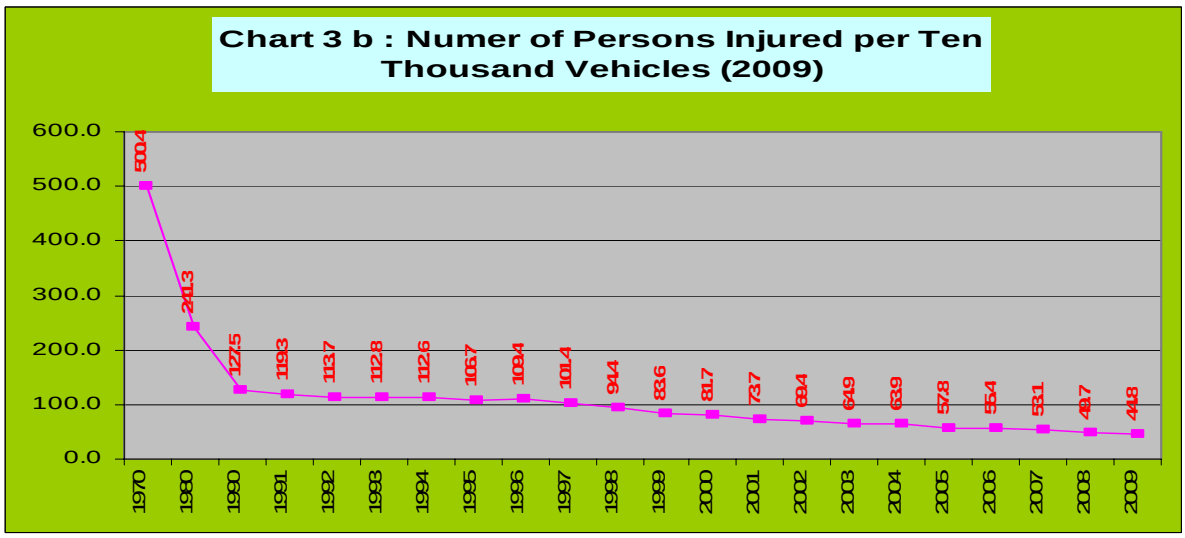


Chart 3 b : Numer of Persons Injured per Ten Thousand Vehicles (2009)
600.0
500.0
400.0
300.0
200.0
100.0
0.0
500.4
241.3
127.5
119.3
113.7
112.8
112.6
106.7
109.4
101.4
94.4
83.6
81.7
73.7
69.4
64.9
63.9
57.8
55.4
53.1
48.7
44.8
1970
1980
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009

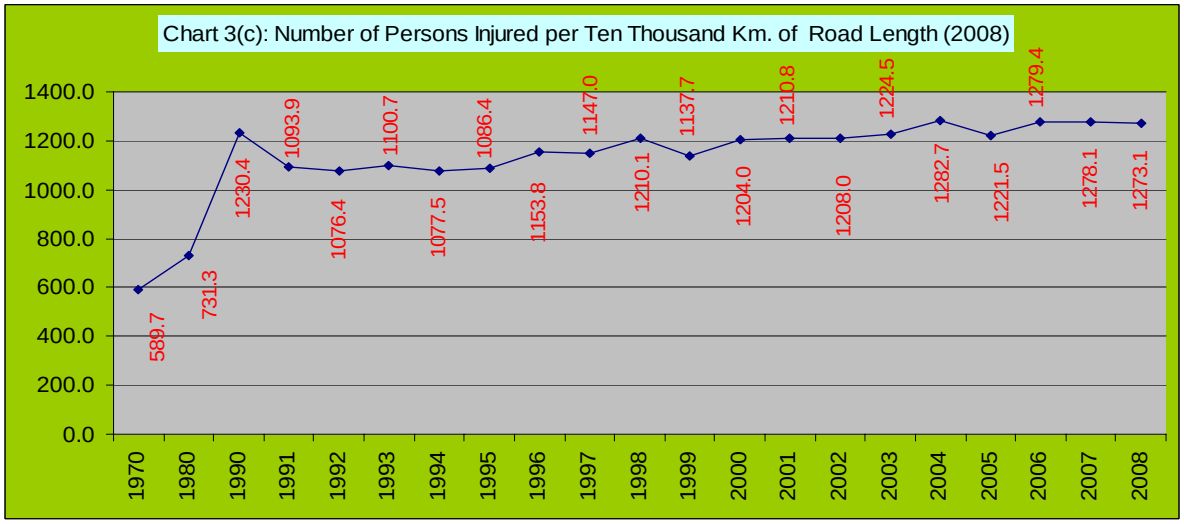


Chart 3(c): Number of Persons Injured per Ten Thousand Km. of Road Length (2008)
1400.0
1200.0
1000.0
800.0
600.0
400.0
200.0
0.0
589.7
731.3
1230.4
1093.9
1076.4
1100.7
1077.5
1086.4
1153.8
1147.0
1210.1
1137.7
1204.0
1210.8
1208.0
1224.5
1282.7
1279.4
1221.5
1278.1
1273.1
1970
1980
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008

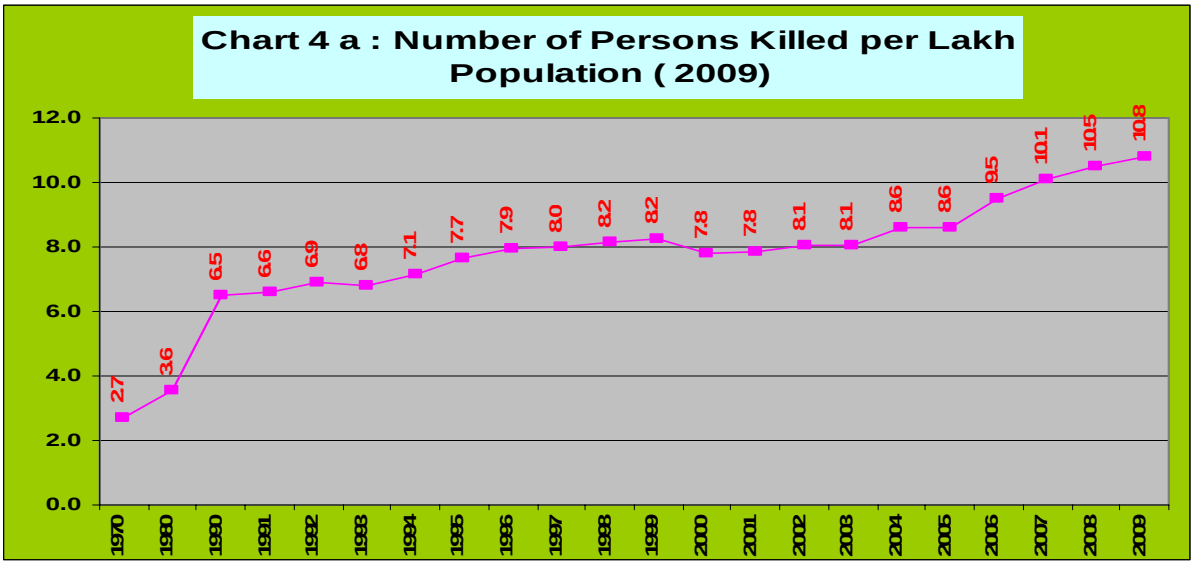


Chart 4 a : Number of Persons Killed per Lakh Population (2009)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
2.7
3.6
6.5
6.6
6.9
6.8
7.1
7.7
7.9
8.0
8.2
8.2
7.8
7.8
8.1
8.1
8.6
8.6
9.5
10.1
10.5
10.8
1970
1980
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009

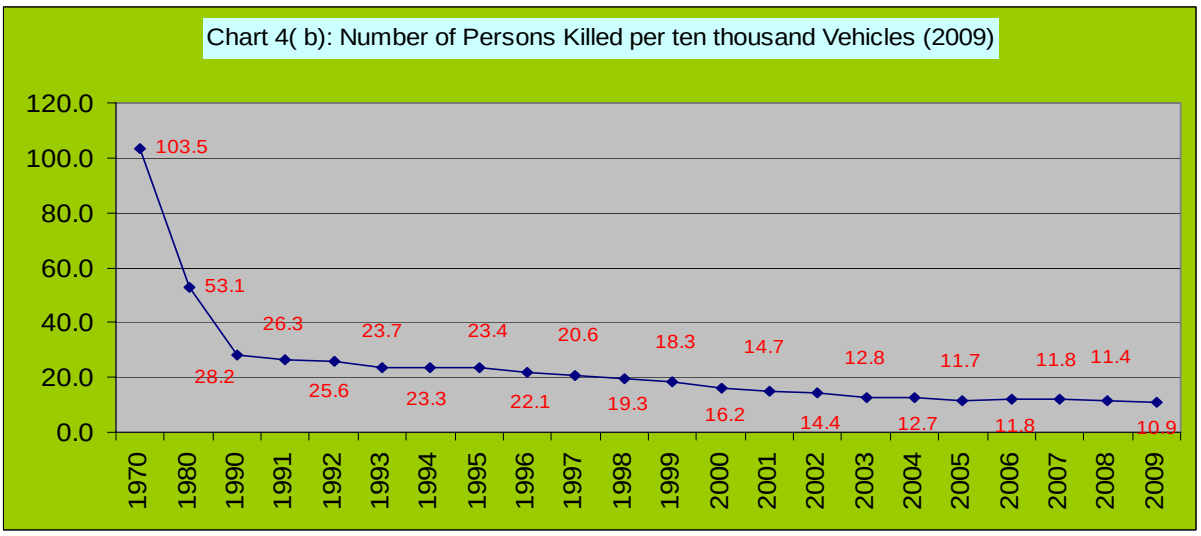


Chart 4(b): Number of Persons Killed per ten thousand Vehicles (2009)
120.0
100.0
80.0
60.0
40.0
20.0
0.0
103.5
53.1
28.2
26.3
25.6
23.7
23.3
23.4
22.1
20.6
19.3
18.3
16.2
14.7
14.4
12.8
12.7
11.7
11.8
11.8
11.4
10.9
1970
1980
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009

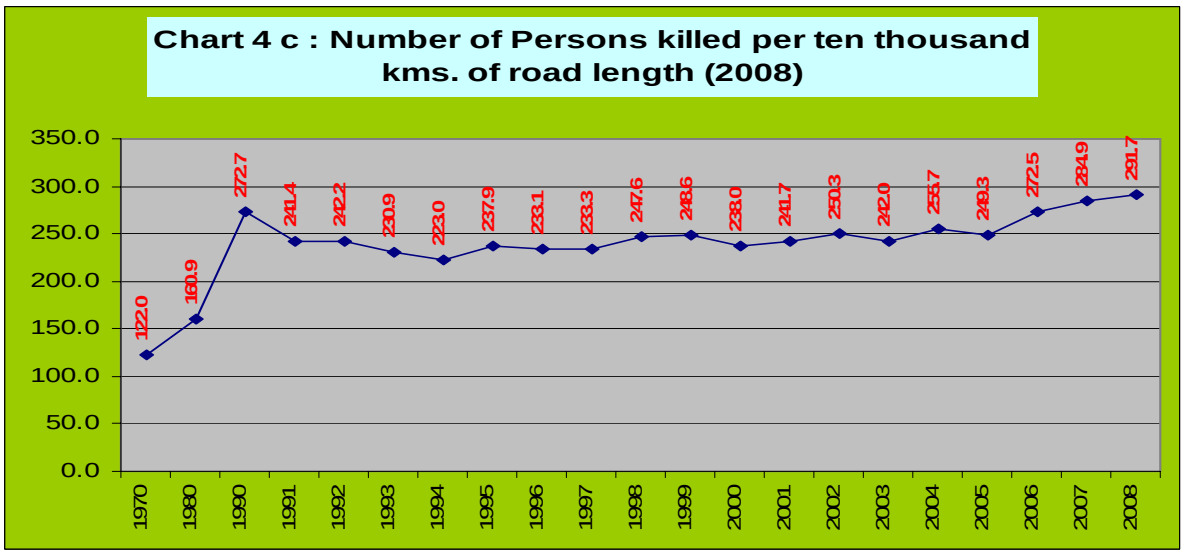


Chart 4 c : Number of Persons killed per ten thousand kms. of road length (2008)
350.0
300.0
250.0
200.0
150.0
100.0
50.0
0.0
122.0
160.9
272.7
241.4
242.2
230.9
223.0
237.9
233.1
233.3
247.6
248.6
238.0
241.7
250.3
242.0
255.7
249.3
272.5
284.9
291.7
1970
1980
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008

5. Road Accidents: Inter State Comparisons

5.1 Table 3 provides a share of top five States in India in total number of road accidents, persons killed in road accidents, persons injured in road accidents in the backdrop of their share in India's motor vehicle population.

Table: 3 - All India Share of Select States (in %): Road Accidents, Injuries, Deaths and Registered Motor Vehicles				
State/UT	**2006**	**2007**	**2008**	**2009(P)**
Top 5 States: Share in Total Number of Road Accidents (in %)				
Share of 5 States	55.6	55.4	55.4	55.3
1.Maharashtra	16.4	15.4	15.6	14.8
2.Tamilnadu	12.0	12.3	12.5	12.5
3. Madhya Pradesh	8.3	8.8	9.0	9.7
4.Karnataka	9.4	9.7	9.5	9.3
5.Andhra Pradesh	9.5	9.2	8.8	9.0
Share of the above 5 States in total Registered Vehicles.	43.5	41.5	41.9	42.0
Top 5 States: Share in Total Number Killed in Road Accidents (in %)				
Share of 5 States	51.0	49.8	50.9	50.3
1.Andhra Pradesh	12.1	11.8	11.5	11.8
2.Uttar Pradesh	10.3	10.0	11.0	11.6
3.Tamilnadu	10.4	10.5	10.7	10.9
4.Maharashtra	10.7	9.8	10.3	9.1
5.Karnataka	7.5	7.7	7.4	6.9
Share of the above 5 States in total Registered Vehicles.	47.3	45.7	46.0	46.2
Top 5 States: Share in Total Number of Injuries in Road Accidents (in %)				
Share of 5 States	56.0	55.4	56.6	55.7
1.Tamilnadu	13.0	13.9	13.4	13.7
2. Karnataka	12.3	12.0	12.1	12.0
3.Madhya Pradesh	8.6	8.8	9.8	10.6
4.Andhra Pradesh	11.8	11.5	11.2	10.1
5.Maharashtra	10.3	9.2	10.1	9.3
Share of the above 5 States in total Registered Vehicles.	43.5	41.5	41.9	42.0
Note: Totals may not tally due to rounding. P : Provisional				

5.2 Among the States, Kerala and Gujarat stand out in contrast as regards accidents. Kerala offers an interesting case as it accounts for a share about 4.2 % in total registered vehicles in 2009 compared to its much higher share in total road accidents (7.3% in 2009) [Annex-I A] and persons injured in road accidents (8% in 2009) [Annex-I B]. However, Kerala accounts for a lower share of 3% in the total road accident related deaths during 2009 [Annex-I C]. Factors, which may contribute to high rate of accidents, are population density, road density and composition of vehicle population.

5.3 On the other hand, Gujarat accounts for a share of 9.6% in the number of registered vehicles in 2009 but lower shares of 6.4% [Annex-I A], 6.4% [Annex-I B] and 5.6% [Annex-I C] in total road accidents, persons injured and persons killed respectively in road accidents in 2009.

Incidence of Road Accidents, Injuries and Deaths: States & UTs.

5.4 Inter State /UT comparisons of accident related data need to be viewed keeping in view the differences in road network, state of roads, size of human and vehicular population, levels of urbanization and accident reporting systems. These parameters have implications for accident rates across the States.

5.5 Incidence of accident normalized in terms of road length, human population or vehicle population provides comparable accident data across States and UTs.

Per Lakh of Population

5.6 Number of road accidents per lakh of population at all-India level has slightly edged up from about 40.1 in 2004 to 42 in 2009 [Chart 2a] with wide variations among States. During 2009 the number of road accidents per lakh of population was highest in Goa (252) followed by Puducherry (134) in contrast to a low of 2.9 reported by Nagaland [Chart 5a] [Annex-II A].

5.7 Number of persons injured per lakh of population at all-India level due to road accidents has increased from about 42 in year 2005 to about 44.4 in 2009 [Chart 3 (a)] [Annex-II B] with significant inter state variations. Goa and Puducherry had the highest number of persons injured

per lakh of population at 179 and 137 respectively in 2009 followed by Kerala at 122. Lakshadweep, Nagaland and Bihar reported the lowest number of persons injured per lakh of population at around 4, 7 and 7.5 respectively.

5.8 Number of deaths per lakh of population due to road accidents has risen from 8.6 during 2005 to 10.8 during 2009 (Chart 4a) with significant variation across States [Annex-II C]. The highest number of persons killed per lakh of population in 2009 on account of road accidents was in Tamil Nadu (20.7) followed by Goa (19.4), and Haryana(18.7) [Chart 6(a)]. On the other hand, Nagaland reported the lowest figure of 2.5 followed by Lakshadweep at 2.7.

Per ten thousand vehicles

5.9 The all-India average of road accidents per ten thousand vehicles has consistently declined over the years and fallen to about 42 in 2009 [Chart 2 (b)] with variations across the States/UTs [Annex- II A]. For the year 2009, Sikkim had the highest number of road accidents per 10,000 vehicle population at about 198 followed by Arunachal Pradesh at 139 [Chart 5b]; the lowest figure reported was by Nagaland (2.6).

5.10 Similarly, the number of persons injured due to road accidents per 10,000 vehicles has consistently fallen over the years from 500 in 1970 to 45 in 2009 [Chart 3 (b)] with variation across the States /UTs [Annex-II B]. For the year 2009, Arunachal Pradesh had the highest number of persons injured per 10,000 vehicles at around 240 followed by Sikkim at 152.

5.11 The number of persons killed due to road accidents per 10,000 vehicles has also declined steeply from 28 in 1990 to 10.9 in 2009 with variation across the States [Annex-II C]. In terms of fatalities, Arunachal Pradesh and Sikkim had the highest road related accident deaths per ten thousand vehicles at 72 and 31 respectively during 2009 [Chart 6(b)].

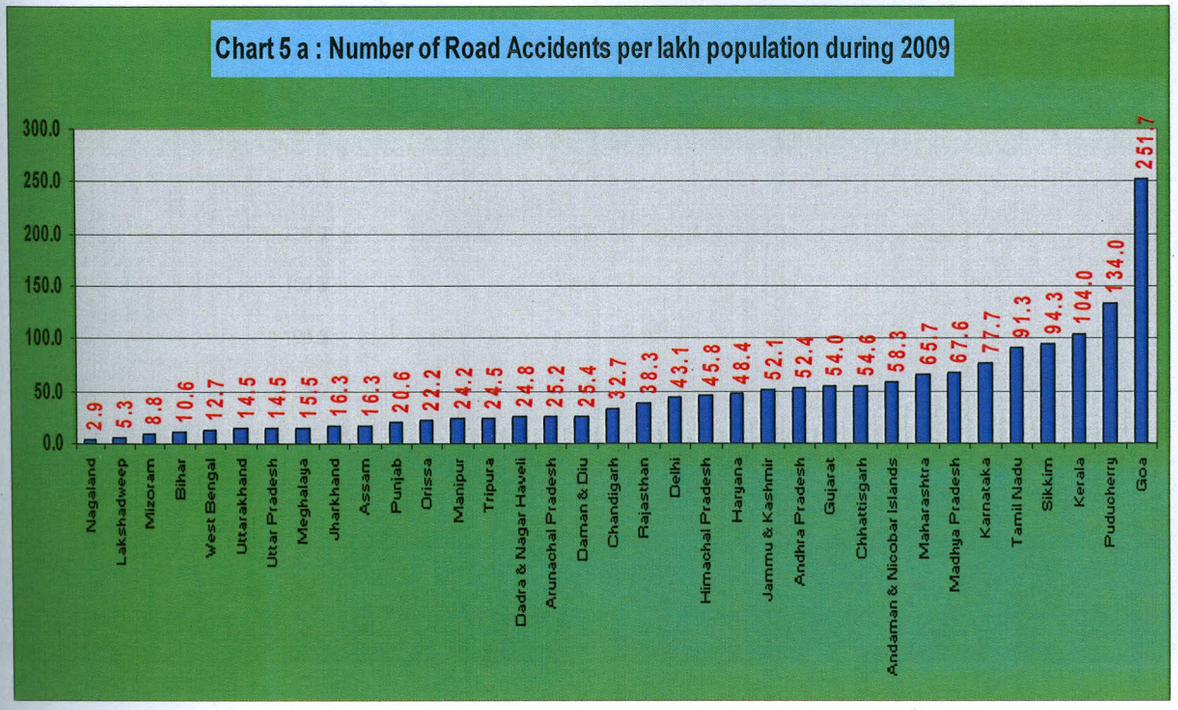


Chart 5 a : Number of Road Accidents per lakh population during 2009
300.0
250.0
200.0
150.0
100.0
50.0
0.0
Nagaland 2.9
Lakshadweep 5.3
Mizoram 8.8
Bihar 10.6
West Bengal 12.7
Uttarakhand 14.5
Uttar Pradesh 14.5
Meghalaya 15.5
Jharkhand 16.3
Assam 16.3
Punjab 20.6
Orissa 22.2
Manipur 24.2
Tripura 24.5
Dadra & Nagar Haveli 24.8
Arunachal Pradesh 25.2
Daman & Diu 25.4
Chandigarh 32.7
Rajasthan 38.3
Delhi 43.1
Himachal Pradesh 45.8
Haryana 48.4
Jammu & Kashmir 52.1
Andhra Pradesh 52.4
Gujarat 54.0
Chhattisgarh 54.6
Andaman & Nicobar Islands 58.3
Maharashtra 65.7
Madhya Pradesh 67.6
Karnataka 77.7
Tamil Nadu 91.3
Sikkim 94.3
Kerala 104.0
Puducherry 134.0
Goa 251.7

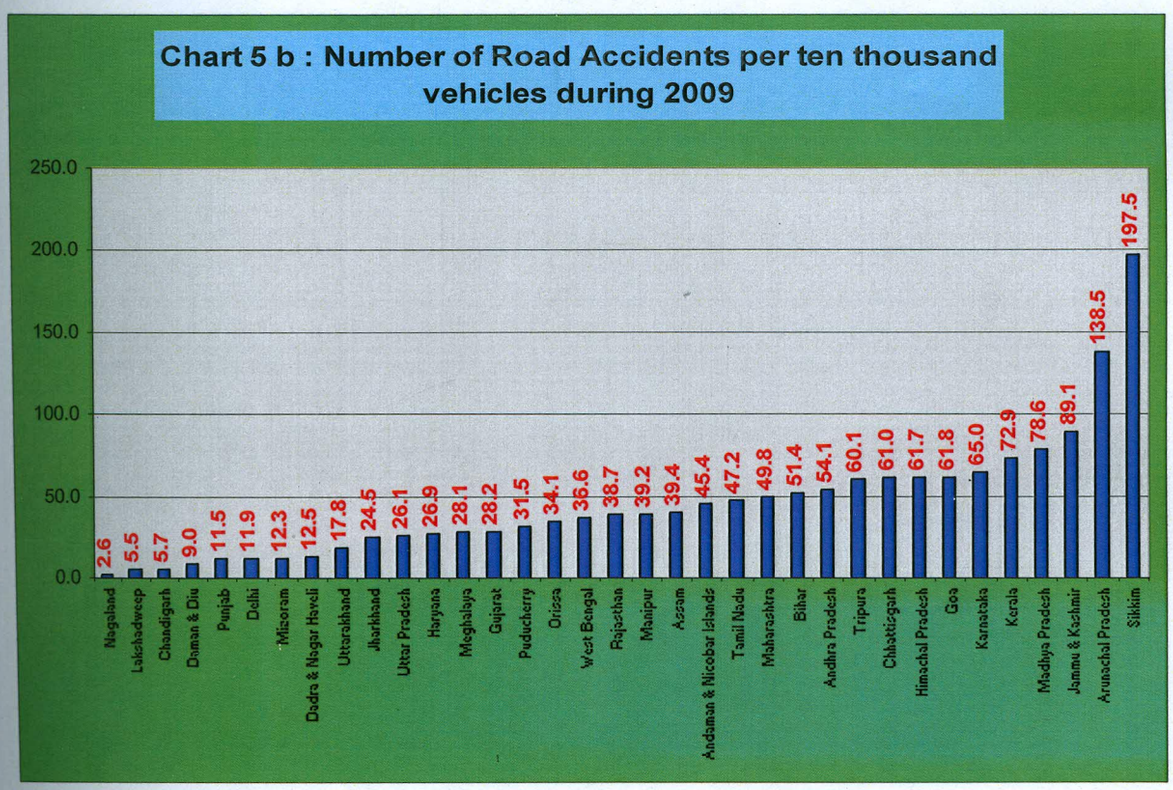


Chart 5 b : Number of Road Accidents per ten thousand vehicles during 2009
250.0
200.0
150.0
100.0
50.0
0.0
Nagaland 2.6
Lakshadweep 5.5
Chandigarh 5.7
Daman & Diu 9.0
Punjab 11.5
Delhi 11.9
Mizoram 12.3
Dadra & Nagar Haveli 12.5
Uttarakhand 17.8
Jharkhand 24.5
Uttar Pradesh 26.1
Haryana 26.9
Meghalaya 28.1
Gujarat 28.2
Puducherry 31.5
Orissa 34.1
West Bengal 36.6
Rajasthan 38.7
Manipur 39.2
Assam 39.4
Andaman & Nicobar Islands 45.4
Tamil Nadu 47.2
Maharashtra 49.8
Bihar 51.4
Andhra Pradesh 54.1
Tripura 60.1
Chhattisgarh 61.0
Himachal Pradesh 61.7
Goa 61.8
Karnataka 65.0
Kerala 72.9
Madhya Pradesh 78.6
Jammu & Kashmir 89.1
Arunachal Pradesh 138.5
Sikkim 197.5

