

A study on car involvement in road traffic accidents in Bangladesh

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ABSTRACT: This paper presents the car accident scenario in Bangladesh. During the period 1998-2009 a total of 43,157 road accidents are reported and 29,648 people died. About 7 percent of these accidents and 3 percent of the people died involved cars. Among car accidents, 887 fatal, 970 grievous, 264 simple injuries and 846 collisions are recorded. Car accidents occur mainly on highways (29.1%) and streets (58.4%) and significant causes are speeding (46.5%) and careless driving (48.8%). Major collision types are rear end (33.3%), hit pedestrians (25.8%) and head on (17.4%). Accident occurrences merely varied during day and night time. The car drivers are mostly young and middle aged (18-35 years) accounting for nearly 79 percent. Possible accident countermeasures related to engineering, enforcement and education are also discussed in this paper.

1 INTRODUCTION

Bangladesh is a very densely populated low lying country with 150 million inhabitants living in an area of 1,47,570 sq. km. About 27 percent of the population is living in the urban areas and the rate of urbanization over the last decade has been between 7 and 8 percent. Presently the length of roads is about 2,71,000 kilometers (km), including about 21,000 km of major roads. Road traffic accidents, injuries and fatalities are of great concern in Bangladesh. Bangladesh has a very high road accident fatality rate, which varies from 30 to 60 deaths per 10,000 motor vehicles mentioned in different literatures. The actual rate of fatality is likely to be even higher. The corresponding fatality rates in developed countries are only about 2 per 10,000 registered motor vehicles; 2 in the USA and 1.4 in the UK and Northern Ireland. In India and Pakistan the rates are 20 and 17.3 respectively. During the period 1998-2009, a total of 43,157 accidents occurred and 29,648 people died in accident. About 7 percent of total accidents are caused by cars and 3 percent of these people died. There were 887 fatal, 970 grievous injuries, 264 simple injuries and 846 are collision type accident are car related (ARI database). Car accidents occur mainly on highways and in cities. This study focuses on car accident situation with emphasis on sub categorization of accidents like location, accident types, collision types, severity, casualties etc. These help to view the overall present condition and contribution on car in road traffic accidents. Possible accident countermeasures related to engineering, enforcement and education are also discussed in this paper.

2 OVERVIEW OF ROAD ACCIDENTS

The statistics of road accidents all over the world as well as Bangladesh are important to understand the national and international nature of road safety problem. Worldwide, about 1.3 million people died from road crashes and an average of 3,250 deaths per day. Road traffic injuries accounted for 2 percent of global deaths, making them the ninth leading cause of global deaths. In addition of deaths, an estimated 50 million people are injured in road crashes in each year. The rates of road traffic accidents death vary considerably between regions and between countries within regions. In general rates are higher in developing countries than the developed countries. As a result, the annual number of road traffic accidents globally will rise sharply over the next two decades. The WHO Global Burden of Disease study predicts the following changes from 1990 to 2020.

- Road traffic injuries will rise to become the third leading cause within 2020.
- Road traffic injuries will become the second leading cause for low-income and middle-income countries.
- Road traffic deaths will increase worldwide, from 0.99 million to 2.34 million (representing 3.4% of all deaths).
- Road traffic deaths will increase on average by over 80 percent in low-income and middle income countries and decline by almost 30 percent in high income countries.

According to the police statistics, road accident in Bangladesh claims on an averages 4,000 lives and injure another 5,000 in a year. However WHO estimates that the actual fatalities could well be 20,038 each year (WHO, 2009). Trends of all accidents severity in Bangladesh is given in Table 1.

Table 1. Trends of all Accidents Severity, 1998-2009.

| Year | Fatal Accident | | Grievous Injury | | Simple Injury | | Collision only | | Total Accidents | |
|-------|----------------|----|-----------------|----|---------------|---|----------------|---|-----------------|-----|
| | No | % | No | % | No | % | No | % | No | % |
| 1998 | 2000 | 57 | 1137 | 32 | 193 | 5 | 203 | 6 | 3533 | 100 |
| 1999 | 2437 | 62 | 986 | 25 | 305 | 8 | 220 | 6 | 3948 | 100 |
| 2000 | 2523 | 64 | 1029 | 26 | 209 | 5 | 209 | 5 | 3970 | 100 |
| 2001 | 2029 | 69 | 642 | 22 | 137 | 5 | 117 | 4 | 2925 | 100 |
| 2002 | 2599 | 66 | 904 | 23 | 200 | 5 | 238 | 6 | 3941 | 100 |
| 2003 | 2752 | 67 | 921 | 22 | 239 | 6 | 202 | 5 | 4114 | 100 |
| 2004 | 2447 | 70 | 664 | 19 | 211 | 6 | 157 | 4 | 3479 | 100 |
| 2005 | 2424 | 73 | 631 | 19 | 142 | 4 | 125 | 4 | 3322 | 100 |
| 2006 | 2668 | 75 | 610 | 17 | 127 | 4 | 144 | 4 | 3549 | 100 |
| 2007 | 2893 | 74 | 679 | 18 | 172 | 4 | 166 | 4 | 3910 | 100 |
| 2008 | 2723 | 74 | 658 | 18 | 150 | 4 | 131 | 4 | 3662 | 100 |
| 2009 | 2153 | 77 | 469 | 17 | 69 | 2 | 113 | 4 | 2804 | 100 |
| Total | 29648 | 69 | 9330 | 21 | 2154 | 5 | 2025 | 5 | 43157 | 100 |
| % | 68.7 | | 21.6 | | 5 | | 4.7 | | 100 | |