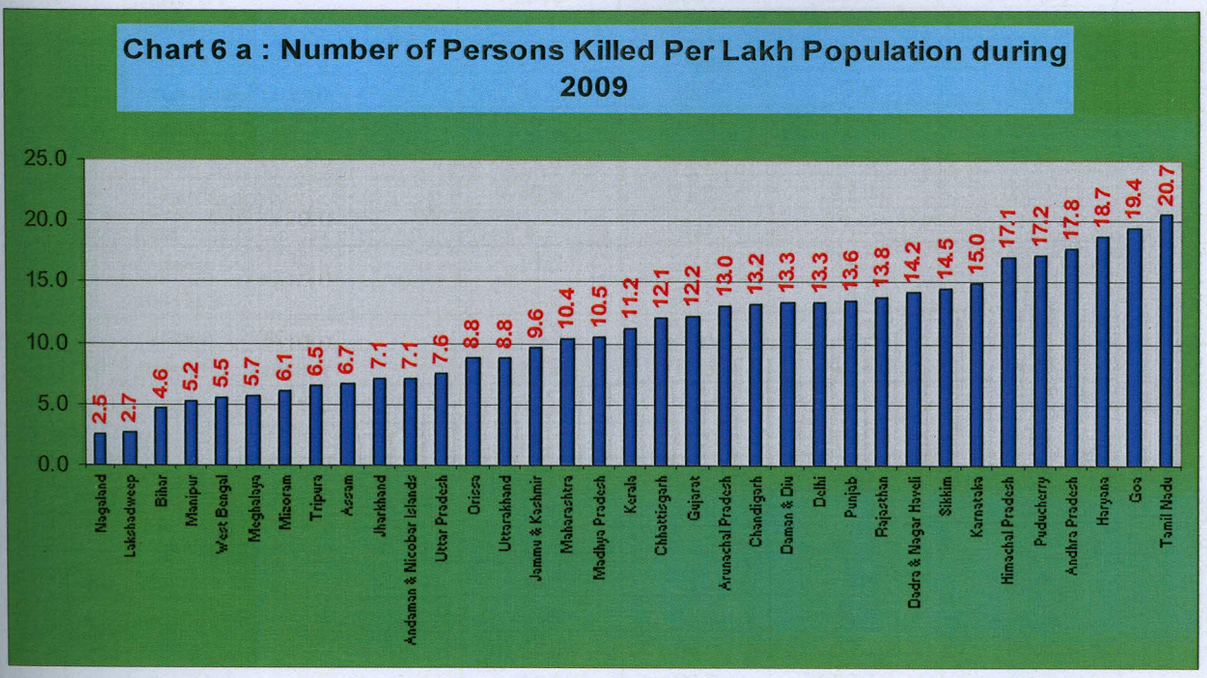


Chart 6 a : Number of Persons Killed Per Lakh Population during 2009
25.0
20.0
15.0
10.0
5.0
0.0
Nagaland 2.5
Lakshadweep 2.7
Bihar 4.6
Manipur 5.2
West Bengal 5.5
Meghalaya 5.7
Mizoram 6.1
Tripura 6.5
Assam 6.7
Jharkhand 7.1
Andaman & Nicobar Islands 7.1
Uttar Pradesh 7.6
Orissa 8.8
Uttarakhand 8.8
Jammu & Kashmir 9.6
Maharashtra 10.4
Madhya Pradesh 10.5
Kerala 11.2
Chhattisgarh 12.1
Gujarat 12.2
Arunachal Pradesh 13.0
Chandigarh 13.2
Daman & Diu 13.3
Delhi 13.3
Punjab 13.6
Rajasthan 13.8
Dadra & Nagar Haveli 14.2
Sikkim 14.5
Karnataka 15.0
Himachal Pradesh 17.1
Puducherry 17.2
Andhra Pradesh 17.8
Haryana 18.7
Goa 19.4
Tamil Nadu 20.7

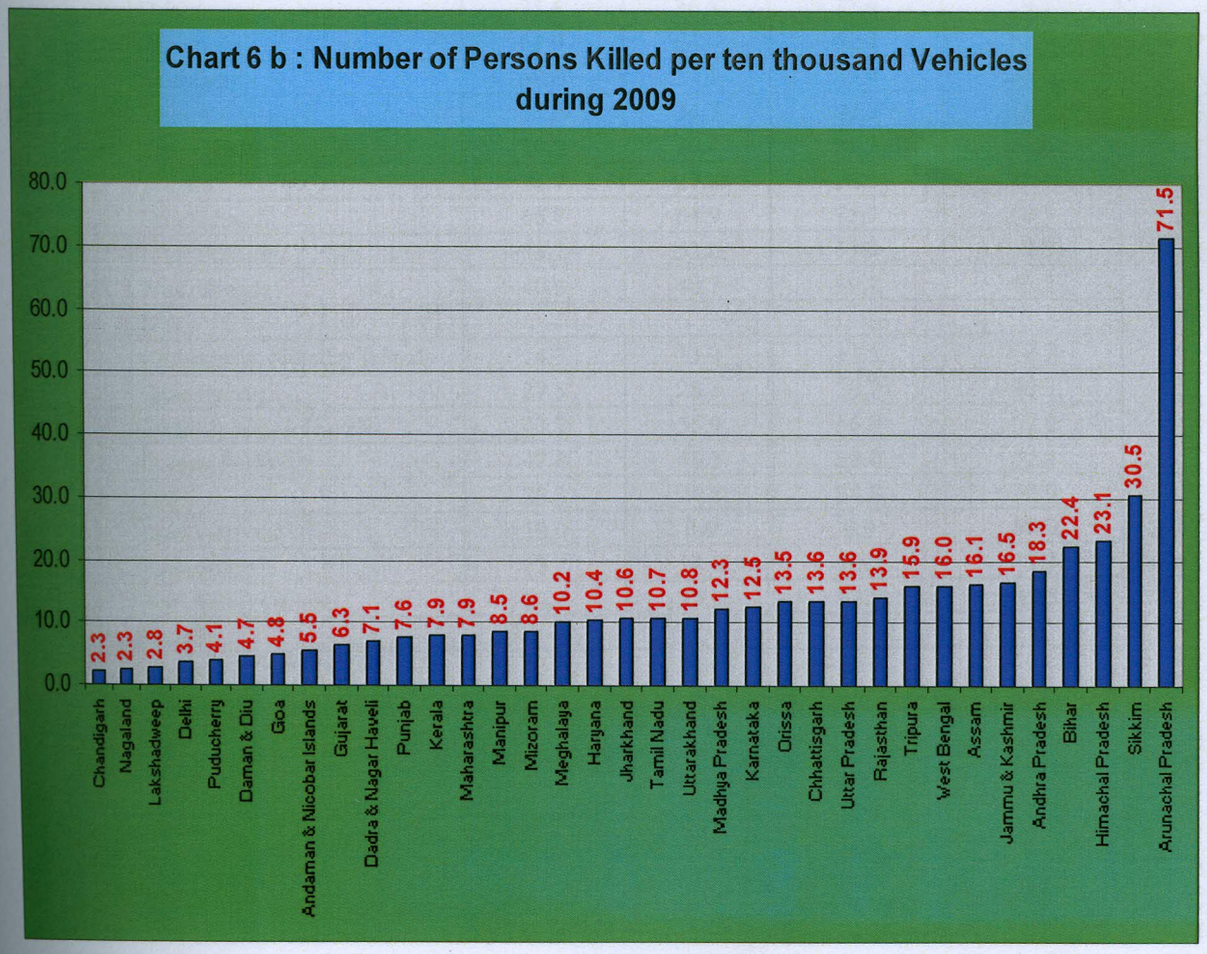
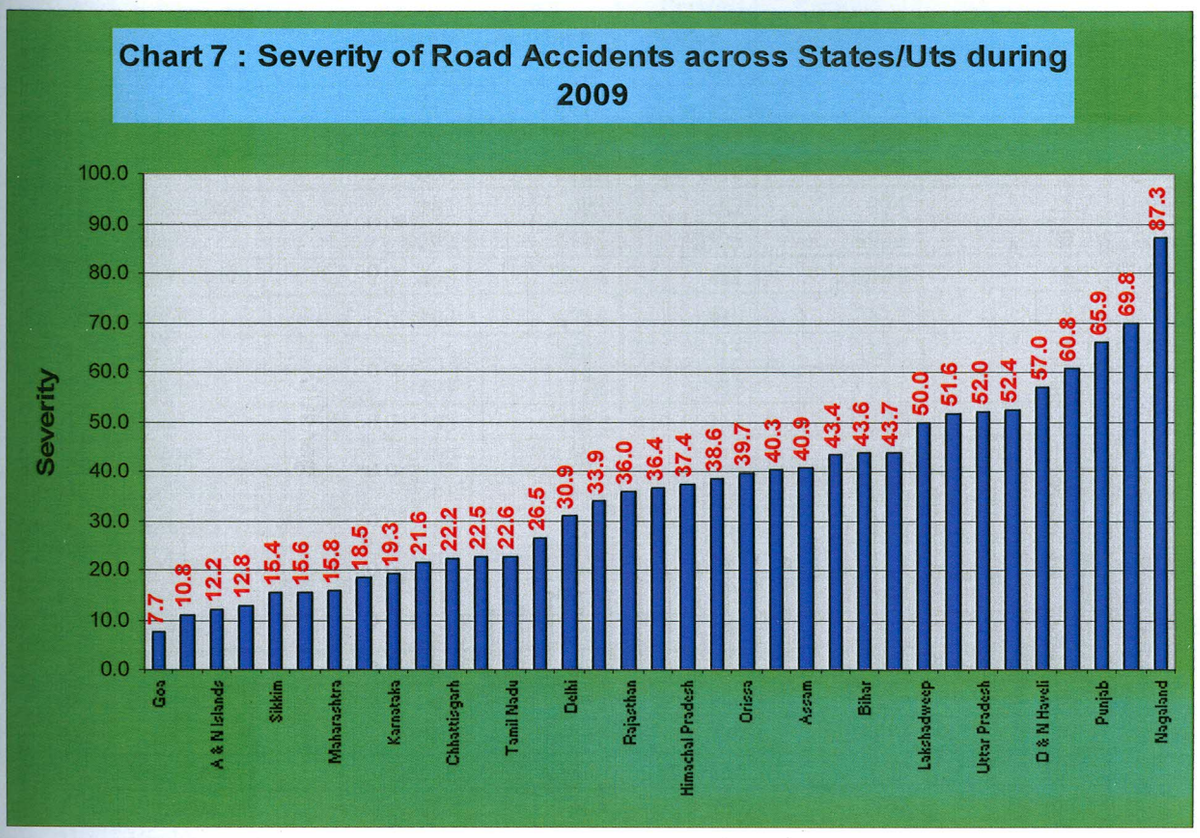


Chart 6 b : Number of Persons Killed per ten thousand Vehicles during 2009
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Chandigarh 2.3
Nagaland 2.3
Lakshadweep 2.8
Delhi 3.7
Puducherry 4.1
Daman & Diu 4.7
Goa 4.8
Andaman & Nicobar Islands 5.5
Gujarat 6.3
Dadra & Nagar Haveli 7.1
Punjab 7.6
Kerala 7.9
Maharashtra 7.9
Manipur 8.5
Mizoram 8.6
Meghalaya 10.2
Haryana 10.4
Jharkhand 10.6
Tamil Nadu 10.7
Uttarakhand 10.8
Madhya Pradesh 12.3
Karnataka 12.5
Orissa 13.5
Chhattisgarh 13.6
Uttar Pradesh 13.6
Rajasthan 13.9
Tripura 15.9
West Bengal 16.0
Assam 16.1
Jammu & Kashmir 16.5
Andhra Pradesh 18.3
Bihar 22.4
Himachal Pradesh 23.1
Sikkim 30.5
Arunachal Pradesh 71.5

Table 4 : Severity of Road Accident in India (Statewise)					
		Persons Killed per 100 Accidents			
	State/UT	**2006**	**2007**	**2008**	**2009(P)**
	States				
1	Andhra Pradesh	29.3	30.6	32.4	33.9
2	Arunachal Pradesh	51.6	39.6	47.9	51.6
3	Assam	39.2	36.4	38.6	40.9
4	Bihar	42.8	44.8	43.8	43.6
5	Chhattisgarh	19.9	21.2	22.9	22.2
6	Goa	8.2	8.0	7.6	7.7
7	Gujarat	19.5	20.6	21.0	22.5
8	Haryana	38.9	36.8	38.8	38.6
9	Himachal Pradesh	31.8	33.1	30.8	37.4
10	Jammu & Kashmir	17.7	16.3	17.8	18.5
11	Jharkhand	38.4	39.4	39.7	43.4
12	Karnataka	18.4	18.9	19.0	19.3
13	Kerala	8.7	9.5	10.5	10.8
14	Madhya Pradesh	14.0	15.9	15.2	15.6
15	Maharashtra	15.0	15.2	16.4	15.8
16	Manipur	30.5	21.2	26.4	21.6
17	Meghalaya	37.9	42.3	41.8	36.4
18	Mizoram	67.4	64.9	57.3	69.8
19	Nagaland	35.1	37.2	92.1	87.3
20	Orissa	35.6	36.5	37.6	39.7
21	Punjab	61.9	64.6	62.7	65.9
22	Rajasthan	30.6	34.1	35.4	36.0
23	Sikkim	37.2	34.7	40.3	15.4
24	Tamil Nadu	20.0	20.4	21.2	22.6
25	Tripura	24.7	27.8	28.8	26.5
26	Uttarakhand	66.7	64.9	75.7	60.8
27	Uttar Pradesh	55.7	53.0	51.3	52.0
28	West Bengal	40.6	40.7	39.2	43.7
	UTs				
1	Andaman & Nicobar Islands	14.3	13.3	11.5	12.2
2	Chandigarh	27.5	28.3	30.7	40.3
3	Dadra & Nagar Haveli	43.7	56.9	56.0	57.0
4	Daman & Diu	47.4	48.3	58.0	52.4
5	Delhi	23.3	24.8	24.8	30.9
6	Lakshadweep	10.0	0.0	0.0	50.0
7	Puducherry	13.2	14.6	12.5	12.8
	National Average	**22.9**	**23.9**	**24.7**	**25.8**
P: Provisional					



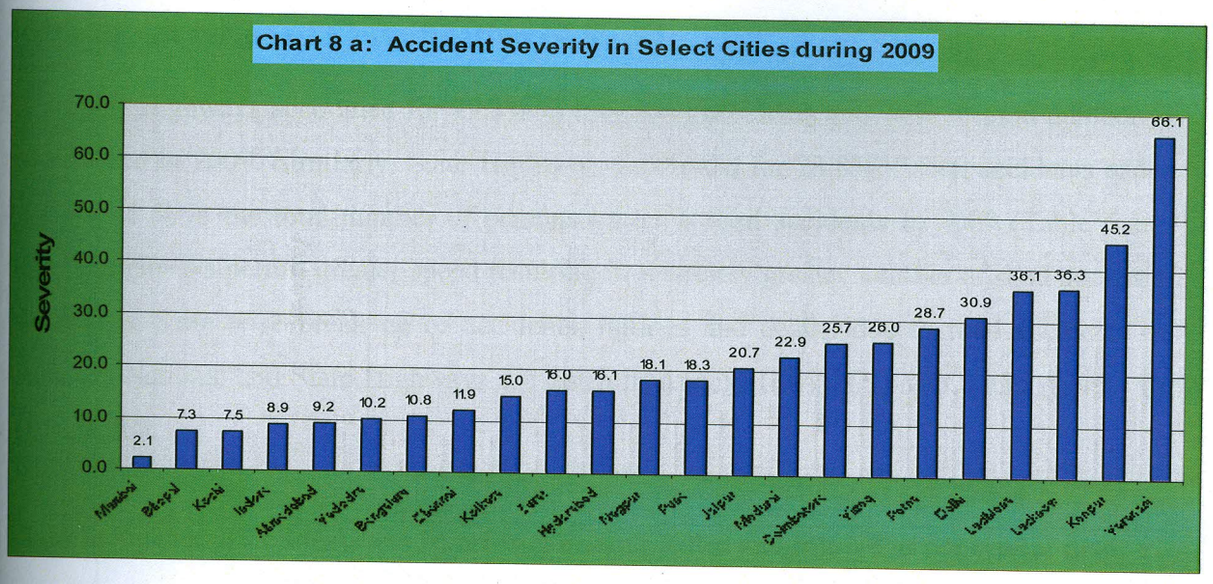
6. Select Cities: Road Accidents, Injuries, Deaths and Severity

6.1 The data on road accidents is being collected for 23 select cities of India. For the year 2009, these 23 cities accounted for a share of 17.2% in total road accidents in the country, 10.3% in total persons injured and 8.3% in total persons killed in road accidents. These 23 cities accounted for a much higher share of 27% in total vehicles registered in the country.

6.2 An important accident related parameter is extent of accident severity (road accident related deaths per 100 accidents). It varies from a low of 2 in Mumbai to a high of about 66 in Varanasi. A number of smaller cities including Patna (29), Ludhiana (36) and Lucknow (36) and Kanpur (45) have also reported very high accident severity.

Table 5A: Road Accident Profile for Select Cities (2009)						
Sl. No.	Name of city	Total No. of				Accident Severity*
		Fatal Accidents	All Accidents	Persons Killed	Persons Injured	
1	Ahmedabad	188	2179	200	2232	9.2
2	Bengaluru	715	6872	742	5705	10.8
3	Bhopal	244	3719	272	3152	7.3
4	Chennai	602	5177	618	4377	11.9
5	Coimbatore	262	1098	282	974	25.7
6	Delhi	2272	7516	2325	6936	30.9
7	Hyderabad	465	2990	481	2908	16.1
8	Indore	394	4724	419	3817	8.9
9	Jaipur	389	2007	415	1840	20.7
10	Kanpur	477	1178	533	999	45.2
11	Kochi	153	2042	154	2107	7.5
12	Kolkata	399	2789	417	2004	15.0
13	Lucknow	501	1444	524	903	36.3
14	Ludhiana	185	703	254	286	36.1
15	Madurai	125	555	127	513	22.9
16	Mumbai	607	29327	628	6567	2.1
17	Nagpur	229	1383	250	1224	18.1
18	Patna	265	922	265	462	28.7
19	Pune	383	2157	394	1839	18.3
20	Surat	207	1357	217	1117	16.0
21	Vadodara	128	1330	136	1052	10.2
22	Varanasi	252	404	267	162	66.1
23	Visakhapatnam	434	1771	460	1772	26.0
	Total 23 cities	**9876**	**83644**	**10380**	**52948**	**12.4**
	All India	**110993**	**486384**	**125660**	**515458**	**25.8**
Note: * Accident Severity: Road accident deaths/100 accidents						

Table 5 B : Percent Share of 23 Cities in Road Accidents during 2009		
1	All Accidents	17.2
2	Fatal Accidents	8.9
3	Persons Killed	8.3
4	Persons Injured	10.3



Box: 1-Causes of Underreporting of Road Traffic Accidents and Injuries

- Absence of formal reporting agreements and sharing of information between police, hospitals and other agencies.
- Some type of injuries like collisions with fixed and stationary objects, skid and fall, collision between smaller vehicles are not reported to police.
- Agreement between individuals involved in a crash is often found to be a suitable method between the parties, as involving police would lead to additional costs.
- Not all Road Traffic Injuries (RTIs) are reported to police uniformly in all parts of the country.
- Individuals do not feel the need to report to police unless the injury is serious, results in legal proceedings and influence compensation process.
- Even when injured persons go to police, they are not officially registered due to paucity of time or the busy schedule of activities in police stations.
- Individuals provided care by general practitioners; nursing homes and smaller health care institutions are not reported to police to avoid harassment and legal complications.
- Late hospital deaths due to various complications of road traffic injuries are not recorded as deaths due to traffic injuries, but given other causes. Death certificates are not filled in a systematic and standardized manner in hospitals across the country.
- The immediate procedures of burial or cremation based on local social cultural practices discourage families to get involved with police as this can delay the rituals.
- Limited manpower and facilities among police often make reporting very difficult.
- As there is no reporting practice on all deaths and injuries to any single agency from all health care institutions, information is not totally available within the health sector;

Source: Report on Road Traffic Injury Prevention in India Annexure to the Report (Volume-II) pages 46- 47 of the Report of the Committee on Road Safety and Traffic Management.

7. Classification of Accidents

Accidents in terms of Classification of Roads

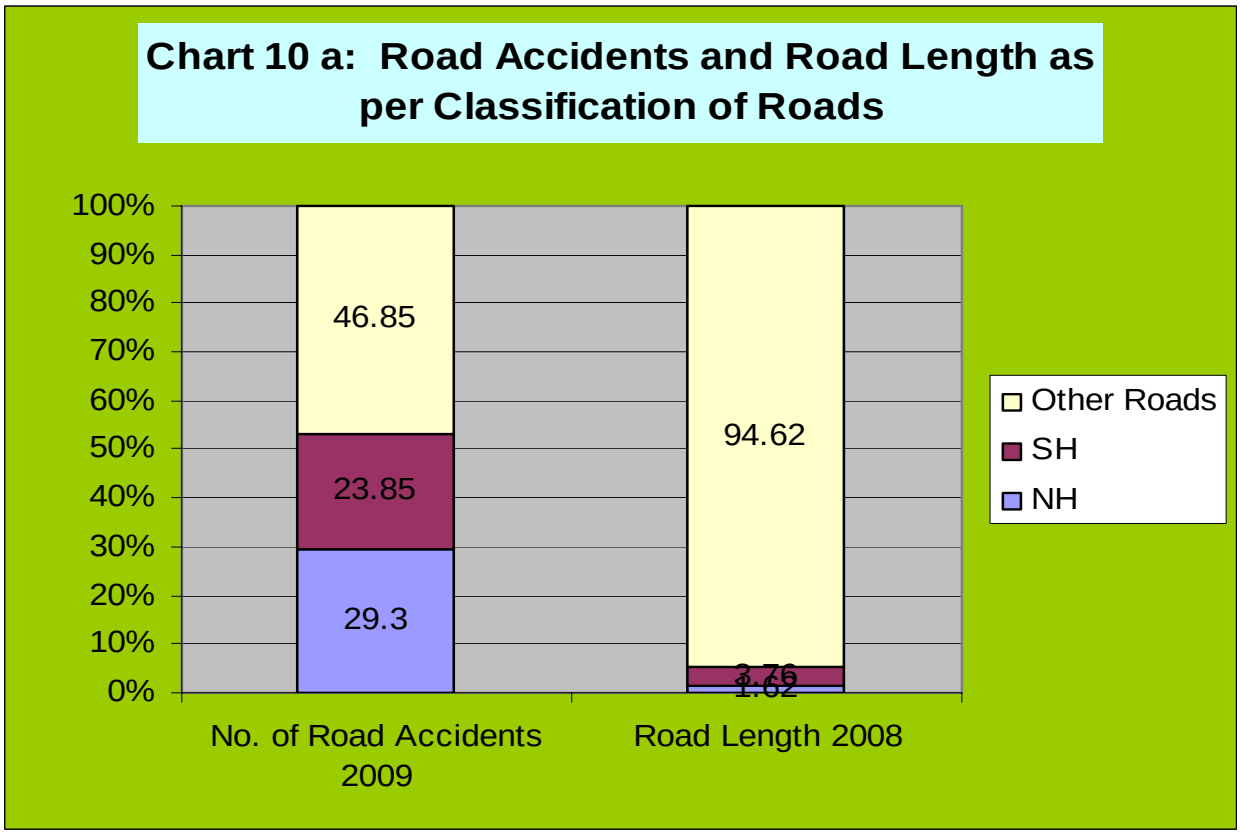
7.1 National Highways accounted for 29.3% in total road accidents and 36% in total number of persons killed in 2009. Similarly, State Highways accounted for 23.8%of total accidents and a share of 27.1 % in the total number of persons killed in road accidents in 2009 (Table 6 and Table 7). Highways permit greater speed resulting in relatively greater number of road accidents and fatalities. State wise break up of accidents, injuries and deaths due to road accidents on stretches of National and State Highways are given in Annex-III (A), (B) & (C) and Annex- IV (A), (B) & (C).

Table 6: Number of Accidents and Number of persons Killed and Injured as per type of road

Year	National Highways			State Highways		
	Percentage share in			Percentage share in		
	Total Number of Road Accidents	Number of Persons Killed	Number of Persons Injured	Total Number of Road Accidents	Number of Persons Killed	Number of Persons Injured
2001	28.6	39.7	29.5	22.5	27.6	25.6
2002	32.3	39.7	32.4	23.5	27.2	25.4
2003	31.4	38.6	30.1	22.4	28.2	26.7
2004	30.3	37.5	30.8	23.5	26.9	24.9
2005	29.6	37.3	31.3	23.6	27.2	25.7
2006	30.4	37.7	30.8	18.5	26.8	24.9
2007	29.0	35.5	30.2	24.4	27.7	26.2
2008	28.5	35.6	28.6	25.6	28.4	27.5
2009(P)	29.3	36.0	29.6	23.8	27.1	25.5
(P) : Provisional						

Table 7: Number of Accidents, persons killed & injured as per road classification (2009)

Road Classification	National Highways	State Highways	Other Roads
No. of Accidents	1,42,511(29.30)	1,15,992(23.85)	2,27,881(46.85)
No. of Persons Killed	45,222(35.99)	3,40,93(27.13)	46,345 (36.88)
No. of Persons Injured	1,52,816(29.65)	1,31,517(25.51)	2,31,125 (44.84)
Note: Figures within parenthesis indicate share in total accidents, killed and injured in the respective road categories.			



Spatial distribution of Road Accidents (Urban vis-à-vis Rural)

7.2 An understanding of spatial distribution of road accidents is vital for diagnosis. At a broad level it helps in identifying places and regions with high incidence of accidents. In 2009, the total number of accidents that occurred in rural areas was more than that in the urban areas; the former accounting for 52.6% (2,55,697) and the latter accounting for 47.4% (2,30,0687) of total accidents. Rural areas also had more fatalities (61.7%) than urban areas (38.3%). The number of persons injured was also more in rural areas (60.2%) as compared to urban areas (39.8%).

8. Accidents in terms of involvement by Vehicle type

8.1 Motorized vehicles accounted for 92.1% of the total road accidents while the non-motorized vehicles and other objects accounted for a small share of 7.9% in the total number of accidents in the year 2009. Amongst the vehicle category - trucks, tempos, tractors and other articulated vehicles accounted for the highest share in total road accidents (22.6%) followed by two wheelers (22.4%), cars, jeeps and taxis (20.6%), buses (8.7%), auto rickshaws (6.9%) and other motor vehicles (10.9 %) in 2009 [Table 8]. Details of accidents in terms of vehicle typology are given in Annex-VII.

Table 8: Share of Different Vehicles in total Road Accidents, Fatal Accidents, Persons Killed and Persons Injured (2009)

	2-wheelers	Auto-rickshaw	Cars	Buses	Trucks, tempos, tractors and other articulated vehicles	Other Motor Vehicles	Other Vehicles /Objects
Accidents	22.4	6.9	20.6	8.7	22.6	10.9	7.9
Fatal Accidents	17.8	4.3	17.1	9.5	30.2	11.4	9.7
Persons Killed	15.7	4.0	17.5	10.3	28.7	13.8	10.0
Persons Injured	20.2	7.7	20.3	11.6	21.2	11.4	7.6

Note: Cars includes jeeps & taxis, Two-Wheelers includes Motor cycle, Scooter & Moped; Other Vehicles/Objects includes Cycle, Cycle rickshaws, Hand drawn vehicle, Pedestrian, Animal, Tree, Level crossing & Other fixed objects.

8.2 However, the category of “trucks, tempos, tractors and other articulated vehicles” accounted for about 28.7% of the persons killed compared to their share of about 22.6 % in the total road accidents. Similarly, buses accounted for a higher share of fatal accidents and deaths 9.5% and 10.3% respectively compared to its share of 8.7% in accidents. The share of various vehicle categories in total road accidents, persons killed and injured are given in Charts 11(a), 11(b) & 11(c) respectively.

Chart 11 a : Percent Share in Total Road Accidents by Type of Motor Vehicle Involved (Primarily Responsible) during 2009

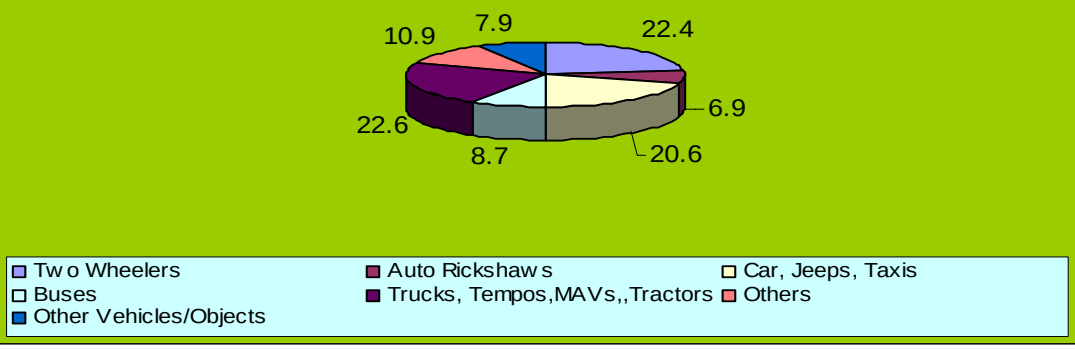


Chart 11 b : Percent Share of Persons Killed in Road Accidents by Type of Motor Vehicle (Primarily Responsible) during 2009

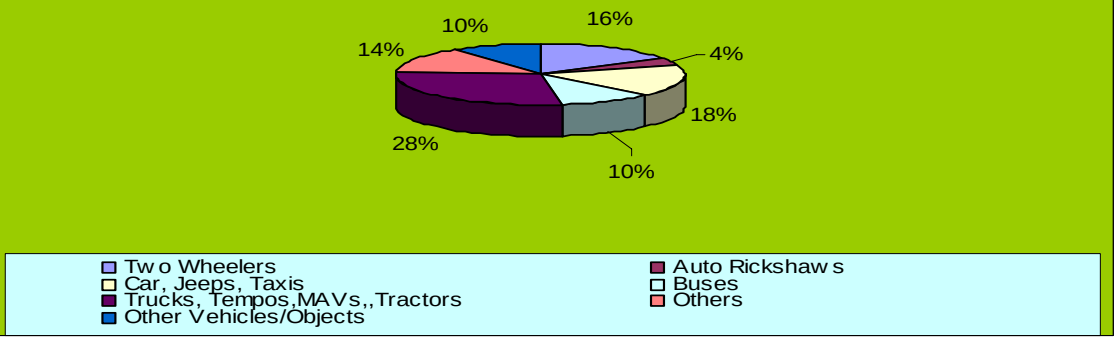
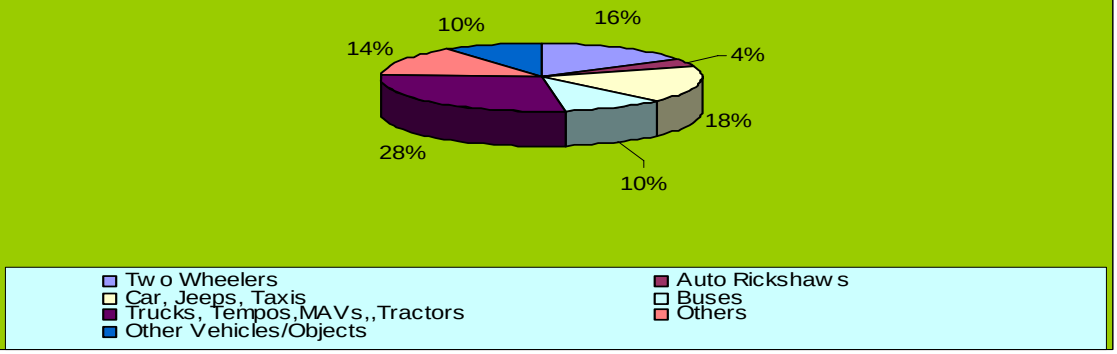
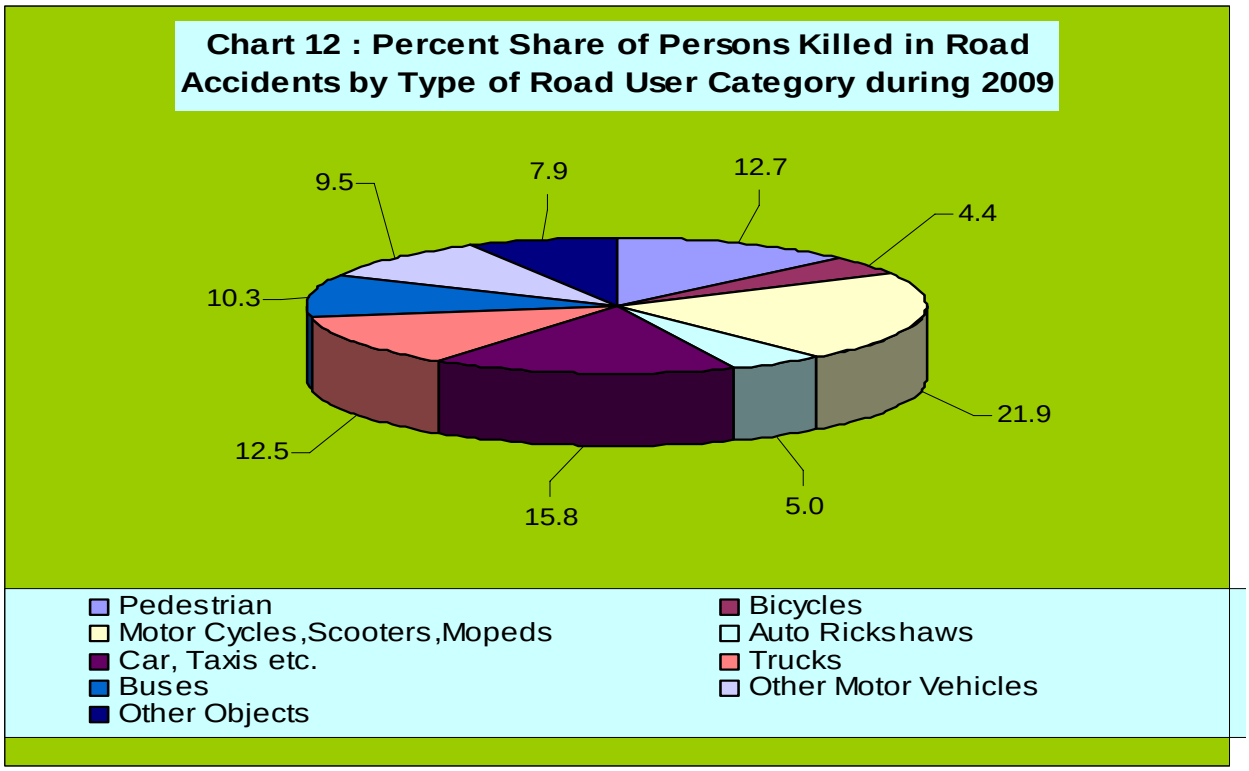


Chart 11 c : Percent Share of Persons Injured in Road Accidents by Type of Motor Vehicle (Primarily Responsible) during 2009



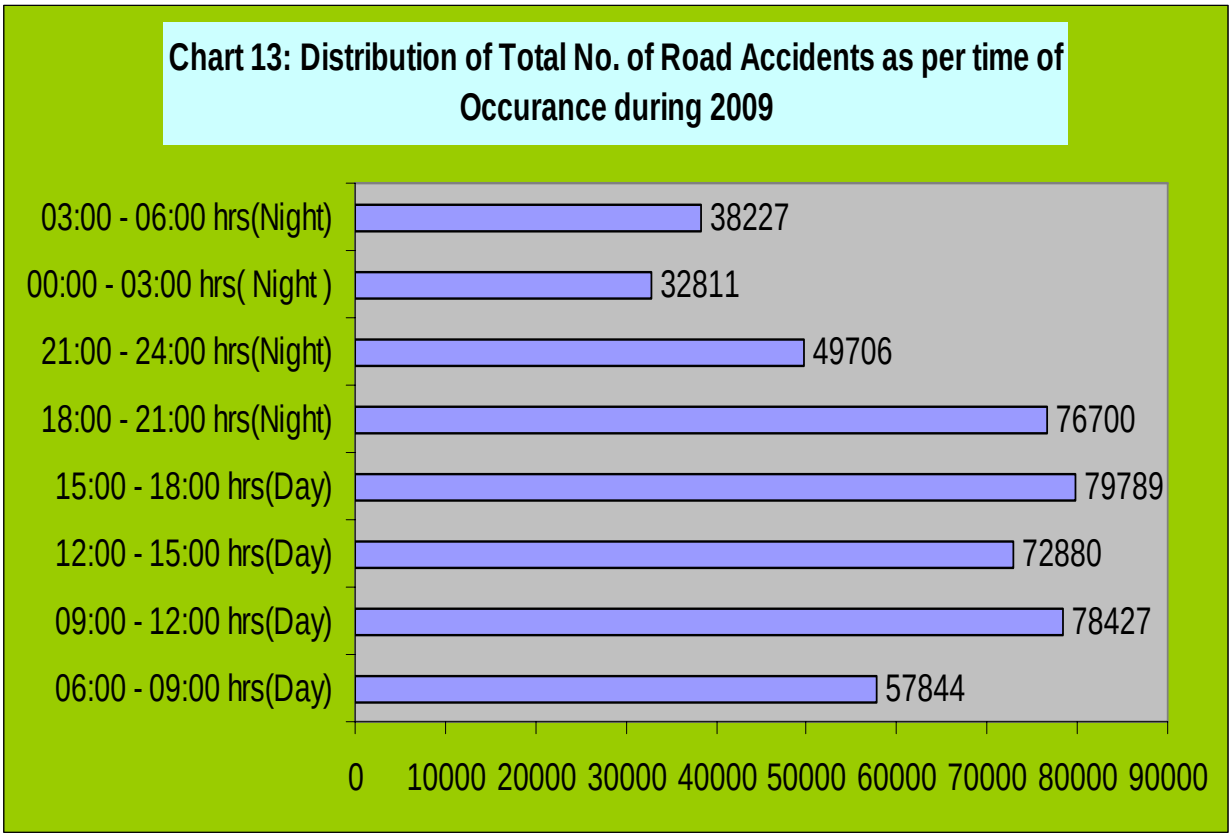


Occupants of (i) two-wheelers, (ii) passenger cars & taxis, (iii) trucks and (iv) buses accounted for 21.9%, 15.8%, 12.5% and 10.3 % of total road fatalities. Bicycle riders (4.3%) & pedestrians (12.7%) are the most unprotected road users and have to share scarce road space with motorized vehicles of different engine power and speed resulting in serious conflicts within traffic flows. For state-wise data refer Annex-XII.

9. Time of Occurrence of Road Accidents

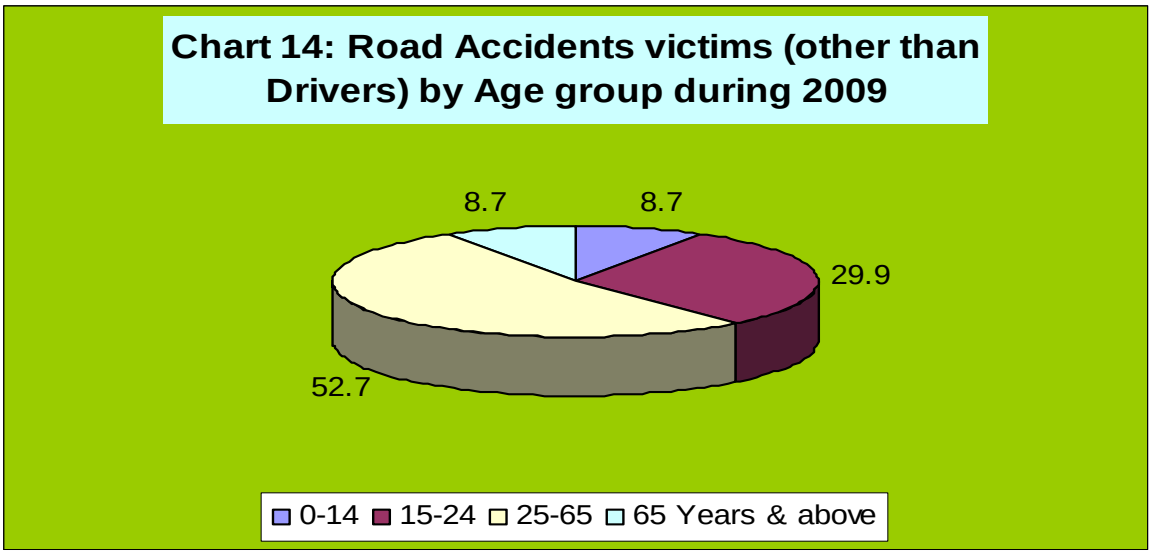
9.1 Information on timing of accidents is important for framing strategies for prevention and for organization of care of accident victims. The distribution of the total accidents during night time (6 PM to 6 AM) and day time (6 AM to 6 PM) is approximately in the ratio of 2:3 i.e. about 41% during night time and 59% during daytime.

Table:9- Road Accidents as per the Time of Occurrence(2009)		
Time	**No. of Accidents**	**Percent Share in total Accidents**
06:00 - 09:00 hrs (Day)	57,844	11.9
09:00 - 12:00 hrs (Day)	78,427	16.1
12:00 - 15:00 hrs (Day)	72,880	15.0
15:00 - 18:00 hrs (Day)	79,789	16.4
18:00 - 21:00 hrs (Night)	76,700	15.8
21:00 - 24:00 hrs (Night)	49,706	10.2
00:00 - 03:00 hrs (Night)	32,811	6.7
03:00 - 06:00 hrs (Night)	38,227	7.9
Total for 24 hrs whole year	4,86,384	100



10. Age Profile of Accident Victims (Other than drivers)

10.1 As per the detailed age profile of accident victims other than the drivers available for the year 2009 it is observed that the age group (25-65 years) accounted for the largest share of 53% of total road accident casualties followed by the age group (15-24 years) with a share of about 30%. Hence, about half of the road traffic casualties are in the age group (25-65 years), which is the key wage earning age group. The loss of the main earning member can be disastrous, leading to fall in income of the household and lower living standards.



11. Causes of Road Accidents

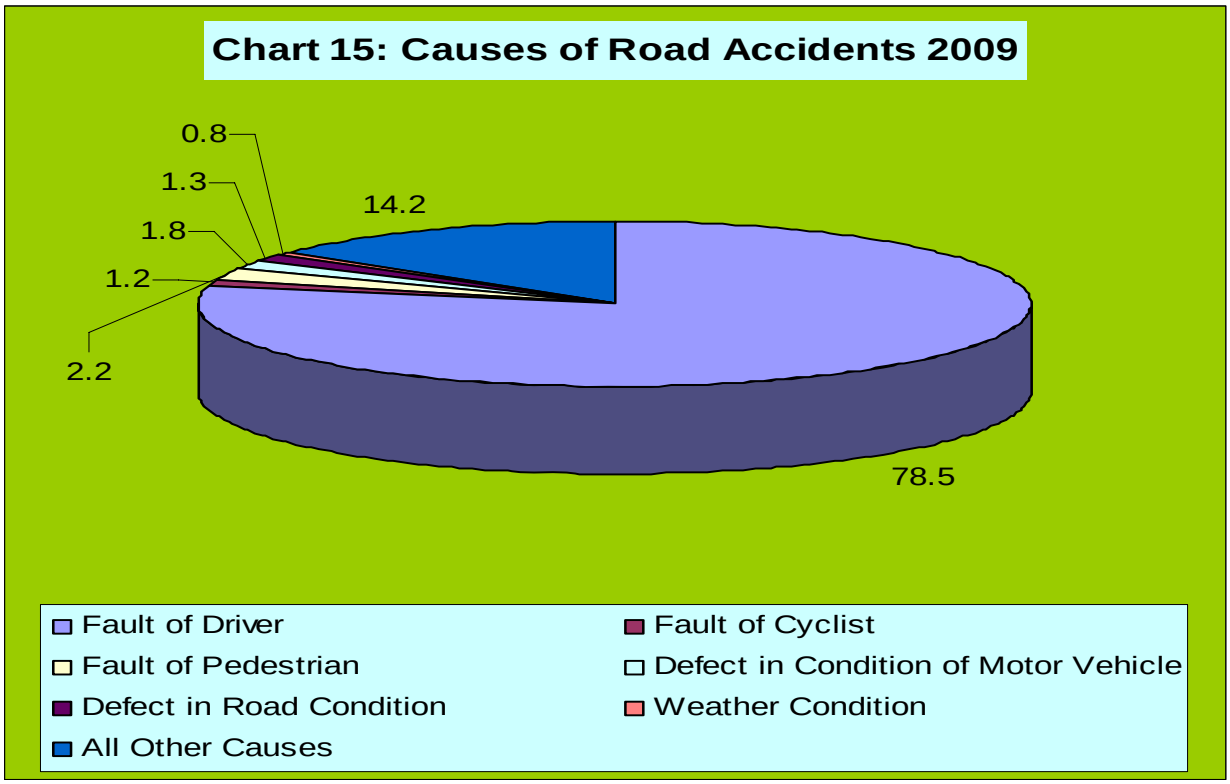
11.1 The analysis of accidents in terms of causal factors shows that drivers' fault is the single most important factor responsible for accidents, fatalities and injuries. Drivers' fault accounted for 78.5% (3,81,648 accidents) of total accidents; 77.4% (3,99,113 persons injured) of the total number of persons injured and 71.7% (90,053 persons killed) of the total number of persons killed in road accidents during 2009**.** The fault of the cyclists and that of the pedestrians appears to be of marginal consequence accounting for a share of 12% and 2.2% respectively of the accidents. Similarly, cyclists and pedestrians were responsible for about 1.6% and 2.8% respectively of total number of persons killed. The accidents caused due to defects in the motor

vehicles also accounted for 1.8% and 2.5% of road accidents and fatalities respectively. Tables enumerating the causes of accidents across the States are provided in Annex-V.

11.2 Within the category of drivers' fault, accidents caused due to "Exceeding lawful speed" accounted for a high share of 57.5% (2,19,305 out of 3,81,648 accidents). Similarly, persons killed due to excessive speed by drivers was to the tune of 5.9%. State-wise details are at Annex-VI.

11.3 Intake of alcohol / drugs by drivers resulted in 27,152 road accidents and 9,307 fatalities. As percent share of total accidents and deaths due to "drivers' fault", intake of alcohol/drugs accounted for 7.1% and 10.3% respectively. State-wise details are at Annex-VI.

11.4 Overloading/overcrowding of vehicles accounted for 96,012 road accidents and 28,444 road deaths. As a share of total road accidents and deaths, these figures constituted 19.7% and 22.6% respectively. State-wise details are at Annex-VII.



12. International Comparison of Road Traffic Injury Accidents and Deaths

12.1 Cross country comparisons of incidence of road accident related deaths and injury accidents per lakh persons as per World Road Statistics 2010 (published by International Road Federation, Geneva) showed lower incidence of both the parameters for India in comparison to many developed and developing countries. The number of road accident deaths per lakh of population at 10.8 in India was much lower compared with 12.08 in the Republic of Korea, 12.25 in USA and the Russian Federation (21.06) (Chart 16). The highest number of deaths per lakh of population was reported for Anguilla (31.25) in 2007, followed closely by South Africa (31.18) in 2007. For the year 2008, Malaysia reported the highest figure of 24.16 and the Philippines reported the lowest number of deaths per lakh population at 1.21 in 2008. Countries which showed lower persons killed per 1,00,000 population were Japan (4.04), United Kingdom (4.13), Germany (5.45) and China (5.55). Similarly, injury accidents per lakh of population both in India and China were substantially lower at around 36.58 and 20.02 respectively when compared with France (119.63), United Kingdom (287.88), Germany (390.47), Republic of Korea (444.01) and the U.S.A. (536.08). Qatar reported the the highest injury accident rate at 9988.55 in 2002, but for 2008 the highest figure was reported by Japan (599.94). Niger (3.38) and Philippines (4.39)) reported the lowest figures in respect of injury accidents per 100000 persons. A cross country comparison of incidence of road related deaths and injury accidents of select countries are given in Table 10.

12.2 The World Health organization brought out its Global Status Report on Road Safety in June 2009. This report involved the first broad assessment of the status of road safety in 178 countries, using data drawn from a standardized survey conducted in 2008. The key findings of this report are summarized in Box 2. This report also cites data from the World Health Statistics (refer Table 12) to indicate that road traffic injuries would become the fifth highest leading cause of death, outranking diabetes mellitus, HIV/AIDS, certain form of cancers and tuberculosis, in 2030 as compared to its ninth position in 2004.

12.3 A comparative status of road accidents and persons killed between China and India is given in Table 11. Chart 17 and Chart 18 clearly brings out that whereas in China both road accidents and fatalities are on a downward slide; in case of India both road accidents and number of persons killed are steadily rising.

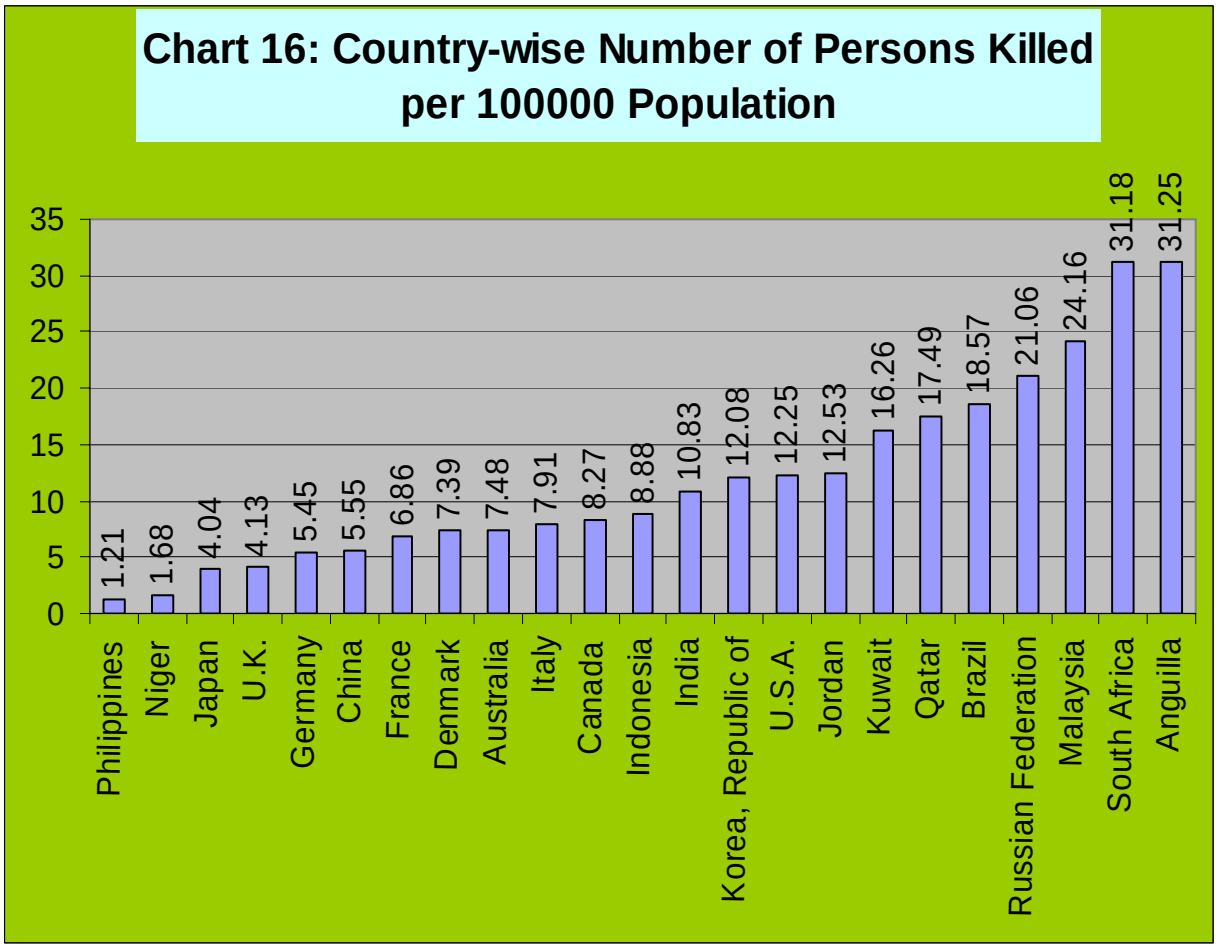


Table 10: Cross Country Comparison of Incidence of Road related Deaths and Injury Accidents in 2008*			
Sl. No.	**Country**	**Killed per 100000 Population**	**Injury Accidents per 100000 Population**
1	Anguilla	31.25 (2007)	N.A.
2	Australia	7.48	6.78
3	Brazil	18.57 (2006)	61.15 (2004)
4	Canada	8.27	415.10
5	China	5.55	20.02
6	Denmark	7.39	91.38
7	France	6.86	119.63
8	Germany	5.45	390.47
9	Indonesia	8.88	26.02
10	India	10.83 (2009)	36.58 (2009)
11	Italy	7.91	365.96
12	Japan	4.04	599.94
13	Jordan	12.53	1711.23
14	Korea, Republic of	12.08	444.01
15	Kuwait	16.26 (2004)	2,231.24 (2004)
16	Malaysia	24.16	1380.92
17	Niger	1.68	3.38
18	Philippines	1.21	4.39
19	Qatar	17.49 (2007)	9,988.55 (2002)
20	Russian Federation	21.06	153.58
21	South Africa	31.18 (2007)	306.73 (2007)
22	United Kingdom	4.13	287.88
23	United States of America	12.25	536.08

Note: Injury accident refers to road accident resulting in at least one injury or killed person. * Data for 2008 or for the latest year available & reported in WRS 2010, (indicated in parentheses).

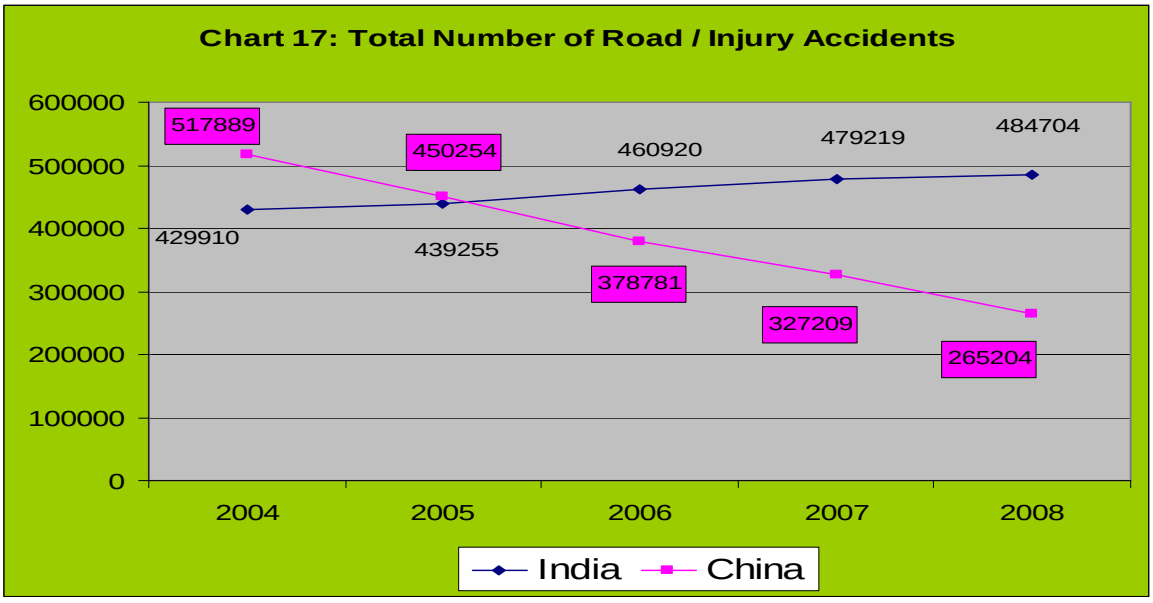
Source: 1. For India – Transport Research Wing, Ministry of Road Transport & Highways.

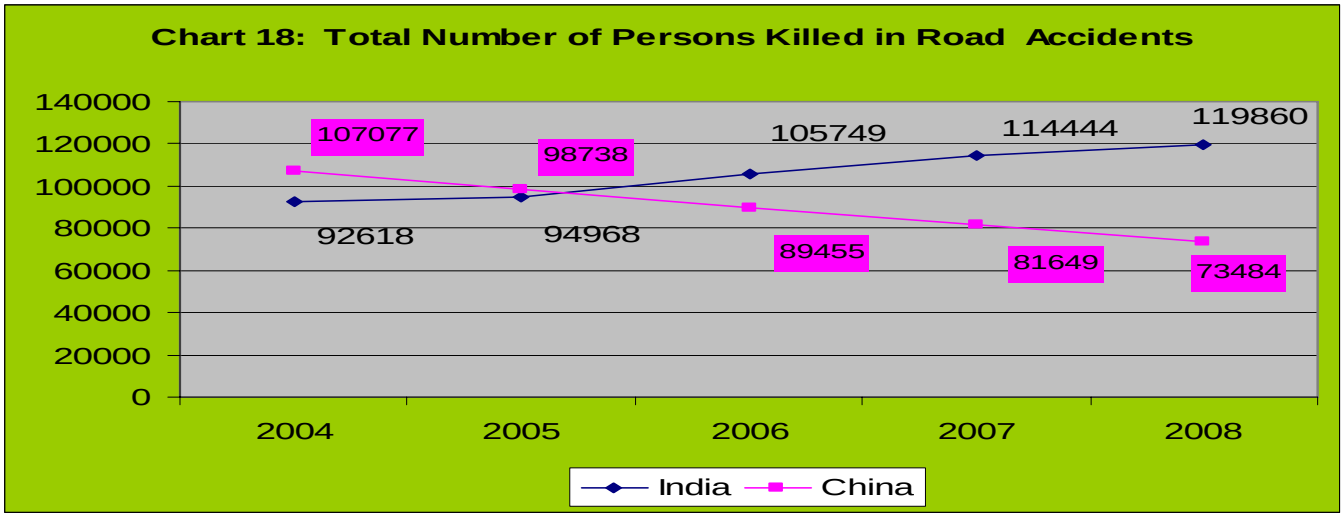
2. For Other Countries - World Road Statistics (WRS) 2010.

Table 11: Trends in Road Accident Scenario: India and China (2004 to 2008)				
Year	**No. of Road Accidents**		**No. of Persons Killed**	
	India	**China**	**India**	**China**
2004	4,29,910	5,17,889	92,618	1,07,077
2005	4,39,255	4,50,254	94,968	98,738
2006	4,60,920	3,78,781	1,05,749	89,455
2007	4,79,216	3,27,209	1,14,444	81,649
2008	4,84,704	2,65,204	1,19,860	73,484

Source: World Road Statistics 2010, International Road Federation, Geneva, for data on China; State Police Departments for data on India.

Table 12: Leading Causes of Death, 2004 and 2030 compared					
TOTAL 2004			TOTAL 2030		
Rank	**Leading Cause**	**%**	**Rank**	**Leading Cause**	**%**
1	Ischaemic heart disease	12.2	1.	Ischaemic heart disease	12.2
2.	Cerebrovascular disease	9.7	2.	Cerebrovascular disease	9.7
3.	Lower respiratory infections	7.0	3.	Chronic obstructive pulmonary disease	7.0
4	Chronic Obstructive pulmonary disease	5.1	4.	Lower respiratory infections	5.1
5.	Diarrhoeal diseases	3.6	**5.**	**Road traffic injuries**	**3.6**
6.	HIV/AIDS	3.5	6.	Trachea, bronchus, lung cancers	3.5
7.	Tuberculosis	2.5	7.	Diabetes mellitus	2.5
8.	Trachea, bronchus, lung cancers	2.3	8.	Hypertensive heart disease	2.3
9	**Road traffic injuries**	**2.2**	9.	Stomach cancer	2.2
10	Prematurity and low birth weight	2.0	10.	HIV/AIDS	2.0
11.	Neonatal infections and other	1.9	11.	Nephritis and nephrosis	1.9
12.	Diabetes mellitus	1.9	12.	Self-inflicted injuries	1.9
13.	Malaria	1.7	13.	Liver cancer	1.7
14.	Hypertensive heart disease1.5	1.7	14.	Colon and rectum cancer	1.7
15.	Birth asphyxia and birth trauma	1.5	15.	Oesophagus cancer	1.5
16.	Self-inflicted injuries	1.4	16.	Violence	1.4
17.	Stomach cancer	1.4	17.	Alzheimer and other dementias	1.4
18.	Cirrhosis of the liver	1.3	18.	Cirrhosis of the liver	1.3
19	Nephritis and nephrosis	1.3	19.	Breast cancer	1.3
20.	Colon and rectum cancers	1.1	20.	Tuberculosis	1.1
Source: World Health Statistics 2008 cited in Global Status Report on Road Safety: A Time for Action, WHO.					





Box 2: Key Findings of Global Status Report on Road Safety – Time for Action

- Data from the survey conducted during 2008 indicate 0.66 million reported deaths due to road accidents while estimation as per the model used by the Global Status Report on Road Safety indicate 1.23 million deaths globally reflecting a difference of over 46%.
- Low-income and middle-income countries indicate very high fatality rates (per 100000 persons) estimated at 21.5 and 19.5 respectively vis-à-vis 10.3 in high income countries. Among low income countries, the African region has been estimated to have the highest fatality rate of 32.3.
- Over 90% of the world's fatalities on the roads occur in low-income and middle-income counties, which have only 48% of the world's registered vehicles.
- Almost half of those who die in road traffic crashes are pedestrians, cyclists or users of motorized two-wheelers- collectively known as 'vulnerable road users' – and this proportion is higher in the poorer economies of the world.
- Speed is a key risk factor for injury among pedestrians and cyclists, and yet only 29% of counties meet basic criteria for reducing speed in urban areas, while less than 10% of counties rate the enforcement of their speed limits as effective.
- The adoption and enforcement of traffic laws appears inadequate in many counties. The development of effective enforcement of legislation is critical in reducing drink-driving and excessive speed, and in increasing the use of helmets, seat-belts and child restraints. This survey showed that fewer than half the countries have laws to address all five of these risk factors, while only 15% have laws that can be considered comprehensive in scope.
- Addressing road safety in a comprehensive manner necessitates the involvement of multiple sectors, such as heath, transport and police. Only one-third of the countries have a national road safety strategy that is endorsed by the government, that includes specific targets, and that has funding allocated for its implementation.
- Huge gaps remain in the quality and coverage of the data that countries collect and report on road traffic injuries. Underreporting of road traffic fatalities remains a big problem in many countries and the situation is even worse with regard to non-fatal injuries. Just 22% of countries had information on the extent of their road traffic injury problem, the costs incurred by their health sector or their national economies, and the data needed to monitor and evaluate interventions accurately.

Box 3 : United Nations Resolutions on Road Safety

Resolution No. 57/309 dated 22.5.2003: Global Road Safety Crisis

Noted the rapid increase in road traffic deaths, injuries and disabilities globally and the negative impact of road traffic injury on national and global economies. It also recognized the disproportionate fatality rate in developing countries. The resolution affirmed the need for a worldwide effort to raise awareness of the importance of road safety as a public policy issue. Further it urged all Governments to promulgate and to continue to enforce existing traffic laws.

Resolution No. 58/9 dated 5.11.2003: Global Road Safety Crisis

The resolution affirmed the need for a worldwide effort to raise awareness about health impact and social and economic costs of injuries caused by road traffic accidents. Emphasized the need for private sector and NGOs to participate actively in promoting road traffic safety. As per this resolution a plenary meeting of the General Assembly was held on 14th April 2004 in connection with World Health Day and the *World Report on Road Traffic Injury Prevention* launched to increase awareness at a high level of the magnitude of the road traffic injury problem. The resolution underlined the need for international cooperation to deal with issues of road safety.

Resolution No. 58/289 dated 14.4.2004: Improving Global Road Safety

It was the first major resolution following release of the World Bank- World Health Organization (WHO) joint report titled "*World Report on Road Traffic Injury Prevention"*. It took note of the recommendations contained in this report. It invited the WHO, working in close cooperation with the United Nations regional commissions, to act as a coordinator on road safety issues within the UN system. The resolution also underlined the need for further strengthening of international cooperation, taking into account the needs of developing countries, to deal with issues of road safety.

In May 2004, the WHO adopted resolution WHA 57.10 accepting the General Assembly's invitation to act as the coordinator on road safety issues within the UN system, working in close cooperation with the UN regional commissions.

Box 3: United Nations Resolutions on Road Safety (contd…)

Resolution No. 60/5 dated 26.10.2005: Improving Global Road Safety

This was the second major resolution adopted by the UN General Assembly and underlined the importance for Member States to pay particular attention to road traffic injury prevention and using the "*World Report on Road Traffic Injury Prevention"* as a framework for road safety efforts and implementing its recommendations including those related to the five main risk factors – non-use of safety belts and child restraints; non-use of helmets; drinking and driving; inappropriate and excessive speed; and lack of appropriate infrastructure. The resolution invited Member States to establish a lead agency, on a national level, on road safety and to develop national action plan to reduce road traffic injuries, by passing and enforcing legislation, conducting necessary awareness raising campaigns and putting in place appropriate methods to monitor and evaluate interventions that are implemented.

The WHO adopted resolution No. 60.22 dated 23.5.2007 entitled "Health Systems: Emergency Care Systems" which called on the WHO and Governments to adopt a variety of measures to strengthen trauma and emergency care services worldwide.

Resolution No. 62/244 dated 31.3.2008: Improving Global Road Safety

The resolution recognized the UN regional commissions and their subsidiary bodies for increasing their road safety activities and advocating for increased political commitment to road safety. It invited the WHO and the UN regional commissions, in cooperation with other partners in the United Nations Road Safety Collaboration, to promote multisectoral collaboration by organizing, when appropriate, United nations Global Road Safety Weeks, including the Global Stakeholders' Forum. The resolution reaffirmed the need for further strengthening of international cooperation, taking into account the needs of developing countries by building capacities in the field of road safety, and providing financial and technical support for their efforts. The resolution encouraged Member States to continue to strengthen their commitment to road safety, including by observing the World Day of Remembrance for Road Traffic Victims on the third Sunday in November every year.

Box 4: Select Country Initiatives & Experiences in Road Safety

In **Japan**, a succession of five-year fundamental traffic safety programmes and targets, the first of which began in 1971, has reduced the number of road traffic fatalities from 16,765 in 1970 to 6,871 in 2005. In the Republic of Korea, national road safety campaigns have reduced the number of road traffic fatalities from 13,429 in 1991 to 6,563 in 2004.

In 1972, **Australia** became one of the first countries to introduce compulsory seat belts in passenger. This resulted in a 40 to 60 per cent reduction in the risk of injury or death. Due to the success of Australia's seat belt policy, since the 1990s most ESCAP member countries have followed this example. For example, the Republic of Korea introduced compulsory seat belt use in 1990, supported by a mass media campaign in 1992.

Black spot programmes have been put in place or are being tested in most ESCAP member countries, especially since the early 1990s. The size and impact of these programmes ranges widely, and some are constrained by limited resources. In **China**, a very large-scale black spot treatment programme has been undertaken, in which 210,000 black spots have been removed, resulting in an estimated reduction of 80,000 accidents and 5,000 deaths over one year.

The European Road Assessment Programme (EuroRAP), an initiative of automobile associations in Europe, regularly tracks the road safety programme of national trunk roads in European countries. The number of fatalities per billion vehicle-kilometres on each road segment (appox 50 kilometres long) is shown in the form of color-coded maps. EuroRAP also performs on-site inspection and safety ratings of the routes based on physical characteristics, in order to monitor the actual impact of making roads more forgiving. EuroRAP activities have been prominent at the highest political level in several European countries.

Multisectoral approach
In practice, each country will need to address a combination of all the intervention areas, and priorities will change over time.

For example, in the **Republic of Korea**, a succession of targeted interventions following rapid motorization included programmes on black spots, improvement of hazardous locations, compulsory seat belt use, national road safety campaigns, speed cameras an a photo accusation system, has resulted in respective reduction in the number of road deaths.
Similarly, **Japan** has implemented a succession of five-year fundamental traffic safety programmes since 1971. The programme included many interesting government initiatives, such as improvement of sidewalks, bicycle lanes, road lighting, along with child seat requirements, and severe punishment for drunk driving. Together these have led to an impressive road safety record.

Singapore's comprehensive road safety action plan, 2004-2008, covers 14 sectors. It

includes a computerized traffic accidents analysis system, black spot programmes, accident investigation, road safety audits, and road safety consultations. By 2005 the plan had achieved a low fatality rate of 2.3 people per 10,000 registered vehicles.
In **Viet Nam**, the number of people killed or injured in road accidents increased rapidly until 2002. Thereafter, despite a high rate of motorization, roughly 10 to 12 per cent per year, the number of road accidents and injuries has declined dramatically. This was due to a number of decisive and comprehensive measures taken by the Government of Viet Nam that were geared to mobilize a large number of citizens in road safety efforts.

In view of the large spread of fatality rates within countries, even for roads in the same class and with similar traffic levels, simple road assessment can be a useful instrument for prioritizing safety investments, even where national safety data reporting systems are of low quality.

The Swedish Vision Zero
'Vision Zero' became the official Swedish Traffic Safety Policy in 1997. It established the long term goal that "no-one shall be killed or seriously injured within the Swedish road transport system". Vision Zero is based on a systems view that combines "more of the same" in order to ensure continuity with innovative and more radical measures. It promotes an approach of shared responsibility of road designers and road users.

In contrast to conventional approaches that put much of the blame on the road user, the Swedish approach assigns much more responsibility to the road designers. For example, as "kinetic energy' kills and the average human being is incapable of adequately estimating the potential impacts of a collision, management of kinetic energy is best left to "professionals". Similarly, unlike in most other countries, traffic safety education does not focus on educating children but rather on educating their parents about their responsibilities. Measures focus on educating traffic engineers, provision of a safe environment (e.g. bicycle lanes) and safety equipment (e.g. helmets, seat belts).

The Swedish approach is based on "Integration and Separation" which are translated into simple guidelines tailored to different groups of road users, for example, "vulnerable road users should not be exposed to motorized vehicles at speeds exceeding 30 km/h". Where these targets cannot be achieved, recommendations for improvement are provided such as "separate lanes or reduce vehicle speed to 30km/h".

As a result of the Swedish systems view, the transport system is made more error-tolerant and to reduce the severity of accidents when they occur ("forgiving roads"). The approach has proven very successful in Sweden, where now less than 10 children are killed in road crashes per year.

Similarly, the **European Road Safety Action Programme** of the European Union emphasizes the need for road safety targets. The European Union communication on halving the number of road accident victims in the European Union by 2010: a shared responsibility was announced in the white paper on European transport policy in 2001. Essentially, the programme sets out specific actions and reaffirms the overall objective of halving the number

of road accident victims by 2010, which is equivalent to saving 20,000 lives. To ensure that responsibilities are shared, it aims to encourage road users to improve their behavior, to make vehicles safer, and to improve road infrastructure. It provides for the establishment of a European road safety observatory, and it proposes that all the parties concerned, whether public or private, should subscribe to a European Road Safety charter. The communication emphasizes that "it is widely accepted that targeted road safety programmes are more beneficial in terms of effectiveness of action, rational use of public resources and reducing the number of people killed and injured than non-targeted programmes.

The case of the development of a road safety strategy including resources issues for **New South Wales, Australia** is noteworthy. The strategy was formulated and a target defined to save 2,000 lives by 2010. By treating roads as 'products' to be delivered to the citizens, staff in charge of road safety took on their role as 'road managers', being aware of complementing as well as conflicting objectives (e.g. between road safety and maintenance). The strategy also noted that Inter-ministerial, inter-organizational and private-public partnerships proved essential, including the promotion of financial links between the road safety lead agency and other organizations, for example, joint actions with educational institutions. The Australian Road Research Board (ARRB) recommends financing of road safety at a level of roughly three to ten per cent of the overall budget for roads. It also proposed additional sources such as (a) a one to two per cent levy on compulsory 3rd party accident insurance which could be appropriated to prevention and rehabilitation funds: (b) sponsorships, especially for campaigns and community projects; (c) community activities financed by other institutions.
Due to the multi-sectoral nature of road safety, challenges remain, particularly in implementing new measures and maintaining a balanced focus. In particular, designating a lead agency or setting up a coordination mechanism remains a challenge.

Source: Review of Developments in Transport in Asia and the Pacific (2007), Economic and Social Commission for Asia and the Pacific.

13. Road Traffic Accidents, Prevention and Control

13.1 Road accidents are non random events occurring due to a complex mix of number of factors which amongst others include: (a) type of road users and colliding vehicles (b) environmental/road related factors: These include visibility, road design and geometry, access control, intersections (areas of traffic conflict) provision of segregation of NMT and heavy vehicle traffic (c) vehicle related factors – visibility of vehicles, use of protective devices (helmets and seat belts) by vehicle occupants; problems with head and tail lights, mechanical failure etc. (d) nature of traffic management : use of automatic signals, traffic calming devices (e) emergency care for accident victims.

13.2 The main thrust of accident prevention and control across the world has been on **4 E's**, viz. (i) Education, (ii) Enforcement, (iii) Engineering and (iv) Environment and Emergency care of road accident victims.

13.3 **Educational approach:** It relies on dissemination of road safety awareness and regulation through media, classrooms and non-governmental organizations (NGOs). This approach takes a longer time to achieve the desired change in individual perceptions and attitudes. The WHO/World Bank Report on Road Traffic Injury prevention in the light of global experience about education has observed, "When used as a single, isolated intervention, do not deliver tangible and sustained reductions in deaths and injuries".

13.4 **Enforcement Approach:** Its prime emphasis is on restraining road users from undertaking behaviours which expose road users and others to risk of accidents and injuries. The Indian Motor Vehicle Act of 1988 has Chapter 8 and portion of Chapter 13 devoted to many rules and regulations, viz. laws with regard to use of safety devices (helmets), speed limits, etc.

13.5 **Environmental & Engineering Approach:** This covers broad range of interventions to make road user safe through better road environment and safer vehicles. Safer vehicles by improving crash worthiness and safety of occupants – safety belts, airbags, laminated windshields, improving braking conditions, installing suitable lights to reduce glare; better roads through better road design, geometry and markings, traffic calming techniques, identification of accident black spots and their treatment, good visibility of roads with lighting, segregation of traffic into slow and fast moving categories.

13.6 Among the important environmental measures is better land use pattern which promotes shorter travel time and distance thus restricting demand for travel leading to reduced traffic congestion on roads. These measures are passive and one time efforts and are not dependent on actions of road users. These do not require constant monitoring and have been found to be quite effective worldwide. Their impact is easy to measure. However, these measures do require substantial resources, which developing countries may find it difficult to harness.

13.7 **Emergency accident care:** This covers organization, delivery of emergency accident care and logistic support for effective and coordinated delivery of health care to accident victims. WHO guidelines for "essential trauma care" recommend establishing achievable and affordable standards for injury care.

13.8 Road safety is essentially a multi-sectoral activity. It requires a systems approach with coordinated efforts of health, law, transport, police, insurance agencies and NGOs.

14. Recent Road Safety Initiatives by the Government of India

14.1 The safety of road users is primarily the responsibility of the concerned State Government. However, the Ministry of Road Transport & Highways has taken several steps to improve road safety for road users which are as under:

- It is ensured that road safety is the integral part of road design at planning stage.
- Various steps to enhance road safety such as road furniture, road markings/road signs, introduction of Highway Traffic Management System using Intelligent Transport System, enhancement of discipline among contractors during construction, road safety audit on selected stretches, have been undertaken by National Highways Authority of India.
- Refresher training for Heavy Motor Vehicle drivers in the unorganized sector is being implemented by the Ministry since 1997-98 under plan activities.
- Setting up of Model Driving Training Schools in the States by Ministry of Road Transport and Highways.
- Publicity campaign on road safety awareness both through the audio-visual and print media.
- Confernment of National Award on voluntary organizations/individuals for outstanding work in the field of road safety.
- Tightening of safety standards of vehicles like Seat Belts, Power-steering, rear view mirror etc.
- Providing cranes and ambulances to various State Governments/NGOs under National Highway Accident Relief Service Scheme. National Highways Authority of India also provides ambulances at a distance of 50 Km. on each of its completed stretches of National Highways under its Operation & Maintenance contracts.

- Widening and improvements of National Highways from 2 lanes to 4 lanes and 4 lanes to 6 lanes etc.

14.2 **Refresher Training for heavy vehicle drivers**: This Ministry has a scheme titled "Two days refresher training to heavy motor vehicle drivers in unorganized sector" to inculcate safe driving habits and to acquaint the drivers with the rules on roads. As against 15,740 drivers trained during Ninth Five Year Plan, 1,92,218 drivers were trained during Tenth Five Year Plan**.** The Ministry intends to train around 40,000 drivers during 2010-11 through Society of Indian Automobile Manufacturers (SIAM), All India Motor Transport Congress (AIMTC), Automobile Association of Upper India; Krishna District Lorry Association, Vijayawada; Institute of Driving Training & Research (IDTR), Sarai Kale Khan, New Delhi; Training Institute on Driving and Research, Bellary, Karnataka; and DTI at Nagaland.

14.3 **Model Driving Training Schools:** Financial assistance is being given to States/ UTs for setting up of Model Driving Training Schools to produce good drivers as well as impart refresher training to on the job drivers. So far 13 proposals from States/NGOs in West Bengal, Assam, Karnataka, Andhra Pradesh, Kerala, Himachal Pradesh, NCT of Delhi, Uttarakhand, Uttar Pradesh, Orissa, Nagaland, Madhya Pradesh and Haryana have been sanctioned. Out of these, four schools in Andhra Pradesh, NCT of Delhi, Karnataka and Nagaland have become operational. During the11th Five Year Plan, this scheme was dropped by Planning Commission. Given its importance, the Scheme has been revived with the concurrence of Planning Commission and approved by Expenditure Finance Committee (EFC). States/UTs have been requested to send their proposals under the Scheme. Some States/UTs have sent their proposals which are being scrutinized.

14.4 **National Highway Accident Relief Service Scheme (NHARSS):** The scheme entails providing cranes and ambulances to States/ UTs/NGOs for relief and rescue measures in the aftermath of accidents by way of evacuating road accident victims to nearest medical aid centre and for clearing the accident site. So far, 307 ten ton cranes and 70 small/medium size cranes have been provided under the scheme. Besides, 437 ambulances have been provided to States/UTs/NGOs under the scheme. Also the Ministry intends to provide 40 ten ton cranes and 36 small recovery cranes for hilly areas to the States/UTs.

14.5 **Road Safety Equipments:** The scheme entails providing road safety equipments to States/ UTs for enforcement and implementation of various rules & regulations relating to road safety. Under this scheme, so far 24 Interceptors have been sanctioned for the purpose of detection of violation of rules by the road users such as over-speeding, drunken driving, lane–jumping, dangerous driving etc.

14.6 **Publicity Measures and Awareness Campaign on Road Safety**: With a view to raising road safety awareness among the general public, the Government has undertaken various publicity measures through Directorate of Audio Visual Publicity(DAVP) and professional agencies in the form of telecasting/broadcasting of T.V. spots/Radio jingles, display of cinema slides, hoardings, organizing Road Safety Week, Seminars, Exhibitions, All India Essay Competition on Road Safety, printing of handbills/stickers, posters, etc., containing road safety messages for various segments of road users viz. pedestrians, cyclists, school children, heavy vehicle drivers, etc., painting on road railings on themes of road safety, road safety games, calendars depicting road safety messages, etc. During the year 2010-11, there was a provision of Rs.30.00 crore under this head.

14.7 During the Tenth Five Year Plan, actual expenditure on road safety was Rs.166.64 crore while for the Eleventh Five Year Plan (2007-12) an amount of Rs.448 crore has been proposed for road safety activities. Table 13 depicts the funds allocated and expenditure incurred on road safety activities in recent years:

Table: 13 - Funds Allocated and Spent on Road Safety Activities

(Rs. Crore)

Year	Funds Allocated	Funds Spent
2004-05	39.70	34.99
2005-06	43.05	29.70
2006-07	47.00	43.25
2007-08	52.00	42.87
2008-09	73.00	54.89
2009-10	79.00	22.39
2010-11	81.00	44.46 (mid-March)

Source: Road Safety Cell, Ministry of Road Transport & Highways.

14.8 **Creation of a dedicated body for Road Safety and Traffic Management:**

A Committee was constituted under the Chairmanship of Shri S. Sundar, Former Secretary, Ministry of Surface Transport to make recommendations for setting up a separate body on "Road Safety and Traffic Management" vide order dated 23.11.2005. The Committee submitted its report on 20.2.2007. The main recommendations of the Committee included:

- Creation of an Apex body i.e., National Road Safety & Traffic Management Board through an Act of Parliament to promote road safety and improve traffic management in India with members/experts from the field of Road Engineering, Automobile Engineering, Traffic Laws, Medical care etc.
- It would have regulatory as well as advisory functions.
- As far as regulatory functions are concerned, the Board would set standards, designs for mechanically propelled vehicles and also set safety standards in consultation with Indian Road Congress for the design, construction and operation of the National Highways including road infrastructure and furniture.
- In its advisory role, the Board will advise Government on various road safety activities.
- Conduct/commission road safety audits of National Highways, conduct/ commission black spot surveys and recommend treatment.
- The Board would promote road safety activities by laying guidelines.
- The Board would establish the methodology for multidisciplinary crash investigation, data collection, reporting and analysis and also the procedure and methodology for data collection, transmission and analysis at appropriate levels and define the role of different agencies involved in the process. The Board would also maintain a comprehensive database on road safety related matters.
- Enabling provisions have been suggested for creation of similar State level bodies.
- Creation of a dedicated road safety fund namely National Road Safety Fund by way of earmarking of 1% of the total proceeds of the cess on diesel and petrol.

14.9 Status of the report:

The Bill was introduced in Lok Sabha on 4.5.2010, was referred to the Parliamentary Standing Committee. Its recommendations are being examined in the Ministry.

14.10 **National Road Safety Policy:**

(i) A Committee under the Chairmanship of Shri S. Sundar, former Secretary (Ministry of Surface Transport) was constituted in the year 2005 to deliberate and make recommendations on creation of a dedicated body on road safety and traffic management. The Committee was also subsequently requested to finalise a draft National Road Safety Policy for consideration of the Government. The Committee while submitting its report in February, 2007, inter alia, recommended a draft National Road Safety Policy.

(ii) The Union Cabinet had approved the proposal of the Ministry of Road Transport & Highways to adopt the National Road Safety Policy. The National Road Safety Policy outlines the policy initiatives to be framed / taken by the Government at all levels to improve the road safety activities in the country. Broadly, it aims at:-

- To promote awareness about road safety issues.
- To establish a road safety information database.
- To ensure safer road infrastructure by way of designing safer roads, encouraging application of Intelligent Transport System etc.
- To ensure fitment of safety features in the vehicles at the stage of designing, manufacture, usage, operation and maintenance.
- To strengthen the system of driver licensing and training to improve the competence of drivers.
- To take measures to ensure safety of vulnerable road users.
- To take appropriate measures for enforcement of safety laws.
- To ensure emergency medical attention for road accident victims.
- To encourage human resource development and R&D for road safety.
- To strengthen the enabling legal, institutional and financial environment for promoting road safety culture in the country.

14.11 **Motor Vehicles:**

- Vehicle engineering also plays a very important role in improving safety on the roads.
- Rule making powers for construction and maintenance of vehicles are vested in the Central Government although limited delegation has also been made in the Motor Vehicles Act, 1988 to the State Government.
- Vehicle construction has to conform to the requirements of both active and passive safety i.e., to prevent accidents and also to save the occupants and other road users coming in contact with vehicle in the event of an accident.
- Norms for safety components such as safety belts, laminated safety glass for wind sheet, instrument panel and lighting system, rear view mirrors, power steering in case of buses and heavy commercial vehicles etc. have already been mandated.
- The thrust of the efforts is to gradually harmonize our standards with the Economic Commission for Europe (ECE) standards. India has joined the World Forum for Harmonization of Vehicle Regulations (WP.29) by acceding to 1998 agreement on Global Technical Regulations in 2006. This has accelerated the pace of harmonization of the country's standards with world standards.

14.12 **Accreditation of bus body builders**:

To bring uniformity in the bus body design and enhance safety and comfort to the passengers, the rules for accreditation of bus body builders were notified on 23.3.2007. As per these rules, the bus body builders in the country would be accredited through the system of Zonal and National Level Accreditation Board. Only such approved builders would undertake bus body building activities which comply with the standards and specification laid down by the Government. These rules have come into effect from 23.3.2008. The Government has already set up National/Zonal accreditation Boards. Efforts are being made to strengthen the functioning of these boards.

14.13 **Inspection and maintenance of vehicles:**

- Under Section 59 of the Motor Vehicles Act, 1988, Central Government has powers to fix the age of motor vehicles of different categories. This Section has not been invoked. The Ministry has fixed the 'age' of certain categories of vehicles for the purpose of tourist permit and national permit, under Rule 82 and 88 of CMVR, 1989.
- A well maintained old vehicle can be less polluting than an ill maintained new vehicle.
- A vehicle can ply on the road as long as it meets the requirements of the Motor Vehicles Act and Central Motor Vehicles Rules, 1989 with regard to safety, emission and fitness norms.
- A transport vehicle has to undergo fitness test every year after two years of the date of initial registration. There is no such requirement for non-transport vehicle for 15 years once they are registered.
- Proper inspection and maintenance system must be put in place to identify the vehicles which do not meet the emission and safety norms. Such inspection and maintenance centres would need to be set up in various States.
- Ten Inspection & Certification Centres on pilot basis in the States/UTs will be set up during 11th Five Year Plan period.

14.14 **Amendment to Motor Vehicles Act 1988:**

- A Motor Vehicles (Amendment) Bill, 2007 was introduced in Rajya Sabha on 15.5.07. The Bill intended to amend the provisions of the Motor Vehicles Act to enhance penalties for various traffic offences such as rash and negligent driving, drunken driving, driving at excessive speed, driving without licence, use of mobile phone while driving, etc, so as to serve as a deterrent for the drivers to follow traffic rules and maintain discipline on roads.
- Amendments have also been suggested to rationalize the provisions relating to payment of compensation to road accident victims. It is proposed not only to enhance the amount of compensation and revision every three years commensurate with the cost of living and expedite the claim settlement process.
- An element of civil liability is also proposed to be inserted in the Act by making a provisions for penalty up to Rs.5,000/- by a person who drives in a rash or negligent

manner and causes injury to a person or damages any property. The amount so realized shall be utilized for making payment to the road accident victims.

- The Ministry is in the process of reviewing the amendment proposals comprehensively vis-à-vis the provisions of similar Acts in other leading Asian countries and to refine the provisions to meet the present day requirements of traffic regulations. A committee under the Chairmanship of Shri S. Sundar, senior fellow TERI and former Secretary (Ministry of Surface Transport) has already been set up for this purpose.

14.15 Initiatives taken by NHAI on Safety.

(i) Provide for in-built Safety Measures in the projects during design, construction and O&M.

(a) The project design, while meeting the safety standards, provide for various measures to enhance the road safety like segregation of local & through traffic by constructing flyovers, underpasses, bypasses, service roads, etc.; user facilities like bus/ truck layby, wayside amenities; safety features like road markings, signages, crash barriers, studs, delineators, lighting in urban areas/ bridges/ flyovers, speed retarders on cross roads at junctions, etc.; and pedestrian facilities like zebra crossings, pedestrian underpasses, foot over bridges, pedestrian guardrails, etc.

(b) During Construction, it is prescribed in the conditions of contract / specifications to provide in the Construction Zones - signages, barricades, delineations during day & night, etc.; to take care of safety of workers like personal protection equipment (reflective jackets, helmets, gloves, gumboots, spectacles, etc), first-aid equipment and amenities, etc.

(c) During O&M : Tow Away Vehicles for removing the breakdown/ damaged vehicles, ambulances to provide immediate medical help during golden hour to the accident victims and route patrolling vehicles to check unauthorized activities/ guide the road users. These facilities are available at every 50km of sections in operation. Ministry of Health & Family Welfare is implementing a comprehensive scheme for upgrading Trauma Care Centers along GQ and North South & East West Corridors.

(ii) Wayside Amenities: Four are in operation; and six are under development, 3 bids are under evaluation, 26 bids re-invited due to no response to previous call and 34 sites are part of the scope of the Concessionaires / Contractors of BOT (Toll / Annuity) / EPC Projects. Further, a Consultant has been engaged to identify new potential sites for development of wayside amenities along North–South & East–West Corridor.

(iii) State-of-the-Art Advanced Traffic Management System (ATMS) comprising emergency call boxes, variable messages signs, CCTVs, traffic counters cum classifiers, etc. has been provided/ being provided on selected sections mostly under NHDP Phase V.

(iv) Road Safety Audits in 2,825 km on the completed sections and Public Education Campaigns on Golden Quadrilateral of 5,864 km have been undertaken.

(v) One Safety Officer has been designated in each Regional Office of NHAI to oversee the safety measures during construction and O&M of project reaches.

14.16 **Road Safety Fund**

Road Safety Fund is meant for the cost and expenses on works and services not covered in the scope of the concessionaire but which arise out of safety requirements based on the safety audits of the project highway through the Safety Consultants being appointed by NHAI. Schedule 'L' of the Model Concession Agreement (MCA) (Para-7) clearly states that the remuneration of Safety Consultant, safety audit, and costs incidental thereto, shall be met out of the Safety Fund. As per Schedule 'L', NHAI has to appoint a qualified firm or organization as the Safety Consultant who shall employ a team of one Road Safety Expert and one Traffic Planner to undertake Safety Audit of the project highway.

14.17 **Road Safety Audit**

Road Safety Audit (RSA) of select National Highways / Expressway sections on the Western Transport Corridor starting from Delhi and passing through Rajasthan, Gujarat, Maharashtra, Karnataka and Tamilnadu and part of East-West Corridor from Porbandar to Deesa has been taken up. The total length taken under this study is 2,825 Km. The specific aim for the safety

audit is that safety should be a prime post-construction operative feature. The purpose of carrying out safety audit is to:

- Minimize the risk and severity of accidents on the National Highways / Expressways;
- Minimize the risk of accidents occurring on adjacent roads as a result of operation and maintenance of National Highways / Expressways;
- Recognize the importance of safety in Highway design to meet the needs and perceptions of all type of road users, and to achieve a balance safety solution thereto;
- Reduce the long term cost of scheme, bearing in mind the overall cost effective safe solutions; and
- Improve the level of awareness of safe design practices by all involved in the planning, design, construction, maintenance and operation of roads.

14.18 **Road Safety Public Education**

Considering the need to address the road safety issues, part of the World Bank loan under GTRIP was utilized to design and implement an effective public communication strategy for enhancing road safety awareness among drivers and other road users by undertaking consulting service for road safety public education. This service was designed to reduce the risk of accidents through raising the awareness among local inhabitants and road users of National Highways of the Golden Quadrilateral (GQ) of about 5,864 km that links the main metropolitan centres of Delhi, Kolkata, Chennai and Mumbai. The objectives of service were:

(i) Make community residents aware that road safety is a major community concern;

(ii) Encourage community residents to identify the specific road safety problems faced by the community as well as remedial measures;

(iii) Strengthen local Non Government Organizations (NGOs) and Community Based Organizations (CBOs) and their linkages to external institutions with a role in road safety; (iv) Educate community residents and road users in the safe use of the road and actions to be taken in the event of an accident.

14.19 **Emergency Medical Care**

- NHAI Ambulances are stationed at 50 Km of completed national highway stretch through operation and maintenance contract.
- The Ambulances provided are stocked with essential medicines, requisite equipments and paramedical staff to help the victims in case of the accident.
- The ambulances are having the telephone and helpline numbers of the nearby hospitals in the 50 km. length.
- The helpline numbers are also displayed all along the completed corridor

14.20 **Advanced Traffic Management System (ATMS)**

State-of-the-art Advanced Traffic Management System (ATMS) has evolved over several decades, initially in a number of developed countries in Europe, USA, Canada etc., to bring about a number of desirable improvements in traffic flow, both for users and the agencies responsible for maintenance and management of highways. Some of the major benefits from ATMS are:

- Smooth, uninterrupted traffic flow
- Enhance user safety, fewer accidents
- Ready information and guidance to users
- Wayside amenities
- Emergency assistance round the clock
- Alerts for abnormal road and weather conditions
- Reduced journey time

ATMS has a number of components. Each component addresses a specific set of needs which forms the basis for its provision.

- Typical components of ATMS include :
- Emergency Call Boxes
- Variable Message Signs System
- Video Surveillance System
- Video Incident Detection System

- Meteorological Sensor System
- Mobile Communication System
- Automatic Traffic Counting and Classifying System
- Ramp Metering
- Backbone Transmission System
- Sub-Centers
- Main Control Center
- ATMS presently is operational on Jaipur – Kishengarh Section of NH 8

14.21 **Establishment of trauma care facilities on National Highways**

- It is an accepted strategy of trauma care that if basic life support, first aid and replacement of fluids leading to initial stabilization can be arranged within first hour of the injury called 'Golden Hour', lives of many accident victims can be saved.
- Necessary activities to achieve are initial stabilization by trained manpower, rapid transportation and medical facilities to treat such cases, all within a defined period of time.
- The Government has given approval for a proposal sponsored by Ministry of Health & Family Welfare (MoH&FW) for establishment of an integrated network of Trauma Centres along the Golden Quadrilateral, North-South and East-West Corridors of the National Highways by upgrading the trauma care facilities in 140 identified State Government Hospitals – 20 to Level I Trauma Centres; 40 to Level II Trauma Centres and 80 to Level III Trauma Centres at a total cost of Rs.732.75 crore during the Eleventh Five Year Plan period.
- Setting up of the integrated network of Trauma Centres along the Golden Quadrilateral, North-South and East West Corridors will ensure that each accident victim on these corridors is able to get competent medical assistance within the shortest possible time thereby saving precious lives.
- In the proposal sponsored by Ministry of Health & Family Welfare, services at different levels are as under:

- **Ambulances (Level IV)**: This would be a fully equipped trauma ambulance manned by trained paramedics who would provide immediate basic life support to the patient while transporting him. All ambulances will be linked through a communication network with a central call centre and also with designated hospitals. Ambulances would be available at every 50 Kms.
- **Level-III Trauma Centres**: Level III Trauma care centres, primarily district hospitals, will provide initial evaluation and stabilization of the trauma patients. Such centres would be available every 100-150 Kms.
- **Level-II Trauma Centres**: Level II Trauma care centres, primarily medical colleges, will provide for trauma care patients. Physicians, Surgeons, Orthopedics, Anesthetists will be available on call. A level-II Trauma Centre would be available at an average distance of 300 Kms.
- **Level-I Trauma Centres**: Level-I Trauma Centres would provide the highest level of trauma care and would have super-specialty facilities.

Role of Ministry of Road Transport & Highways (MoRTH) and NHAI in the above proposal:

- NHAI would deploy life support ambulances with trained and specialized personnel at every 50 Km. on the completed stretches of highway being built and operated by them.
- MoRTH would provide advanced life support ambulances to 140 identified hospitals to be upgraded under this Scheme.
- The Ministry will provide 140 ambulances under the trauma care scheme of MoH&FW to the identified hospitals and not to NGOs.
- The approximate cost for each such ambulance has been estimated at Rs.20.00 lakh.

- The Ministry was to provide these ambulances in the years 2008-09 and 2009-2010. Order for 70 ambulances for the year 2008-09 has already been issued but supply is held up due contractual problems. Balance 70 is to be provided during the current year.

The strategy adopted by the MoH&FW in the above Scheme is as under:

- Identifying health care facilities along these corridors (GQ and NS-EW corridors) and upgrading them to levels I, II and III to provide one or more specified levels of trauma care services.
- Establishing a life support ambulance system at every 50 Km.
- Plug gaps in human resource availability for trauma care by providing nursing staff and paramedics trained for emergency care.
- Establishing communication linkage with the mobile units, highways locations and the designated trauma centers.
- To assist the States to develop and manage an appropriate trauma referral system.
- To develop, implement and maintain statewide and National Trauma Information Management System (Trauma registry).

The present Scheme covers entire Golden Quadrilateral and North-South and East-West corridors. Subsequently, after evaluation of the project, other National Highways with substantial traffic density would be taken up.

Box: 5 - Recommendations of the Committee on Road Safety and Traffic Management relating to setting up of National Road Safety and Traffic Management Board (NRSTMB)

Creation of an apex body NRSTMB at the national level through an Act of the Parliament called the 'National Road Safety and Traffic Management Act. The NRSTMB would have regulatory as well as advisory functions.

Structure of NRSTMB: Consist of a chairperson and 3 to 5 members. Each of the members should be responsible for one or more functions pertaining to: 1. Road engineering; 2. Automobile engineering; 3. Traffic laws, operations, management and enforcement; 4. Data collection, reporting and analyses; 5. Accident related medical care etc.

The primary objective of NRSTMB would be to promote road safety and improve traffic management. It would be responsible for the following functions:

A. Road related measures – designing, setting standards and conducting audits.
B. Vehicle related measures – prescribing safety features.
C. Road Safety research – institutional linkages and training
D. Traffic laws, operations and management
E. Capacity Building
F. Road user behaviour strategies, public awareness and education.
G. Medical care and rehabilitation.
H. Other functions: to advise the central government on road safety and on the administration of the provisions relating to safety as contained in the central Motor Vehicles Act 1988 and rules there under; provide technical assistance to State Boards and other agencies engaged in road safety; liaise with institutions and agencies in areas related to road safety at the national and international level etc.

Powers: NRSTMB to set standards but also monitor their adoption and implementation. To this end, Board would empanel auditors to do spot checks and audits on national highways. For mechanically propelled vehicles the Board could monitor compliance either through the conformity of production (COP) tests carried out by the testing agencies or through auditors.

National Road Safety Fund (NRSF): A minimum of 1 % of the total proceeds of the cess on diesel and patrol should be made available to the Road Safety Fund of Centre and the States. Assistance to the States from NRSF should be released to support road safety activities provided that the States enter into agreements with the Government of India.

Set up at the State level: The legislation should also contain an enabling chapter for the States to set up Road Safety and Traffic Management Board.

Advisory Committees: There should be Advisory Committees to advise the National Boards and the State Boards on matters of policy and approach.

Annex - I

Road Accidents,Persons Killed and Injured: 1970-2009

Sl.No.	YEAR	TOTAL NO. OF ROAD ACCIDENTS	TOTAL NO. OF PERSONS KILLED	TOTAL NO. OF PERSONS INJURED	POPULATION OF INDIA	TOTAL NO. OF REGD. MOTOR VEHICLES	ROAD LENGTHS	NO. OF ACCIDENTS	NO. OF ACCIDENTS	NO. OF ACCIDENTS	NO. OF PERSONS KILLED	NO. OF PERSONS KILLED	NO. OF PERSONS KILLED	NO. OF PERSONS INJURED	NO. OF PERSONS INJURED	NO. OF PERSONS INJURED
		(In numbers)	(In numbers)	(In numbers)	(in thousand)	(in thousand)	(in KMS)	(per lakh Population)	(Per ten thousand vehicles)	(Per ten thosand Kms. Roads)	(per lakh Population)	(Per ten thousand vehicles)	(Per ten thosand Kms. Roads)	(per lakh Population)	(Per ten thousand vehicles)	(Per ten thosand Kms. Roads)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	1970	114100	14500	70100	539000	1401	1188728	21.2	814	959.8	2.7	103.5	122.0	13.0	500	589.7
2	1980	153200	24000	109100	673000	4521	1491873	22.8	339	1026.9	3.6	53.1	160.9	16.2	241	731.3
3	1990	282600	54100	244100	835000	19152	1983867	33.8	148	1424.5	6.5	28.2	272.7	29.2	127	1230.4
4	1991	295131	56278	255000	852250	21374	2331086	34.6	138	1266.1	6.6	26.3	241.4	29.9	119	1093.9
5	1992	275541	60113	267200	869000	23507	2482289	31.7	117	1110.0	6.9	25.6	242.2	30.7	114	1076.4
6	1993	284646	60380	287800	886000	25505	2614662	32.1	112	1088.7	6.8	23.7	230.9	32.5	113	1100.7
7	1994	325864	64463	311500	904000	27660	2890950	36.0	118	1127.2	7.1	23.3	223.0	34.5	113	1077.5
8	1995	351999	70781	323200	924359	30295	2975035	38.1	116	1183.2	7.7	23.4	237.9	35.0	107	1086.4
9	1996	371204	74665	369502	941579	33786	3202515	39.4	110	1159.1	7.9	22.1	233.1	39.2	109	1153.8
10	1997	373671	76977	378361	959792	37332	3298788	38.9	100	1132.8	8.0	20.6	233.3	39.4	101	1147.0
11	1998	385018	79919	390674	978081	41368	3228356	39.4	93	1192.6	8.2	19.3	247.6	39.9	94	1210.1
12	1999	386456	81966	375051	996130	44875	3296650	38.8	86	1172.3	8.2	18.3	248.6	37.7	84	1137.7
13	2000	391449	78911	399265	1014825	48857	3316078	38.6	80	1180.5	7.8	16.2	238.0	39.3	82	1204.0
14	2001	405637	80888	405216	1028610	54991	3346667	39.4	74	1212.1	7.9	14.7	241.7	39.4	74	1210.8
15	2002	407497	84674	408711	1045547	58924	3383344	39.0	69	1204.4	8.1	14.4	250.3	39.1	69	1208.0
16	2003	406726	85998	435122	1062388	67007	3553468	38.3	61	1144.6	8.1	12.8	242.0	41.0	65	1224.5
17	2004	429910	92618	464521	1079117	72718	3621507	39.8	59	1187.1	8.6	12.7	255.7	43.0	64	1282.7
18	2005	439255	94968	465282	1095722	81502	3809156	40.1	54	1153.2	8.7	11.7	249.3	42.5	57	1221.5
19	2006	460920	105749	496481	1112186	89618	3880651	41.4	51	1187.7	9.5	11.8	272.5	44.6	55	1279.4
20	2007	479216	114444	513340	1128521	96707	4016401	42.5	50	1193.1	10.1	11.8	284.9	45.5	53	1278.1
21	2008	484704	119860	523193	1144734	105353	4109592	42.3	46	1179.4	10.5	11.4	291.7	45.7	50	1273.1
22	2009(P)	486384	125660	515458	1160813	114951	N.A	41.9	42	N.A	10.8	10.9	N.A	44.4	45	N.A

N.A: Not available P: Provisional

Sources:

1. Accidents - State Police Authorities
2. Population - Registrar General of India
3. Road Length - Basic Road Statistics (M/o Road Transport & Highways)
4. Vehicle - Road Transport Year Book (M/o Road Transport & Highways)

Annex - I A

Total Number of Road Accidents in States/UTs in 2006 to 2009

Sl. No.	States/UTs	2006	2007	2008	2009(P)
1	2	3	4	5	6
	States				
1	Andhra Pradesh	43559	44325	42657	43600
2	Arunachal Pradesh	250	240	280	306
3	Assam	4694	4403	4683	4869
4	Bihar	5594	7774	8991	10065
5	Chhattisgarh	11934	12296	12945	12888
6	Goa	3707	4020	4178	4165
7	Gujarat	31547	33623	33671	31034
8	Haryana	10314	11998	11596	11915
9	Himachal Pradesh	2727	2955	2756	3051
10	Jammu & Kashmir	5593	5864	5326	5945
11	Jharkhand	4980	5285	4985	4996
12	Karnataka	43411	46363	46279	45190
13	Kerala	41728	39917	37263	35433
14	Madhya Pradesh	38041	41981	43852	47267
15	Maharashtra	75413	73661	75527	71996
16	Manipur	521	538	573	578
17	Meghalaya	435	300	294	398
18	Mizoram	95	77	110	86
19	Nagaland	194	239	76	63
20	Orissa	7729	8213	8181	8887
21	Punjab	4927	5208	5115	5570
22	Rajasthan	23348	23885	23704	25114
23	Sikkim	188	150	196	564
24	Tamil Nadu	55145	59140	60409	60794
25	Tripura	793	801	767	865
26	Uttarakhand	1461	1529	1417	1401
27	Uttar Pradesh	19489	21522	25684	28155
28	West Bengal*	11324	11660	12206	11134
	UTs				
1	Andaman & Nicobar Islands	154	173	191	271
2	Chandigarh	517	534	482	424
3	Dadra & Nagar Haveli	103	116	116	79
4	Daman & Diu	57	60	50	63
5	Delhi	9299	8620	8435	7516
6	Lakshadweep	10	2	12	4
7	Puducherry	1639	1744	1697	1698
	Total	**460920**	**479216**	**484704**	**486384**

(P) : Provisional
* Does not include Kolkatta city data.

Share of States/UTs in Total Number of Road Accidents, 2006 to 2009

Sl. No.	States/UTs	2006	2007	2008	2009(P)
1	2	3	4	5	6
	States				
1	Andhra Pradesh	9.5	9.2	8.8	9.0
2	Arunachal Pradesh	0.1	0.1	0.1	0.1
3	Assam	1.0	0.9	1.0	1.0
4	Bihar	1.2	1.6	1.9	2.1
5	Chhattisgarh	2.6	2.6	2.7	2.6
6	Goa	0.8	0.8	0.9	0.9
7	Gujarat	6.8	7.0	6.9	6.4
8	Haryana	2.2	2.5	2.4	2.4
9	Himachal Pradesh	0.6	0.6	0.6	0.6
10	Jammu & Kashmir	1.2	1.2	1.1	1.2
11	Jharkhand	1.1	1.1	1.0	1.0
12	Karnataka	9.4	9.7	9.5	9.3
13	Kerala	9.1	8.3	7.7	7.3
14	Madhya Pradesh	8.3	8.8	9.0	9.7
15	Maharashtra	16.4	15.4	15.6	14.8
16	Manipur	0.1	0.1	0.1	0.1
17	Meghalaya	0.1	0.1	0.1	0.1
18	Mizoram	0.0	0.0	0.0	0.0
19	Nagaland	0.0	0.0	0.0	0.0
20	Orissa	1.7	1.7	1.7	1.8
21	Punjab	1.1	1.1	1.1	1.1
22	Rajasthan	5.1	5.0	4.9	5.2
23	Sikkim	0.0	0.0	0.0	0.1
24	Tamil Nadu	12.0	12.3	12.5	12.5
25	Tripura	0.2	0.2	0.2	0.2
26	Uttarakhand	0.3	0.3	0.3	0.3
27	Uttar Pradesh	4.2	4.5	5.3	5.8
28	West Bengal*	2.5	2.4	2.5	2.3
	UTs				
1	Andaman & Nicobar Islands	0.0	0.0	0.0	0.1
2	Chandigarh	0.1	0.1	0.1	0.1
3	Dadra & Nagar Haveli	0.0	0.0	0.0	0.0
4	Daman & Diu	0.0	0.0	0.0	0.0
5	Delhi	2.0	1.8	1.7	1.5
6	Lakshadweep	0.0	0.0	0.0	0.0
7	Puducherry	0.4	0.4	0.4	0.3
	Total	**100**	**100**	**100**	**100**

(P) : Provisional
* Does not include Kolkatta city data.

Annex-I B

Total Number of Persons Injured in Road Accidents in States/UTs in 2006 to 2009

Sl. No.	States/UTs	2006	2007	2008	2009(P)
1	2	3	4	5	6
	States				
1	Andhra Pradesh	58520	59213	58741	52157
2	Arunachal Pradesh	361	488	425	530
3	Assam	5435	5697	5081	5522
4	Bihar	3578	5971	6359	7113
5	Chhattisgarh	11208	11735	12873	13274
6	Goa	2931	3128	3167	2954
7	Gujarat	33984	35768	35722	32944
8	Haryana	9118	10288	10570	10481
9	Himachal Pradesh	4879	5332	4714	5579
10	Jammu & Kashmir	8219	7920	7597	8199
11	Jharkhand	3707	4369	4373	4406
12	Karnataka	60940	61438	63314	61697
13	Kerala	49799	48246	43857	41402
14	Madhya Pradesh	42639	45225	51054	54611
15	Maharashtra	51024	47342	52780	47878
16	Manipur	1020	1044	1216	1189
17	Meghalaya	379	357	355	713
18	Mizoram	149	65	185	203
19	Nagaland	275	189	245	151
20	Orissa	9763	11305	10378	11296
21	Punjab	4307	4430	4196	4486
22	Rajasthan	29434	31151	30857	32317
23	Sikkim	391	272	246	434
24	Tamil Nadu	64342	71099	70251	70504
25	Tripura	1368	1329	1494	1342
26	Uttarakhand	1910	1979	1765	1784
27	Uttar Pradesh	13650	14464	18056	20632
28	West Bengal*	12257	13014	13246	12186
	UTs				
1	Andaman & Nicobar Islands	222	313	256	342
2	Chandigarh	525	530	437	321
3	Dadra & Nagar Haveli	114	94	120	71
4	Daman & Diu	53	63	58	69
5	Delhi	8280	7711	7343	6936
6	Lakshadweep	7	2	7	3
7	Puducherry	1693	1769	1855	1732
	Total	**496481**	**513340**	**523193**	**515458**

(P) : Provisional
* Does not include Kolkatta city data.

Share of States/ UTs in Total Number of Persons Injured in Road Accidents, 2006 to 2009

Sl. No.	States/UTs	2006	2007	2008	2009(P)
1	2	3	4	5	6
	States				
1	Andhra Pradesh	11.8	11.5	11.2	10.1
2	Arunachal Pradesh	0.1	0.1	0.1	0.1
3	Assam	1.1	1.1	1.0	1.1
4	Bihar	0.7	1.2	1.2	1.4
5	Chhattisgarh	2.3	2.3	2.5	2.6
6	Goa	0.6	0.6	0.6	0.6
7	Gujarat	6.8	7.0	6.8	6.4
8	Haryana	1.8	2.0	2.0	2.0
9	Himachal Pradesh	1.0	1.0	0.9	1.1
10	Jammu & Kashmir	1.7	1.5	1.5	1.6
11	Jharkhand	0.7	0.9	0.8	0.9
12	Karnataka	12.3	12.0	12.1	12.0
13	Kerala	10.0	9.4	8.4	8.0
14	Madhya Pradesh	8.6	8.8	9.8	10.6
15	Maharashtra	10.3	9.2	10.1	9.3
16	Manipur	0.2	0.2	0.2	0.2
17	Meghalaya	0.1	0.1	0.1	0.1
18	Mizoram	0.0	0.0	0.0	0.0
19	Nagaland	0.1	0.0	0.0	0.0
20	Orissa	2.0	2.2	2.0	2.2
21	Punjab	0.9	0.9	0.8	0.9
22	Rajasthan	5.9	6.1	5.9	6.3
23	Sikkim	0.1	0.1	0.0	0.1
24	Tamil Nadu	13.0	13.9	13.4	13.7
25	Tripura	0.3	0.3	0.3	0.3
26	Uttarakhand	0.4	0.4	0.3	0.3
27	Uttar Pradesh	2.7	2.8	3.5	4.0
28	West Bengal*	2.5	2.5	2.5	2.4
	UTs				
1	Andaman & Nicobar Islands	0.0	0.1	0.0	0.1
2	Chandigarh	0.1	0.1	0.1	0.1
3	Dadra & Nagar Haveli	0.0	0.0	0.0	0.0
4	Daman & Diu	0.0	0.0	0.0	0.0
5	Delhi	1.7	1.5	1.4	1.3
6	Lakshadweep	0.0	0.0	0.0	0.0
7	Puducherry	0.3	0.3	0.4	0.3
	Total	**100**	**100**	**100**	**100**

(P) : Provisional
* Does not include Kolkatta city data.

Annex-I C

Total Number of Persons Killed in Road Accident in States/UTs in 2006 to 2009

Sl. No.	State	2006	2007	2008	2009(P)
1	2	3	4	5	6
	States				
1	Andhra Pradesh	12761	13549	13812	14770
2	Arunachal Pradesh	129	95	134	158
3	Assam	1841	1604	1807	1991
4	Bihar	2396	3482	3940	4390
5	Chhattisgarh	2374	2607	2966	2865
6	Goa	303	322	318	321
7	Gujarat	6161	6915	7070	6983
8	Haryana	4012	4415	4494	4603
9	Himachal Pradesh	867	979	848	1140
10	Jammu & Kashmir	989	958	950	1100
11	Jharkhand	1914	2081	1979	2170
12	Karnataka	7973	8777	8814	8714
13	Kerala	3627	3778	3901	3830
14	Madhya Pradesh	5318	6671	6670	7365
15	Maharashtra	11343	11212	12397	11396
16	Manipur	159	114	151	125
17	Meghalaya	165	127	123	145
18	Mizoram	64	50	63	60
19	Nagaland	68	89	70	55
20	Orissa	2755	3000	3079	3527
21	Punjab	3052	3363	3206	3668
22	Rajasthan	7154	8145	8388	9045
23	Sikkim	70	52	79	87
24	Tamil Nadu	11009	12036	12784	13746
25	Tripura	196	223	221	229
26	Uttarakhand	975	992	1073	852
27	Uttar Pradesh	10851	11398	13165	14638
28	West Bengal*	4600	4745	4789	4860
	UTs				
1	Andaman & Nicobar Islands	22	23	22	33
2	Chandigarh	142	151	148	171
3	Dadra & Nagar Haveli	45	66	65	45
4	Daman & Diu	27	29	29	33
5	Delhi	2169	2141	2093	2325
6	Lakshadweep	1	0	0	2
7	Puducherry	217	255	212	218
	Total	**105749**	**114444**	**119860**	**125660**

(P) : Provisional
* Does not include Kolkatta city data.

Share of States/UTs in Total Number of Persons Killed in Road Accidents, 2006 to 2009

Sl. No.	State	2006	2007	2008	2009(P)
1	2	3	4	5	6
	States				
1	Andhra Pradesh	12.1	11.8	11.5	11.8
2	Arunachal Pradesh	0.1	0.1	0.1	0.1
3	Assam	1.7	1.4	1.5	1.6
4	Bihar	2.3	3.0	3.3	3.5
5	Chhattisgarh	2.2	2.3	2.5	2.3
6	Goa	0.3	0.3	0.3	0.3
7	Gujarat	5.8	6.0	5.9	5.6
8	Haryana	3.8	3.9	3.7	3.7
9	Himachal Pradesh	0.8	0.9	0.7	0.9
10	Jammu & Kashmir	0.9	0.8	0.8	0.9
11	Jharkhand	1.8	1.8	1.7	1.7
12	Karnataka	7.5	7.7	7.4	6.9
13	Kerala	3.4	3.3	3.3	3.0
14	Madhya Pradesh	5.0	5.8	5.6	5.9
15	Maharashtra	10.7	9.8	10.3	9.1
16	Manipur	0.2	0.1	0.1	0.1
17	Meghalaya	0.2	0.1	0.1	0.1
18	Mizoram	0.1	0.0	0.1	0.0
19	Nagaland	0.1	0.1	0.1	0.0
20	Orissa	2.6	2.6	2.6	2.8
21	Punjab	2.9	2.9	2.7	2.9
22	Rajasthan	6.8	7.1	7.0	7.2
23	Sikkim	0.1	0.0	0.1	0.1
24	Tamil Nadu	10.4	10.5	10.7	10.9
25	Tripura	0.2	0.2	0.2	0.2
26	Uttarakhand	0.9	0.9	0.9	0.7
27	Uttar Pradesh	10.3	10.0	11.0	11.6
28	West Bengal*	4.3	4.1	4.0	3.9
	UTs				
1	Andaman & Nicobar Islands	0.0	0.0	0.0	0.0
2	Chandigarh	0.1	0.1	0.1	0.1
3	Dadra & Nagar Haveli	0.0	0.1	0.1	0.0
4	Daman & Diu	0.0	0.0	0.0	0.0
5	Delhi	2.1	1.9	1.7	1.9
6	Lakshadweep	0.0	0.0	0.0	0.0
7	Puducherry	0.2	0.2	0.2	0.2
	Total	**100**	**100**	**100**	**100**

(P) : Provisional
* Does not include Kolkatta city data.

Annex-II A

Total Number of Road Accidents and Number of Road Accidents per lakh of population, ten thousand vehicles and ten thousand Kilometers of road length in States/UTs in 2006 to 2009

Sl. No.	States/UTs	Total Road Accidents				Total Accidents per lakh Population				Road Accidents per ten thousand vehicles				Road accidents per 10,000 kms of roads*		
		2006	2007	2008	2009(P)	2006	2007	2008	2009(P)	2006	2007	2008	2009(P)	2006	2007	2008
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	States															
1	Andhra Pradesh	43559	44325	42657	43600	54.0	54.4	51.8	52.4	60.3	69.6	59.2	54.1	2038.3	2063.0	1955.2
2	Arunachal Pradesh	250	240	280	306	21.4	20.3	23.4	25.2	113.1	108.6	126.7	138.5	145.2	137.7	169.8
3	Assam	4694	4403	4683	4869	16.4	15.2	15.9	16.3	51.4	43.1	41.9	39.4	217.5	197.0	203.3
4	Bihar	5594	7774	8991	10065	6.2	8.4	9.6	10.6	39.1	49.3	51.7	51.4	465.7	647.1	748.5
5	Chhattisgarh	11934	12296	12945	12888	52.8	53.6	55.6	54.6	77.5	70.9	67.1	61.0	1615.1	1668.3	1739.1
6	Goa	3707	4020	4178	4165	248.5	261.0	261.8	251.7	70.1	69.5	67.0	61.8	3557.6	3820.2	3953.1
7	Gujarat	31547	33623	33671	31034	57.4	60.2	59.5	54.0	36.6	35.4	32.7	28.2	2179.0	2308.8	2296.3
8	Haryana	10314	11998	11596	11915	44.2	50.5	48.0	48.4	33.4	34.0	29.2	26.9	3549.8	4081.4	3901.0
9	Himachal Pradesh	2727	2955	2756	3051	42.2	45.3	41.8	45.8	81.8	86.5	74.3	61.7	1154.8	845.4	759.3
10	Jammu & Kashmir	5593	5864	5326	5945	51.1	52.8	47.3	52.1	106.8	102.8	85.9	89.1	2537.3	2658.4	2385.9
11	Jharkhand	4980	5285	4985	4996	17.0	17.8	16.5	16.3	33.1	31.3	27.0	24.5	2758.2	2924.6	2843.5
12	Karnataka	43411	46363	46279	45190	77.2	81.5	80.4	77.7	69.8	84.5	74.4	65.0	2026.6	1826.0	1811.6
13	Kerala	41728	39917	37263	35433	125.4	119.0	110.2	104.0	117.3	100.9	84.1	72.9	2229.7	2021.6	1819.9
14	Madhya Pradesh	38041	41981	43852	47267	57.3	62.1	63.8	67.6	82.5	83.2	79.4	78.6	2308.3	2538.0	2645.8
15	Maharashtra	75413	73661	75527	71996	72.0	69.2	70.0	65.7	68.8	60.5	56.6	49.8	3420.9	3301.1	3382.0
16	Manipur	521	538	573	578	22.6	23.0	24.2	24.2	42.0	40.3	38.9	39.2	315.7	326.0	347.2
17	Meghalaya	435	300	294	398	17.6	12.0	11.6	15.5	41.8	25.7	23.0	28.1	448.9	307.6	298.8
18	Mizoram	95	77	110	86	10.0	8.0	11.3	8.8	18.3	12.6	16.9	12.3	159.0	125.3	178.6
19	Nagaland	194	239	76	63	9.2	11.1	3.5	2.9	10.6	11.4	3.4	2.6	87.8	108.9	34.1
20	Orissa	7729	8213	8181	8887	19.9	20.9	20.6	22.2	40.0	38.2	34.5	34.1	359.1	381.5	379.8
21	Punjab	4927	5208	5115	5570	18.9	19.7	19.1	20.6	12.2	12.1	11.2	11.5	1090.9	1153.9	1132.2
22	Rajasthan	23348	23885	23704	25114	37.5	37.7	36.7	38.3	49.1	44.8	40.2	38.7	1531.7	1493.7	1382.3
23	Sikkim	188	150	196	564	32.6	25.7	33.2	94.3	85.4	60.8	75.3	197.5	887.6	800.9	1046.4
24	Tamil Nadu	55145	59140	60409	60794	84.7	90.1	91.4	91.3	54.8	53.9	50.6	47.2	3074.7	3270.6	3333.6
25	Tripura	793	801	767	865	23.3	23.2	22.0	24.5	75.0	67.0	58.6	60.1	249.9	252.4	241.7
26	Uttarakhand	1461	1529	1417	1401	15.8	16.3	14.9	14.5	22.7	23.8	19.4	17.8	405.1	390.4	345.3
27	Uttar Pradesh	19489	21522	25684	28155	10.6	11.5	13.5	14.5	24.4	23.7	26.1	26.1	739.5	790.2	902.2
28	West Bengal	11324	11660	12206	11134	13.3	13.5	14.0	12.7	39.4	36.5	44.2	36.6	568.9	559.5	576.4
	UTs															
1	Andaman & Nicobar Islands	154	173	191	271	36.8	39.9	42.5	58.3	37.7	36.0	35.8	45.4	1183.7	1327.7	1468.1
2	Chandigarh	517	534	482	424	46.9	46.0	39.3	32.7	8.0	7.9	6.8	5.7	2441.0	2521.2	2275.7
3	Dadra & Nagar Haveli	103	116	116	79	38.7	41.3	38.8	24.8	23.1	22.7	20.2	12.5	1629.7	1835.4	1835.4
4	Daman & Diu	57	60	50	63	26.4	26.4	21.0	25.4	10.3	9.6	7.4	9.0	2556.1	2690.6	2232.1
5	Delhi	9299	8620	8435	7516	58.0	52.3	49.7	43.1	20.7	15.7	14.3	11.9	3156.3	2924.1	2853.6
6	Lakshadweep	10	2	12	4	13.9	2.7	16.2	5.3	16.0	3.0	16.6	5.5	602.4	119.0	697.7
7	Puducherry	1639	1744	1697	1698	149.3	152.2	140.9	134.0	42.7	40.4	35.1	31.5	6246.2	6468.8	6294.5
	Total	**460920**	**479216**	**484704**	**486384**	**41.4**	**42.5**	**42.3**	**41.9**	**51.4**	**49.6**	**46.0**	**42.3**	**1594.4**	**1599.6**	**1590.3**

P: Provisional , * Exludes road length under Pradhan Mantri Gram Sadak Yojana and erstwhile Jawahar Rozgar Yojana..

Road Length Data is available upto 2008.

Annex-II B

Total Number of Persons Injured in Road Accident and Persons Injured per lakh of population, ten thousand vehicles and ten thousand Kilometers of road length in States/UTs in 2006 to 2009

Sl. No.	States/UTs	Total Number of Persons Injured				No. of Persons Injured Per Lakh of Population				No. of Persons Injured Per Ten Thousand Vehicles				No. of Persons Injured per 10,000 Kms.of Roads*		
		2006	2007	2008	2009(P)	2006	2007	2008	2009(P)	2006	2007	2008	2009(P)	2006	2007	2008
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	States															
1	Andhra Pradesh	58520	59213	58741	52157	72.5	72.6	71.3	62.7	81.1	93.0	81.5	64.7	2738.4	2755.9	2692.4
2	Arunachal Pradesh	361	488	425	530	30.9	41.2	35.5	43.7	163.3	220.8	192.3	239.8	209.7	280.0	257.7
3	Assam	5435	5697	5081	5522	19.0	19.6	17.3	18.5	59.5	55.8	45.5	44.7	251.8	255.0	220.6
4	Bihar	3578	5971	6359	7113	3.9	6.5	6.8	7.5	25.0	37.9	36.6	36.3	297.9	497.1	529.4
5	Chhattisgarh	11208	11735	12873	13274	49.6	51.2	55.3	56.2	72.7	67.7	66.7	62.8	1516.8	1592.2	1729.5
6	Goa	2931	3128	3167	2954	196.4	203.1	198.4	178.5	55.4	54.0	50.8	43.8	2812.9	2972.5	2996.5
7	Gujarat	33984	35768	35722	32944	61.8	64.1	63.1	57.4	39.4	37.7	34.7	30.0	2347.3	2456.1	2436.2
8	Haryana	9118	10288	10570	10481	39.1	43.3	43.7	42.6	29.5	29.2	26.6	23.7	3138.2	3499.7	3555.8
9	Himachal Pradesh	4879	5332	4714	5579	75.6	81.7	71.5	83.7	146.3	156.0	127.1	112.8	2066.1	1525.4	1298.7
10	Jammu & Kashmir	8219	7920	7597	8199	75.1	71.4	67.5	71.8	157.0	138.9	122.5	122.8	3728.6	3590.5	3403.2
11	Jharkhand	3707	4369	4373	4406	12.7	14.7	14.5	14.4	24.6	25.9	23.6	21.6	2053.2	2417.7	2494.4
12	Karnataka	60940	61438	63314	61697	108.3	108.0	110.0	106.0	98.0	112.0	101.8	88.7	2844.9	2419.8	2478.5
13	Kerala	49799	48246	43857	41402	149.7	143.9	129.7	121.5	139.9	121.9	99.0	85.2	2661.0	2443.4	2141.9
14	Madhya Pradesh	42639	45225	51054	54611	64.2	66.9	74.3	78.1	92.5	89.6	92.4	90.9	2587.3	2734.2	3080.4
15	Maharashtra	51024	47342	52780	47878	48.7	44.5	48.9	43.7	46.5	38.9	39.6	33.1	2314.6	2121.6	2363.4
16	Manipur	1020	1044	1216	1189	44.2	44.7	51.4	49.7	82.2	78.2	82.5	80.7	618.1	632.7	736.9
17	Meghalaya	379	357	355	713	15.3	14.3	14.0	27.9	36.4	30.6	27.7	50.3	391.1	366.1	360.8
18	Mizoram	149	65	185	203	15.8	6.8	19.1	20.7	28.7	10.7	28.5	29.0	249.4	105.8	300.4
19	Nagaland	275	189	245	151	13.0	8.8	11.3	6.9	15.0	9.0	10.9	6.3	124.5	86.1	109.8
20	Orissa	9763	11305	10378	11296	25.1	28.8	26.2	28.2	50.5	52.6	43.8	43.3	453.6	525.1	481.8
21	Punjab	4307	4430	4196	4486	16.5	16.8	15.7	16.6	10.7	10.3	9.2	9.3	953.6	981.5	928.8
22	Rajasthan	29434	31151	30857	32317	47.3	49.1	47.8	49.2	61.9	58.4	52.3	49.8	1930.9	1948.1	1799.5
23	Sikkim	391	272	246	434	67.9	46.7	41.6	72.6	177.6	110.2	94.5	152.0	1846.1	1452.2	1313.4
24	Tamil Nadu	64342	71099	70251	70504	98.8	108.3	106.3	105.9	64.0	64.7	58.9	54.7	3587.6	3932.0	3876.7
25	Tripura	1368	1329	1494	1342	40.2	38.5	42.8	38.0	129.3	111.2	114.1	93.3	431.1	418.8	470.8
26	Uttarakhand	1910	1979	1765	1784	20.7	21.1	18.6	18.5	29.7	30.8	24.1	22.7	529.7	505.3	430.1
27	Uttar Pradesh	13650	14464	18056	20632	7.4	7.7	9.5	10.6	17.1	15.9	18.4	19.1	517.9	531.1	634.3
28	West Bengal	12257	13014	13246	12186	14.4	15.1	15.2	13.9	42.7	40.7	48.0	40.0	615.8	624.4	625.5
	UTs															
1	Andaman & Nicobar Islands	222	313	256	342	53.0	72.1	57.0	73.5	54.4	65.1	48.0	57.3	1706.4	2402.1	1967.7
2	Chandigarh	525	530	437	321	47.6	45.7	35.6	24.7	8.1	7.8	6.1	4.3	2478.8	2502.4	2063.3
3	Dadra & Nagar Haveli	114	94	120	71	42.9	33.5	40.1	22.3	25.5	18.4	20.9	11.2	1803.8	1487.3	1898.7
4	Daman & Diu	53	63	58	69	24.5	27.8	24.4	27.8	9.6	10.1	8.6	9.9	2376.7	2825.1	2589.3
5	Delhi	8280	7711	7343	6936	51.7	46.8	43.3	39.8	18.5	14.0	12.4	11.0	2810.4	2615.8	2484.2
6	Lakshadweep	7	2	7	3	9.7	2.7	9.5	4.0	11.2	3.0	9.7	4.1	421.7	119.0	407.0
7	Puducherry	1693	1769	1855	1732	154.2	154.4	154.1	136.7	44.1	40.9	38.3	32.2	6452.0	6561.6	6880.6
	Total	**496481**	**513340**	**523193**	**515458**	**44.6**	**45.5**	**45.7**	**44.4**	**55.4**	**53.1**	**49.7**	**44.8**	**1717.5**	**1713.5**	**1716.6**

P: Provisional , * Exludes road length under Pradhan Mantri Gram Sadak Yojana and erstwhile Jawahar Rozgar Yojana..

Road Length Data is available upto 2008.

Annex-II C

Total Number of Persons Killed in Road Accident and Persons Killed per lakh of population, Ten thousand vehicles and ten thousand Kilometers of road length in States/UTs in 2006 to 2009

Sl. No.	States/UTs	Number of Persons Killed				Number of Persons Killed Per Lakh Population				Number of Persons Killed per ten thousand Vehicles				No. of Persons Killed per 10,000 Kms.of Roads*		
		2006	2007	2008	2009(P)	2006	2007	2008	2009(P)	2006	2007	2008	2009(P)	2006	2007	2008
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	States															
1	Andhra Pradesh	12761	13549	13812	14770	15.8	16.6	16.8	17.8	17.7	21.3	19.2	18.3	597.1	630.6	633.1
2	Arunachal Pradesh	129	95	134	158	11.0	8.0	11.2	13.0	58.4	43.0	60.6	71.5	74.9	54.5	81.2
3	Assam	1841	1604	1807	1991	6.4	5.5	6.1	6.7	20.1	15.7	16.2	16.1	85.3	71.8	78.5
4	Bihar	2396	3482	3940	4390	2.6	3.8	4.2	4.6	16.7	22.1	22.7	22.4	199.5	289.9	328.0
5	Chhattisgarh	2374	2607	2966	2865	10.5	11.4	12.7	12.1	15.4	15.0	15.4	13.6	321.3	353.7	398.5
6	Goa	303	322	318	321	20.3	20.9	19.9	19.4	5.7	5.6	5.1	4.8	290.8	306.0	300.9
7	Gujarat	6161	6915	7070	6983	11.2	12.4	12.5	12.2	7.1	7.3	6.9	6.3	425.6	474.8	482.2
8	Haryana	4012	4415	4494	4603	17.2	18.6	18.6	18.7	13.0	12.5	11.3	10.4	1380.8	1501.9	1511.8
9	Himachal Pradesh	867	979	848	1140	13.4	15.0	12.9	17.1	26.0	28.6	22.9	23.1	367.2	280.1	233.6
10	Jammu & Kashmir	989	958	950	1100	9.0	8.6	8.4	9.6	18.9	16.8	15.3	16.5	448.7	434.3	425.6
11	Jharkhand	1914	2081	1979	2170	6.5	7.0	6.6	7.1	12.7	12.3	10.7	10.6	1060.1	1151.6	1128.9
12	Karnataka	7973	8777	8814	8714	14.2	15.4	15.3	15.0	12.8	16.0	14.2	12.5	372.2	345.7	345.0
13	Kerala	3627	3778	3901	3830	10.9	11.3	11.5	11.2	10.2	9.5	8.8	7.9	193.8	191.3	190.5
14	Madhya Pradesh	5318	6671	6670	7365	8.0	9.9	9.7	10.5	11.5	13.2	12.1	12.3	322.7	403.3	402.4
15	Maharashtra	11343	11212	12397	11396	10.8	10.5	11.5	10.4	10.3	9.2	9.3	7.9	514.5	502.5	555.1
16	Manipur	159	114	151	125	6.9	4.9	6.4	5.2	12.8	8.5	10.2	8.5	96.4	69.1	91.5
17	Meghalaya	165	127	123	145	6.7	5.1	4.9	5.7	15.8	10.9	9.6	10.2	170.3	130.2	125.0
18	Mizoram	64	50	63	60	6.8	5.2	6.5	6.1	12.3	8.2	9.7	8.6	107.1	81.4	102.3
19	Nagaland	68	89	70	55	3.2	4.1	3.2	2.5	3.7	4.2	3.1	2.3	30.8	40.6	31.4
20	Orissa	2755	3000	3079	3527	7.1	7.6	7.8	8.8	14.3	14.0	13.0	13.5	128.0	139.3	142.9
21	Punjab	3052	3363	3206	3668	11.7	12.7	12.0	13.6	7.6	7.8	7.0	7.6	675.7	745.1	709.6
22	Rajasthan	7154	8145	8388	9045	11.5	12.8	13.0	13.8	15.0	15.3	14.2	13.9	469.3	509.4	489.2
23	Sikkim	70	52	79	87	12.2	8.9	13.4	14.5	31.8	21.1	30.4	30.5	330.5	277.6	421.8
24	Tamil Nadu	11009	12036	12784	13746	16.9	18.3	19.3	20.7	10.9	11.0	10.7	10.7	613.8	665.6	705.5
25	Tripura	196	223	221	229	5.8	6.5	6.3	6.5	18.5	18.7	16.9	15.9	61.8	70.3	69.6
26	Uttarakhand	975	992	1073	852	10.6	10.6	11.3	8.8	15.2	15.4	14.7	10.8	270.4	253.3	261.4
27	Uttar Pradesh	10851	11398	13165	14638	5.9	6.1	6.9	7.6	13.6	12.5	13.4	13.6	411.7	418.5	462.5
28	West Bengal	4600	4745	4789	4860	5.4	5.5	5.5	5.5	16.0	14.8	17.3	16.0	231.1	227.7	226.1
	UTs															
1	Andaman & Nicobar Islands	22	23	22	33	5.3	5.3	4.9	7.1	5.4	4.8	4.1	5.5	169.1	176.5	169.1
2	Chandigarh	142	151	148	171	12.9	13.0	12.1	13.2	2.2	2.2	2.1	2.3	670.4	712.9	698.8
3	Dadra & Nagar Haveli	45	66	65	45	16.9	23.5	21.7	14.2	10.1	12.9	11.3	7.1	712.0	1044.3	1028.5
4	Daman & Diu	27	29	29	33	12.5	12.8	12.2	13.3	4.9	4.7	4.3	4.7	1210.8	1300.4	1294.6
5	Delhi	2169	2141	2093	2325	13.5	13.0	12.3	13.3	4.8	3.9	3.5	3.7	736.2	726.3	708.1
6	Lakshadweep	1	0	0	2	1.4	0.0	0.0	2.7	1.6	0.0	0.0	2.8	60.2	0.0	0.0
7	Puducherry	217	255	212	218	19.8	22.3	17.6	17.2	5.6	5.9	4.4	4.1	827.0	945.8	786.4
	Total	**105749**	**114444**	**119860**	**125660**	**9.5**	**10.1**	**10.5**	**10.8**	**11.8**	**11.8**	**11.4**	**10.9**	**365.8**	**382.0**	**393.3**

P: Provisional , * Exludes road length under Pradhan Mantri Gram Sadak Yojana and erstwhile Jawahar Rozgar Yojana..
Road Length Data is available upto 2008.

Annex-IIIA

Total Number of Road Accidents on National Highways* in 2006 to 2009

Sl. No.	States/UTs	Total Number of Road Accidents as on 31st December			
		2006	2007	2008	2009
1	2	3	4	5	6
	States				
1	Andhra Pradesh	15188	13040	12327	11856
2	Arunachal Pradesh	109	67	101	113
3	Assam	2758	2334	2683	2808
4	Bihar	2695	3159	3862	4305
5	Chhattisgarh	4608	3421	4001	4622
6	Goa	1225	1398	1593	1467
7	Gujarat	7030	7253	7025	6640
8	Haryana	3492	4042	3990	4086
9	Himachal Pradesh	1086	1947	1080	1066
10	Jammu & Kashmir	2013	2385	2365	2637
11	Jharkhand	1849	1718	1860	1894
12	Karnataka	13212	13310	12949	13893
13	Kerala	10619	11000	9997	9425
14	Madhya Pradesh	11216	10468	10359	10769
15	Maharashtra	14448	13563	13866	12911
16	Manipur	310	307	292	320
17	Meghalaya	294	153	186	235
18	Mizoram	32	23	58	45
19	Nagaland	98	121	36	37
20	Orissa	3589	3699	3635	4216
21	Punjab	1811	2240	1903	1684
22	Rajasthan	7960	8218	7811	7932
23	Sikkim	51	38	47	211
24	Tamil Nadu	17763	19910	19158	21198
25	Tripura	383	445	270	295
26	Uttarakhand	647	788	818	792
27	Uttar Pradesh	7892	8105	9795	10917
28	West Bengal	5082	4343	4621	4714
	UTs				
1	Andaman & Nicobar Islands	0	0	37	54
2	Chandigarh	86	99	89	64
3	Dadra & Nagar Haveli	0	0	0	0
4	Daman & Diu	0	0	0	0
5	Delhi	1826	956	875	796
6	Lakshadweep	0	0	0	0
7	Puducherry	786	372	306	509
	Total	**140158**	**138922**	**137995**	**142511**

* Includes Expressways

Annex- III B

Total Number of Persons Killed in Road Accidents on National Highways* in 2006 to 2009

Sl. No.	States/UTs	2006	2007	2008	2009(P)
1	2	3	4	5	6
	States				
1	Andhra Pradesh	5034	4370	4172	4655
2	Arunachal Pradesh	55	23	28	49
3	Assam	1199	983	1245	1275
4	Bihar	1198	1555	1868	1993
5	Chhattisgarh	749	790	1002	1093
6	Goa	113	143	134	125
7	Gujarat	1661	1812	1857	1958
8	Haryana	1615	1765	1775	1800
9	Himachal Pradesh	354	585	258	324
10	Jammu & Kashmir	377	404	487	446
11	Jharkhand	592	746	882	455
12	Karnataka	2828	2921	2838	3147
13	Kerala	1309	1453	1403	1373
14	Madhya Pradesh	1697	1857	1909	2198
15	Maharashtra	3567	3148	3662	3359
16	Manipur	100	63	81	61
17	Meghalaya	110	77	73	100
18	Mizoram	22	12	35	30
19	Nagaland	40	49	31	28
20	Orissa	1322	1389	1472	1769
21	Punjab	1140	1346	1149	1140
22	Rajasthan	3028	3059	3495	3432
23	Sikkim	20	12	15	22
24	Tamil Nadu	3982	4430	4417	5282
25	Tripura	92	124	65	90
26	Uttarakhand	510	504	634	475
27	Uttar Pradesh	4492	4580	5210	5958
28	West Bengal	1951	2026	2115	2143
	UTs				
1	Andaman & Nicobar Islands	0	0	6	9
2	Chandigarh	29	45	36	35
3	Dadra & Nagar Haveli	0	0	0	0
4	Daman & Diu	0	0	0	0
5	Delhi	518	286	278	329
6	Lakshadweep	0	0	0	0
7	Puducherry	116	55	38	69
	Total	**39820**	**40612**	**42670**	**45222**

(P): Provisional

*: Includes Expressways

Annex- III C

Total Number of Persons Injured in Road Accidents on National Highways* in 2006 to 2009

Sl. No.	States/UTs	2006	2007	2008	2009(P)
1	2	3	4	5	6
	States				
1	Andhra Pradesh	19494	17263	15600	14096
2	Arunachal Pradesh	136	110	128	231
3	Assam	3143	3351	2840	2938
4	Bihar	1630	2306	2520	3050
5	Chhattisgarh	2620	3058	3850	5512
6	Goa	1028	1179	1263	1015
7	Gujarat	7051	7445	7239	6649
8	Haryana	3171	3571	3701	3671
9	Himachal Pradesh	1925	2955	1697	1755
10	Jammu & Kashmir	3346	4390	3112	3217
11	Jharkhand	1083	898	609	509
12	Karnataka	17334	16704	17682	15613
13	Kerala	12162	13369	12104	11162
14	Madhya Pradesh	12294	10706	11566	11922
15	Maharashtra	13613	11440	13061	11558
16	Manipur	609	582	614	692
17	Meghalaya	182	258	256	314
18	Mizoram	40	18	125	105
19	Nagaland	130	99	153	86
20	Orissa	4235	5082	4296	5198
21	Punjab	1372	1828	1156	1440
22	Rajasthan	9999	10240	10273	10363
23	Sikkim	68	40	36	145
24	Tamil Nadu	21173	24330	22059	25272
25	Tripura	677	760	511	430
26	Uttarakhand	877	1045	896	962
27	Uttar Pradesh	5552	5939	6820	8011
28	West Bengal	5287	4607	4400	5594
	UTs				
1	Andaman & Nicobar Islands	27	0	55	74
2	Chandigarh	98	132	83	33
3	Dadra & Nagar Haveli	0	0	0	0
4	Daman & Diu	0	0	0	0
5	Delhi	1566	800	697	679
6	Lakshadweep	0	0	0	0
7	Puducherry	885	375	291	520
	Total	**152807**	**154880**	**149693**	**152816**

(P): Provisional

*: Includes Expressways

Annex- IV A

Total Number of Road Accidents on State Highways in 2006 to 2009

Sl. No.	States/UTs	2006	2007	2008	2009(P)
1	2	3	4	5	6
	States				
1	Andhra Pradesh	10953	9979	10634	9887
2	Arunachal Pradesh	82	88	115	114
3	Assam	946	1010	849	1034
4	Bihar	1702	1971	1499	2719
5	Chhattisgarh	3356	3265	3814	3564
6	Goa	421	536	610	787
7	Gujarat	9071	9630	10167	9210
8	Haryana	3202	3752	3611	3693
9	Himachal Pradesh	792	845	597	806
10	Jammu & Kashmir	1286	745	971	1054
11	Jharkhand	1438	1766	968	1165
12	Karnataka	10004	15034	15723	12500
13	Kerala	5444	7215	6452	6637
14	Madhya Pradesh	12115	10645	9875	10987
15	Maharashtra	11957	13402	13307	12230
16	Manipur	111	137	173	165
17	Meghalaya	109	79	79	122
18	Mizoram	26	36	31	18
19	Nagaland	54	58	19	18
20	Orissa	2088	2198	1964	2386
21	Punjab	1434	1047	1497	1431
22	Rajasthan	2175	2870	2581	2913
23	Sikkim	34	26	36	159
24	Tamil Nadu	17013	17848	24912	18944
25	Tripura	211	306	438	464
26	Uttarakhand	464	335	269	293
27	Uttar Pradesh	5961	7396	8130	8783
28	West Bengal	3591	3170	3237	2600
	UTs				
1	Andaman & Nicobar Islands	0	0	0	0
2	Chandigarh	0	0	100	81
3	Dadra & Nagar Haveli	0	0	0	0
4	Daman & Diu	0	0	0	0
5	Delhi	1592	1133	919	952
6	Lakshadweep	0	0	0	0
7	Puducherry	0	386	395	276
	Total	**107632**	**116908**	**123972**	**115992**

(P): Provisional

Annex- IV B

Total Number of Persons Killed on State Highways in 2006 to 2009

Sl. No.	States/UTs	2006	2007	2008	2009(P)
1	2	3	4	5	6
	States				
1	Andhra Pradesh	3399	3345	3742	3881
2	Arunachal Pradesh	43	38	78	65
3	Assam	293	315	276	351
4	Bihar	709	814	962	1145
5	Chhattisgarh	577	726	862	725
6	Goa	40	47	49	53
7	Gujarat	2105	2575	2539	2514
8	Haryana	1375	1525	1550	1575
9	Himachal Pradesh	213	338	157	231
10	Jammu & Kashmir	238	125	141	210
11	Jharkhand	473	679	376	239
12	Karnataka	1963	2885	3000	2609
13	Kerala	489	778	767	775
14	Madhya Pradesh	1534	1789	1628	1907
15	Maharashtra	3389	3971	4056	3769
16	Manipur	25	30	49	44
17	Meghalaya	33	34	34	35
18	Mizoram	13	25	20	14
19	Nagaland	19	19	18	19
20	Orissa	710	803	625	955
21	Punjab	780	747	846	885
22	Rajasthan	774	1077	1035	1268
23	Sikkim	8	8	12	18
24	Tamil Nadu	3418	3731	5165	4510
25	Tripura	46	74	128	112
26	Uttarakhand	261	194	150	151
27	Uttar Pradesh	3258	3456	4210	4490
28	West Bengal	1667	1162	1210	1118
	UTs				
1	Andaman & Nicobar Islands	0	0	0	0
2	Chandigarh	0	0	28	35
3	Dadra & Nagar Haveli	0	0	0	0
4	Daman & Diu	0	0	0	0
5	Delhi	463	319	307	353
6	Lakshadweep	0	0	0	0
7	Puducherry	0	59	61	37
	Total	**28315**	**31688**	**34081**	**34093**

(P): Provisional

Annex- IV C

Total Number of Persons Injured on State Highways in 2006 to 2009

Sl. No.	States/UTs	2006	2007	2008	2009(P)
1	2	3	4	5	6
	States				
1	Andhra Pradesh	14857	13760	15045	12247
2	Arunachal Pradesh	130	228	163	173
3	Assam	1173	1084	1018	1281
4	Bihar	1097	1620	1498	1960
5	Chhattisgarh	2259	2969	3696	3550
6	Goa	332	360	480	602
7	Gujarat	10527	10881	11218	10291
8	Haryana	3097	3497	3577	3545
9	Himachal Pradesh	1289	1145	1145	1307
10	Jammu & Kashmir	1939	1148	1333	1453
11	Jharkhand	1210	1128	355	184
12	Karnataka	15474	20673	21671	17622
13	Kerala	6678	8186	7395	7942
14	Madhya Pradesh	12123	11111	11731	13197
15	Maharashtra	13209	13880	14886	12859
16	Manipur	203	322	378	351
17	Meghalaya	170	78	78	266
18	Mizoram	47	35	31	40
19	Nagaland	86	49	32	37
20	Orissa	2931	3093	2631	3270
21	Punjab	1486	1156	1707	1072
22	Rajasthan	2465	3860	3442	3934
23	Sikkim	41	20	17	120
24	Tamil Nadu	20324	22021	28192	22278
25	Tripura	335	474	870	772
26	Uttarakhand	615	373	314	314
27	Uttar Pradesh	3991	4506	5966	6605
28	West Bengal	3921	5196	3567	3059
	UTs				
1	Andaman & Nicobar Islands	0	0	0	0
2	Chandigarh	0	0	87	58
3	Dadra & Nagar Haveli	0	0	0	0
4	Daman & Diu	0	0	0	0
5	Delhi	1402	1002	730	857
6	Lakshadweep	0	0	0	0
7	Puducherry	0	404	455	271
	Total	**123411**	**134259**	**143708**	**131517**

(P): Provisional

Annex-V

Total Number of Road Accidents in States/UTs Classified According to Cause of Accidents in 2009

Sl. No.	States/UTs	Fault of Driver			Fault of Cyclist			Fault of Pedestrian		
		Total No. of Accidents	No. of Persons		Total No. of Accidents	No. of Persons		Total No. of Accidents	No. of Persons	
			Killed	Injured		Killed	Injured		Killed	Injured
1	2	3	4	5	6	7	8	9	10	11
1	Andhra Pradesh	31646	9894	33330	319	105	588	284	128	616
2	Arunachal Pradesh	0	0	0	5	0	5	11	2	10
3	Assam	4633	1882	5439	74	43	28	103	54	40
4	Bihar	5799	2730	4047	204	75	115	258	81	203
5	Chhattisgarh	8205	1670	8441	364	29	498	335	90	285
6	Goa	3215	250	2366	80	4	51	326	46	192
7	Gujarat	27100	6193	29304	685	130	646	2245	439	2038
8	Haryana	8986	3490	8272	196	75	103	371	151	266
9	Himachal Pradesh	2614	981	4993	2	3	1	16	3	45
10	Jammu & Kashmir	5224	946	6987	0	0	0	0	0	0
11	Jharkhand	3526	1509	3000	51	19	33	64	38	64
12	Karnataka	40286	7689	54831	131	22	179	116	34	179
13	Kerala	34820	3716	40834	16	4	13	109	18	99
14	Madhya Pradesh	39216	6132	45376	341	45	347	589	122	643
15	Maharashtra	57615	7852	35362	461	107	510	1902	931	2014
16	Manipur	346	61	644	0	0	0	0	0	0
17	Meghalaya	90	51	358	50	12	54	29	7	21
18	Mizoram	71	52	166	0	0	0	0	0	0
19	Nagaland	0	0	0	0	0	0	0	0	0
20	Orissa	4904	1978	5854	116	57	137	140	47	120
21	Punjab	3525	2314	2568	82	38	40	35	8	8
22	Rajasthan	23681	8546	30248	93	30	222	119	37	140
23	Sikkim	249	40	194	0	0	0	6	1	4
24	Tamil Nadu	52462	11718	60798	685	224	765	2329	479	2748
25	Tripura	828	220	1300	14	3	17	0	0	0
26	Uttarakhand	1100	686	1443	32	16	37	0	0	0
27	Uttar Pradesh	12336	6053	7583	1357	795	1054	1092	666	823
28	West Bengal	6649	2909	2845	363	148	268	343	120	334
	UTs									
1	A & N Islands	271	33	342	0	0	0	0	0	0
2	Chandigarh	424	171	321	0	0	0	0	0	0
3	Dadra & Nagar Haveli	79	45	71	0	0	0	0	0	0
4	Daman & Diu	50	23	66	0	0	0	0	0	0
5	Delhi	0	0	0	0	0	0	0	0	0
6	Lakshadweep	4	2	3	0	0	0	0	0	0
7	Puducherry	1694	217	1727	2	0	2	0	0	0
	Total	**381648**	**90053**	**399113**	**5723**	**1984**	**5713**	**10822**	**3502**	**10892**

Annex-V (contd)

Total Number of Road Accidents in States/UTs Classified According to Cause of Accidents in 2009

Sl. No.	States/UTs	Defect in Condition of Motor Vehicle			Defect in Road Condition			Weather Condition			All Other Causes *		
		Total No. of Accidents	No. of Persons		Total No. of	No. of Persons		Total No. of	No. of Persons		Total No. of	No. of Persons	
			Killed	Injured		Killed	Injured		Killed	Injured		Killed	Injured
1	2	12	13	14	15	16	17	18	19	20	21	22	23
1	Andhra Pradesh	637	314	1017	1051	372	1594	547	230	1053	9116	3727	13959
2	Arunachal Pradesh	50	56	102	44	20	94	50	24	89	146	56	230
3	Assam	0	0	0	0	0	0	0	0	0	59	12	15
4	Bihar	348	141	300	250	108	181	214	122	135	2992	1133	2132
5	Chhattisgarh	863	230	720	234	60	243	269	81	260	2618	705	2827
6	Goa	102	8	61	26	3	17	7	0	1	409	10	266
7	Gujarat	114	30	116	63	12	85	59	6	26	768	173	729
8	Haryana	211	71	178	179	60	115	189	91	117	1783	665	1430
9	Himachal Pradesh	39	17	78	60	11	134	2	2	0	318	123	328
10	Jammu & Kashmir	2	0	4	4	8	42	6	0	10	709	146	1156
11	Jharkhand	160	86	156	50	31	44	198	96	179	947	391	930
12	Karnataka	353	93	455	319	55	445	264	41	314	3721	780	5294
13	Kerala	289	62	242	27	9	18	0	0	0	172	21	196
14	Madhya Pradesh	884	131	972	700	116	746	224	32	239	5313	787	6288
15	Maharashtra	835	183	498	510	86	358	52	18	38	10621	2219	9098
16	Manipur	161	51	381	10	0	13	0	0	0	61	13	151
17	Meghalaya	90	26	110	19	9	33	7	2	5	113	38	132
18	Mizoram	9	4	34	6	3	3	0	0	0	0	1	0
19	Nagaland	10	18	8	0	0	0	0	0	0	53	37	143
20	Orissa	669	252	828	897	407	1124	378	142	519	1783	644	2714
21	Punjab	72	56	71	95	80	66	133	60	146	1628	1112	1587
22	Rajasthan	51	16	157	222	54	293	5	6	5	943	356	1252
23	Sikkim	190	28	151	0	0	0	39	6	30	80	12	55
24	Tamil Nadu	621	108	753	614	121	733	88	13	115	3995	1083	4592
25	Tripura	10	4	6	0	0	0	0	0	0	13	2	19
26	Uttarakhand	65	38	81	36	26	36	6	3	5	162	83	182
27	Uttar Pradesh	1366	831	1073	715	249	592	780	381	918	10509	5663	8589
28	West Bengal	525	327	655	397	188	359	362	140	437	2495	1028	7288
	UTs												
1	A & N Islands	0	0	0	0	0	0	0	0	0	0	0	0
2	Chandigarh	0	0	0	0	0	0	0	0	0	0	0	0
3	Dadra & Nagar Haveli	0	0	0	0	0	0	0	0	0	0	0	0
4	Daman & Diu	0	0	0	0	0	0	0	0	0	13	10	3
5	Delhi #	0	0	0	0	0	0	0	0	0	7516	2325	6936
6	Lakshadweep	0	0	0	0	0	0	0	0	0	0	0	0
7	Puducherry	0	0	0	0	0	0	0	0	0	2	1	3
	Total	**8726**	**3181**	**9207**	**6528**	**2088**	**7368**	**3879**	**1496**	**4641**	**69058**	**23356**	**78524**

* : Includes Fault of Driver of other vehicles, Fault of Passengers, Poor light condition, Falling of boulders, Neglect of civic bodies, Stray animals, other causes and causes not known.

#: Data pertaining to Delhi is clubbed with All Other Causes due to non-submission of break-up.

Annex - VI

Accidents caused due to Intake of Alcohol/Drugs and Exceeding Lawful Speed by drivers in States/Uts 2009

Sl. No.	State	Accidents caused due to intake of alcohol/drugs			Accident caused due to Exceeded Lawful Speed		
		No. of Accidents	No. of Persons		No. of Accidents	No. of Persons	
		Total	Killed	Injured	Total	Killed	Injured
1	2	3	4	5	6	7	8
1	Andhra Pradesh	4469	1668	4538	18811	6407	22860
2	Arunachal Pradesh	20	9	31	66	35	98
3	Assam	279	129	259	3175	1244	3783
4	Bihar	1011	422	695	3288	1551	2168
5	Chhattisgarh	266	64	326	6839	1474	7002
6	Goa	15	0	9	2322	211	1765
7	Gujarat	1339	170	1251	18985	4611	20572
8	Haryana	381	131	299	5451	2080	5444
9	Himachal Pradesh	51	28	90	2027	764	3789
10	Jammu & Kashmir	62	9	62	3897	709	5342
11	Jharkhand	695	273	637	2241	995	1948
12	Karnataka	967	212	1457	23177	4501	30967
13	Kerala	63	8	68	19621	2307	22697
14	Madhya Pradesh	4480	681	5594	25506	4284	31008
15	Maharashtra	1868	896	4472	31534	4404	18090
16	Manipur	138	15	215	225	42	491
17	Meghalaya	39	11	37	45	26	52
18	Mizoram	15	6	50	17	15	48
19	Nagaland	0	0	0	0	0	0
20	Orissa	813	335	615	1156	406	1816
21	Punjab	488	323	433	1871	1219	1451
22	Rajasthan	1139	311	1284	12118	4681	15461
23	Sikkim	0	0	0	100	15	79
24	Tamil Nadu	2208	538	2661	23236	5695	26701
25	Tripura	0	0	0	798	209	1245
26	Uttarakhand	4	3	1	785	473	926
27	Uttar Pradesh	4404	2127	2989	5578	2880	4525
28	West Bengal	1894	932	2148	3687	1576	3710
	UTs						
1	Andaman & Nicobar Islands	27	4	33	123	19	165
2	Chandigarh	0	0	0	225	88	167
3	Dadra & Nagar Haveli	0	0	0	79	45	71
4	Daman & Diu	0	0	0	28	14	44
5	Delhi	8	0	0	616	0	0
6	Lakshadweep	1	2	0	3	0	3
7	Puducherry	8	0	10	1675	212	1709
	Total	27152	9307	30264	219305	53192	236197

This Table is to be used in conjunction with Table V

Annex-VII

Accidents Caused due to Over-Loading/Over-Crowding/Load Protruding, 2009

Sl. No.	State/Uts	Accidents caused due to Overloading/Overcrowding			Accidents Caused due to Load Protruding			Total Accidents in the State/UT		
		No. of Accidents	No. of Persons		No. of Accidents	No. of Persons		No. of Accidents	No. of Persons	
		Total	Killed	Injured	Total	Killed	Injured	Total	Killed	Injured
1	2	3	4	5	6	7	8	9	10	11
	States									
1	Andhra Pradesh	10021	3225	12683	4774	1627	6165	43600	14770	52157
2	Arunachal Pradesh	24	18	38	7	2	16	306	158	530
3	Assam	1205	345	1756	136	56	115	4869	1991	5522
4	Bihar	2999	1207	2156	1149	449	876	10065	4390	7113
5	Chhattisgarh	1450	375	1738	1675	360	1686	12888	2865	13274
6	Goa	112	12	56	183	15	90	4165	321	2954
7	Gujarat	4169	1046	3474	969	210	1076	31034	6983	32944
8	Haryana	3623	1590	3790	399	135	416	11915	4603	10481
9	Himachal Pradesh	1172	409	1985	931	262	1788	3051	1140	5579
10	Jammu & Kashmir	1181	303	1596	1136	193	1244	5945	1100	8199
11	Jharkhand	859	374	734	291	96	283	4996	2170	4406
12	Karnataka	9819	2043	15039	4715	769	6482	45190	8714	61697
13	Kerala	910	79	961	179	17	203	35433	3830	41402
14	Madhya Pradesh	16928	2634	18528	3664	559	4624	47267	7365	54611
15	Maharashtra	7352	2618	7677	2567	784	2229	71996	11396	47878
16	Manipur	312	72	795	266	50	394	578	125	1189
17	Meghalaya	0	0	0	32	8	31	398	145	713
18	Mizoram	0	4	15	1	1	0	86	60	203
19	Nagaland	0	0	0	0	0	0	63	55	151
20	Orissa	2044	1262	3954	890	349	1546	8887	3527	11296
21	Punjab	1910	976	1119	711	516	557	5570	3668	4486
22	Rajasthan	2203	1000	2973	258	105	368	25114	9045	32317
23	Sikkim	70	11	54	95	15	72	564	87	434
24	Tamil Nadu	16176	3608	19311	2892	642	3517	60794	13746	70504
25	Tripura	374	91	670	304	77	444	865	229	1342
26	Uttarakhand	314	183	357	286	210	476	1401	852	1784
27	Uttar Pradesh	7014	3446	4403	3214	1768	2580	28155	14638	20632
28	West Bengal	3621	1493	3847	457	144	364	11134	4860	12186
	UTs									
1	Andaman & Nicobar Islands	138	19	138	8	0	13	271	33	342
2	Chandigarh	0	0	0	0	0	0	424	171	321
3	Dadra & Nagar Haveli#	0	0	0	0	0	0	79	45	71
4	Daman & Diu	0	0	0	0	0	0	63	33	69
5	Delhi#	0	0	0	0	0	0	7516	2325	6936
6	Lakshadweep	0	0	0	0	0	0	4	2	3
7	Puducherry	12	1	9	0	0	0	1698	218	1732
	Total	96012	28444	109856	32189	9419	37655	486384	125660	515458

: Break-up not available.

Annex-VIII

Road Accidents classified according to types of vehicles and objects primarily responsible, 2009

Sl. No.	States/UTs	Two-Wheelers				Auto-Rickshaws				Cars, Jeeps, Taxis			
		Total	Fatal	Killed	Injured	Total	Fatal	Killed	Injured	Total	Fatal	Killed	Injured
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	States												
1	Andhra Pradesh	6585	2136	1904	6771	6028	1463	1230	8984	5348	1577	1435	6396
2	Arunachal Pradesh	109	46	50	77	17	6	6	23	86	34	44	103
3	Assam	855	261	279	677	257	54	65	274	1103	396	471	1264
4	Bihar	1234	480	503	839	443	135	142	394	1814	665	714	1643
5	Chhattisgarh	3863	532	590	3846	250	23	31	255	2828	406	450	3155
6	Goa	1896	168	183	1289	62	2	2	42	862	30	35	696
7	Gujarat	7351	1184	1288	7208	3550	457	525	4251	5249	1007	1194	6159
8	Haryana	1255	302	343	1560	472	134	184	354	2929	901	1025	2538
9	Himachal Pradesh	736	139	170	931	22	3	2	39	1189	284	440	2293
10	Jammu & Kashmir	762	92	104	857	174	19	20	212	1224	126	162	1494
11	Jharkhand	1092	421	445	816	228	62	72	237	761	268	293	764
12	Karnataka	10731	1700	1837	12791	3505	411	465	5472	8559	1182	1332	12042
13	Kerala	11727	882	909	11453	4911	231	248	5905	8460	905	984	10343
14	Madhya Pradesh	15659	1240	1327	17717	1739	110	122	2016	10515	1203	1426	11974
15	Maharashtra	14579	2306	1231	7454	6080	565	670	4379	19150	1612	2364	10620
16	Manipur	127	16	17	176	58	4	4	127	148	13	14	304
17	Meghalaya	40	10	11	67	16	6	7	19	128	38	49	175
18	Mizoram	24	13	13	14	3	1	2	8	20	11	12	36
19	Nagaland	0	0	0	0	10	4	8	4	20	8	19	7
20	Orissa	1855	579	656	1972	413	124	133	511	1458	378	460	1904
21	Punjab	613	326	367	501	100	39	49	122	1162	685	777	850
22	Rajasthan	5649	1351	1404	5995	545	98	111	940	6882	1969	2231	9061
23	Sikkim	0	0	0	0	0	0	0	0	552	52	84	425
24	Tamil Nadu	14077	2650	2595	15202	3335	476	421	3605	8764	1565	1770	11095
25	Tripura	114	34	36	105	136	28	29	211	189	38	41	368
26	Uttarakhand	207	85	93	187	29	13	16	17	399	176	234	524
27	Uttar Pradesh	4639	2030	2476	3193	591	206	296	633	5817	2466	2882	4486
28	West Bengal	1365	494	582	595	385	96	113	398	1790	547	654	1191
	UTs												
1	Andaman & Nicobar Islands	85	9	9	95	29	3	3	36	82	7	9	120
2	Chandigarh	64	17	24	68	9	4	2	6	222	70	73	183
3	Dadra & Nagar Haveli	19	16	17	13	6	2	2	9	12	6	6	11
4	Daman & Diu	20	12	12	22	4	3	3	11	11	1	1	17
5	Delhi	1017	178	184	1026	207	31	32	233	2012	252	255	2243
6	Lakshadweep	4	1	2	3	0	0	0	0	0	0	0	0
7	Puducherry	647	66	67	673	63	2	2	70	258	16	16	270
	Total	**109000**	**19776**	**19728**	**104193**	**33677**	**4815**	**5017**	**39797**	**100003**	**18894**	**21956**	**104754**

Annex-VIII (contd.)

Road Accidents classified according to types of vehicles and objects primarily responsible, 2009

		Buses				Trucks, Tempos/MAVs & Tractors				Other Motor Vehicles				Other Vehicles/Objects*			
		Total	Fatal	Killed	Injured	Total	Fatal	Killed	Injured	Total	Fatal	Killed	Injured	Total	Fatal	Killed	Injured
1	2	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	States																
1	Andhra Pradesh	3166	1180	1087	3941	9200	4018	3477	9651	11597	1921	5042	14307	1676	381	595	2107
2	Arunachal Pradesh	15	4	9	119	40	12	18	67	39	12	31	141	0	0	0	0
3	Assam	740	276	348	1301	1166	466	515	1380	512	169	204	543	236	113	109	83
4	Bihar	1532	696	749	1069	3544	1649	1795	2191	662	196	259	421	836	217	228	556
5	Chhattisgarh	889	190	209	1264	3165	864	964	2943	1640	473	534	1626	253	78	87	185
6	Goa	228	11	12	250	499	32	34	313	54	0	0	36	564	55	55	328
7	Gujarat	1386	305	366	1820	7744	1912	2203	7907	1820	501	617	1959	3934	746	790	3640
8	Haryana	715	305	333	694	3279	1281	1435	2757	1411	590	594	1540	1854	714	689	1038
9	Himachal Pradesh	308	77	206	1044	612	211	265	945	169	43	54	306	15	3	3	21
10	Jammu & Kashmir	750	115	252	1616	1490	204	251	1730	1510	210	301	2241	35	7	10	49
11	Jharkhand	522	222	246	516	1530	685	689	1348	396	186	168	275	467	198	257	450
12	Karnataka	4825	919	1045	8121	11782	2504	2850	15881	4300	699	860	5409	1488	302	325	1981
13	Kerala	4753	691	772	7334	3870	550	604	4543	1560	272	288	1682	152	25	25	142
14	Madhya Pradesh	3580	652	861	5779	11484	2412	2766	12923	3746	721	766	3723	544	77	97	479
15	Maharashtra	3588	346	550	3736	14218	2790	3044	9173	8682	918	1528	5997	5699	1606	2009	6519
16	Manipur	74	17	29	279	118	37	48	205	53	12	13	98	0	0	0	0
17	Meghalaya	48	20	23	210	56	27	28	111	35	8	8	56	75	15	19	75
18	Mizoram	5	5	11	72	17	11	12	33	17	10	10	40	0	0	0	0
19	Nagaland	11	3	10	4	5	5	4	1	5	5	3	133	12	8	11	2
20	Orissa	917	260	301	1970	3238	1307	1512	3595	646	258	308	971	360	137	157	373
21	Punjab	666	377	447	514	1731	1047	1151	1388	1063	584	697	722	235	158	180	389
22	Rajasthan	2161	735	893	4015	7122	2763	3143	8865	2754	1093	1262	3441	1	1	1	0
23	Sikkim	**0**	0	0	**0**	6	2	2	4	0	0	0	0	6	1	1	5
24	Tamil Nadu	6206	1496	1862	8805	10255	2504	2432	11899	4594	1201	1372	4231	13563	2835	3294	15667
25	Tripura	58	17	17	99	202	57	60	273	143	37	41	257	23	5	5	29
26	Uttarakhand	189	89	150	535	443	239	270	420	116	67	81	87	18	7	8	14
27	Uttar Pradesh	2324	991	1093	1913	7761	3779	4115	5279	3172	1458	1584	2184	3851	1749	2192	2944
28	West Bengal	1392	190	693	1694	3661	1546	1711	1967	1830	949	724	5729	711	313	383	612
	UTs																
1	Andaman & Nicobar Islanc	35	7	7	47	38	4	4	43	2	1	1	1	0	0	0	0
2	Chandigarh	27	14	16	13	55	30	30	23	8	4	4	4	39	25	22	24
3	Dadra & Nagar Haveli	5	2	2	3	23	8	9	26	14	9	9	9	0	0	0	0
4	Daman & Diu	2	2	2	1	19	10	11	12	7	4	4	6	0	0	0	0
5	Delhi	799	269	272	771	1350	512	537	1257	161	47	53	187	1970	983	992	1219
6	Lakshadweep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Puducherry	269	44	45	245	325	82	84	279	132	3	3	190	4	1	1	5
	Total	**42185**	**10527**	**12918**	**59794**	**110048**	**33560**	**36073**	**109432**	**52850**	**12661**	**17423**	**58552**	**38621**	**10760**	**12545**	**38936**

Note: Cars includes jeeps & taxis, Two-Wheelers includes Motor cycle, Scooter & Moped.

* Other Vehicles/Objects incluses Cycle, Cycle rickshaws, Hand drawn vehicle, Pedestrian, Animal, Tree, Level crossing & Other fixed objects

Annex - IX

Percentage share in Total Registered Motor Vehicles in India as on 31st March

1	2	3	4	5
States/UT	**2006**	**2007**	2008	**2009**
Andhra Pradesh	8.1	6.6	6.8	7.0
Arunachal Pradesh	0.0	0.0	0.0	0.0
Assam	1.0	1.1	1.1	1.1
Bihar	1.6	1.6	1.7	1.7
Chhattisgarh	1.7	1.8	1.8	1.8
Goa	0.6	0.6	0.6	0.6
Gujarat	9.6	9.8	9.8	9.6
Haryana	3.4	3.6	3.8	3.8
Himachal Pradesh	0.4	0.4	0.4	0.4
Jammu & Kashmir	0.6	0.6	0.6	0.6
Jharkhand	1.7	1.7	1.8	1.8
Karnataka	6.9	5.7	5.9	6.0
Kerala	4.0	4.1	4.2	4.2
Madhya Pradesh	5.1	5.2	5.2	5.2
Maharashtra	12.2	12.6	12.7	12.6
Manipur	0.1	0.1	0.1	0.1
Meghalaya	0.1	0.1	0.1	0.1
Mizoram	0.1	0.1	0.1	0.1
Nagaland	0.2	0.2	0.2	0.2
Orissa	2.2	2.2	2.2	2.3
Punjab	4.5	4.4	4.3	4.2
Rajasthan	5.3	5.5	5.6	5.6
Sikkim	0.0	0.0	0.0	0.0
Tamil Nadu	11.2	11.4	11.3	11.2
Tripura	0.1	0.1	0.1	0.1
Uttarakhand	0.7	0.7	0.7	0.7
Uttar Pradesh	8.9	9.4	9.3	9.4
West Bengal	3.2	3.3	2.6	2.6
TOTAL STATES	93.7	93.0	93.1	93.2
A & N Islands	0.0	0.0	0.1	0.1
Chandigarh	0.7	0.7	0.7	0.6
D & N Haveli	0.1	0.1	0.1	0.1
Daman & Diu	0.1	0.1	0.1	0.1
Delhi	5.0	5.7	5.6	5.5
Lakshadweep	0.0	0.0	0.0	0.0
Puducherry	0.4	0.4	0.5	0.5
TOTAL Uts	6.3	7.0	6.9	6.8
Total	100	100	100	100

Annex-X

Total Number of Fatal Road Accidents in States/UTs in 2006 to 2009

Sl. No.	States/UTs	2006	2007	2008	2009(P)
1	2	3	4	5	6
	States				
1	Andhra Pradesh	11378	11885	12233	12676
2	Arunachal Pradesh	87	81	90	114
3	Assam	1627	1483	1641	1735
4	Bihar	2315	3074	3514	4038
5	Chhattisgarh	2288	2496	2600	2566
6	Goa	290	300	294	298
7	Gujarat	5435	5958	6132	6112
8	Haryana	3483	3980	4071	4227
9	Himachal Pradesh	577	659	568	760
10	Jammu & Kashmir	646	717	694	773
11	Jharkhand	1784	2078	1829	2042
12	Karnataka	7092	7875	7848	7717
13	Kerala	3390	3465	3632	3556
14	Madhya Pradesh	4846	5457	5861	6415
15	Maharashtra	9796	9802	10789	10143
16	Manipur	127	103	109	99
17	Meghalaya	125	107	103	124
18	Mizoram	53	44	53	51
19	Nagaland	60	74	57	33
20	Orissa	2456	2726	2838	3043
21	Punjab	2724	2664	2840	3216
22	Rajasthan	6252	7036	7241	8010
23	Sikkim	40	31	32	55
24	Tamil Nadu	10055	11034	11813	12727
25	Tripura	187	195	190	216
26	Uttarakhand	758	773	717	676
27	Uttar Pradesh	9592	10256	11652	12679
28	West Bengal	3896	4232	4671	4135
	UTs				
1	Andaman & Nicobar Islands	18	21	22	31
2	Chandigarh	134	142	144	164
3	Dadra & Nagar Haveli	43	61	62	43
4	Daman & Diu	24	29	29	32
5	Delhi	2129	2081	2015	2272
6	Lakshadweep	1	0	0	1
7	Puducherry	209	242	207	214
	Total	**93917**	**101161**	**106591**	**110993**

(P) : Provisional

Annex- XI

Total Number of Accidents , Number of Persons Killed and Number of Persons Injured in Road Accidents in Urban & Rural Areas, 2009

Sl. No.	States/UTs	Urban			Rural			Total		
		Total	Killed	Injured	Total	Killed	Injured	Total	Killed	Injured
1	2	3	4	5	6	7	8	9	10	11
	States									
1	Andhra Pradesh	17465	5382	18588	26135	9388	33569	43600	14770	52157
2	Arunachal Pradesh	138	74	193	168	84	337	306	158	530
3	Assam	2938	1134	3085	1931	857	2437	4869	1991	5522
4	Bihar	3968	1537	2835	6097	2853	4278	10065	4390	7113
5	Chhattisgarh	5616	1045	5238	7272	1820	8036	12888	2865	13274
6	Goa	1841	147	1219	2324	174	1735	4165	321	2954
7	Gujarat	11845	1625	11791	19189	5358	21153	31034	6983	32944
8	Haryana	4199	1516	2888	7716	3087	7593	11915	4603	10481
9	Himachal Pradesh	1116	374	2001	1935	766	3578	3051	1140	5579
10	Jammu & Kashmir	2745	392	3311	3200	708	4888	5945	1100	8199
11	Jharkhand	2027	832	1656	2969	1338	2750	4996	2170	4406
12	Karnataka	20433	3089	22842	24757	5625	38855	45190	8714	61697
13	Kerala	13851	1589	16219	21582	2241	25183	35433	3830	41402
14	Madhya Pradesh	23591	2556	23924	23676	4809	30687	47267	7365	54611
15	Maharashtra	46520	3533	15734	25476	7863	32144	71996	11396	47878
16	Manipur	154	19	271	424	106	918	578	125	1189
17	Meghalaya	140	30	123	258	115	590	398	145	713
18	Mizoram	51	28	116	35	32	87	86	60	203
19	Nagaland	42	36	107	21	19	44	63	55	151
20	Orissa	3980	1471	5040	4907	2056	6256	8887	3527	11296
21	Punjab	2059	1192	1564	3511	2476	2922	5570	3668	4486
22	Rajasthan	8865	2526	9964	16249	6519	22353	25114	9045	32317
23	Sikkim	160	24	169	404	63	265	564	87	434
24	Tamil Nadu	29076	6278	31624	31718	7468	38880	60794	13746	70504
25	Tripura	173	46	234	692	183	1108	865	229	1342
26	Uttarakhand	823	442	906	578	410	878	1401	852	1784
27	Uttar Pradesh	12665	6618	9636	15490	8020	10996	28155	14638	20632
28	West Bengal	5163	2038	5408	5971	2822	6778	11134	4860	12186
	UTs									
1	Andaman & Nicobar Islands	175	18	190	96	15	152	271	33	342
2	Chandigarh	392	155	295	32	16	26	424	171	321
3	Dadra & Nagar Haveli	19	5	15	60	40	56	79	45	71
4	Daman & Diu	23	7	23	40	26	46	63	33	69
5	Delhi	7516	2325	6936	0	0	0	7516	2325	6936
6	Lakshadweep	0	0	0	4	2	3	4	2	3
7	Puducherry	918	98	874	780	120	858	1698	218	1732
	Total	230687	48181	205019	255697	77479	310439	486384	125660	515458

Annex - XII

Total Number of Persons Killed by Type of Vehicles User & Pedestrian in 2009

S.no	States/UTs	Pedestrian	Bycycles	M.C, Scooters Mopeds	Auto Rickshaw	Car,Taxies	Trucks	Buses	Other M. Vehicles	Other Objects*	Total
	States										
1	Andhra Pradesh	1552	336	1260	1327	1234	1613	3731	1416	2301	14770
2	Arunachal Pradesh	2	0	21	5	53	35	28	14	0	158
3	Assam	54	43	279	65	471	442	348	277	12	1991
4	Bihar	81	75	589	142	1313	1091	769	259	71	4390
5	Chhattisgarh	145	64	595	26	353	486	262	585	349	2865
6	Goa	75	4	178	1	34	12	14	0	3	321
7	Gujarat	843	212	1416	612	1355	1242	411	800	92	6983
8	Haryana	572	319	874	169	694	480	322	377	796	4603
9	Himachal Pradesh	50	5	159	1	433	156	185	137	14	1140
10	Jammu & Kashmir	100	12	133	37	247	131	260	168	12	1100
11	Jharkhand	70	101	434	83	317	316	251	234	364	2170
12	Karnataka	1402	203	2367	519	1188	1254	806	775	200	8714
13	Kerala	867	134	1058	385	659	178	428	57	64	3830
14	Madhya Pradesh	1383	266	1899	127	1162	835	518	769	406	7365
15	Maharashtra	2060	374	3474	630	1741	1379	323	1223	192	11396
16	Manipur	0	0	17	4	14	48	29	13	0	125
17	Meghalaya	6	9	11	7	41	24	34	13	0	145
18	Mizoram	10	0	8	1	23	5	11	2	0	60
19	Nagaland	3	2	0	14	12	19	5	0	0	55
20	Orissa	186	103	675	147	544	929	396	465	82	3527
21	Punjab	354	218	1122	89	465	297	271	258	594	3668
22	Rajasthan	940	178	1971	247	1796	1560	808	1399	146	9045
23	Sikkim	0	7	0	0	23	24	0	1	32	87
24	Tamil Nadu	3076	1054	4180	625	1775	800	1211	837	188	13746
25	Tripura	59	8	36	29	30	29	15	23	0	229
26	Uttaranchal	45	11	140	13	276	105	151	84	27	852
27	Uttar Pradesh	1349	1333	3104	736	3174	2154	1058	936	794	14638
28	West Bengal	512	201	620	245	366	88	315	616	1897	4860
	UTs										
1	A & N Islands	15	0	10	1	2	4	1	0	0	33
2	Chandigarh	60	22	73	5	5	0	2	1	3	171
3	D & N Haveli	11	5	22	2	4	0	0	1	0	45
4	Daman & Diu	8	3	17	3	0	2	0	0	0	33
5	Delhi	0	121	691	38	63	3	5	201	1203	2325
6	Lakshadweep	0	0	2	0	0	0	0	0	0	2
7	Puducherry	93	20	78	2	0	4	12	9	0	218
	Total	**15983**	**5443**	**27513**	**6337**	**19867**	**15745**	**12980**	**11950**	**9842**	**125660**

* Other Objects includes: Animal Drawn Vehicles,Cycle Rickshaw,Hand Cart & Rickshaw and Other Persons.

Annex - XIII

Accidents Classified According to Educational Qualification of Drivers

S.no	States/Uts	Total No. of Road Accidents				
		Upto 8th Standard	Standard 8-10	Standard 10 & above	Qualification not known	Total
1	2	3	4	5	6	7
1	Andhra Pradesh	9275	9882	9826	14617	43600
2	Arunachal Pradesh	103	107	96		306
3	Assam	1095	1704	2070		4869
4	Bihar	4345	3273	2447		10065
5	Chhattisgarh	3266	6017	3605		12888
6	Goa	803	1428	1934		4165
7	Gujarat	9339	13008	8687		31034
8	Haryana	4065	2996	4854		11915
9	Himachal Pradesh	724	964	1363		3051
10	Jammu & Kashmir	1600	1422	1024	1899	5945
11	Jharkhand	2202	1319	1475		4996
12	Karnataka	11056	16360	17774		45190
13	Kerala	5870	12737	16795	31	35433
14	Madhya Pradesh	15953	16932	14382		47267
15	Maharashtra	22936	20293	19808	8959	71996
16	Manipur	157	227	194		578
17	Meghalaya	100	170	128		398
18	Mizoram	47	28	11		86
19	Nagaland	18	22	23		63
20	Orissa	1998	3645	3244		8887
21	Punjab	1466	1335	1255	1514	5570
22	Rajasthan	8904	8758	7452		25114
23	Sikkim	164	185	215		564
24	Tamil Nadu	10160	21374	29260		60794
25	Tripura	98	481	286		865
26	Uttarakhand	258	409	734		1401
27	Uttar Pradesh	7669	10125	10361		28155
28	West Bengal	5167	5249	718		11134
1	A & N Islands	38	102	131		271
2	Chandigarh	0	0	0	424	424
3	D & N Haveli	32	25	13	9	79
4	Daman & Diu	18	25	10	10	63
5	Delhi	0	0	0	7516	7516
6	Lakshadweep	0	0	4		4
7	Puducherry	160	290	487	761	1698
	Total	**129086**	**160892**	**160666**	**35740**	**486384**
		(27%)	(33%)	(33%)	(7%)	

Since Delhi and Chandigarh did not furnish break-up of data for this table, total accidents in the case of these UTs have been placed under Qualification Not Known.

Figures within parenthesis indicate % share in total accidents.