It appears that 37 per cent of the accidents take place in the national highways and 12 per cent of the accidents occurred in the regional highways, virtually no measures have been taken to make the highways safe. Of the three thousand kilometer-long national highways 100 kilometers path is earmarked as high risk zone for accidents.

3 DATA COLLECTION AND METHODOLOGY

This study deals with car involvement in road traffic accidents in Bangladesh during the period of 1998-2009 using the Microcomputer Accident Analysis Package Five (MAAP5) software of Accident Research Institute (ARI). Primary data are collected from police. Accident report Form (ARF) is then collected by ARI from range offices and district offices as hard copy and soft copy. ARI then edits both the hard and soft copies and makes MAAP5 up to date.

4 ACCIDENT DATA ANALYSIS

The most important element of accident analysis is the identification of the highest accident location. In this section the trends of car accidents in different locations, road classes, route number and junction type are examined.

4.1 Involvement of cars in road traffic accidents

In Bangladesh, total registered vehicles are 33, 23,701 and cars are 21, 57,886 which is 64.9% of total. In total 43,157 accidents occurred during 1998-2009 and about 7 percent of total accidents are caused by cars. There are 887 fatal, 970 grievous injuries, 264 simple injuries and 846 are collision type accidents. Grievous injury

has the maximum percentage that is 32.7 %. Fatal accidents has increased with time from 20 to 38 percent, but greivous injury are reduced 41 to 23 percent. Yearly trends of car accidents severity is given in table 2.

Table 2. Yearly trends of car accidents severity.

| Year | Fatal | | Grievous Injury | | Simple Injury | | Collision only | | Total | |
|-------|-------|----|-----------------|----|---------------|----|----------------|----|-------|-----|
| | No | % | No | % | No | % | No | % | No | % |
| 1998 | 69 | 20 | 137 | 41 | 44 | 13 | 89 | 26 | 339 | 100 |
| 1999 | 74 | 25 | 79 | 27 | 46 | 16 | 93 | 32 | 292 | 100 |
| 2000 | 69 | 27 | 99 | 39 | 20 | 8 | 65 | 26 | 253 | 100 |
| 2001 | 52 | 30 | 63 | 36 | 12 | 6 | 49 | 28 | 176 | 100 |
| 2002 | 100 | 33 | 85 | 28 | 22 | 6 | 100 | 33 | 307 | 100 |
| 2003 | 94 | 28 | 129 | 38 | 23 | 7 | 90 | 27 | 336 | 100 |
| 2004 | 83 | 31 | 92 | 34 | 27 | 10 | 65 | 25 | 267 | 100 |
| 2005 | 74 | 34 | 76 | 34 | 17 | 8 | 53 | 24 | 220 | 100 |
| 2006 | 64 | 37 | 44 | 25 | 7 | 4 | 59 | 34 | 174 | 100 |
| 2007 | 67 | 33 | 60 | 30 | 14 | 7 | 62 | 30 | 203 | 100 |
| 2008 | 77 | 33 | 67 | 29 | 20 | 9 | 67 | 29 | 231 | 100 |
| 2009 | 64 | 38 | 39 | 23 | 12 | 7 | 54 | 32 | 169 | 100 |
| Total | 887 | 30 | 970 | 33 | 264 | 9 | 846 | 28 | 2967 | 100 |
| % | 29.9 | | 32.7 | | 8.9 | | 28.5 | | 100 | |

4.2 Location-wise car accidents

Total 1968 accidents occurs at urban area which is about 67% of total accidents. At rural area, car accidents has been increasing with time. However, proportion of car accidents are increasing in rural area.

4.3 Car accidents by road class

Location of car accidents are classified as road classes which includes National highways, Regional highways, Feeder roads, Rural roads and City roads. Trend shows that almost 58 percent of car accidents occur on city roads. 29.1 percent accidents occurs at national highway which are divide by nine routes. National highway accidents increasing over the periods from 16 to 40 percent but city accidents reduced with time from 76 to 41 percent. Percent of car accidents by road class is given in figure 1.

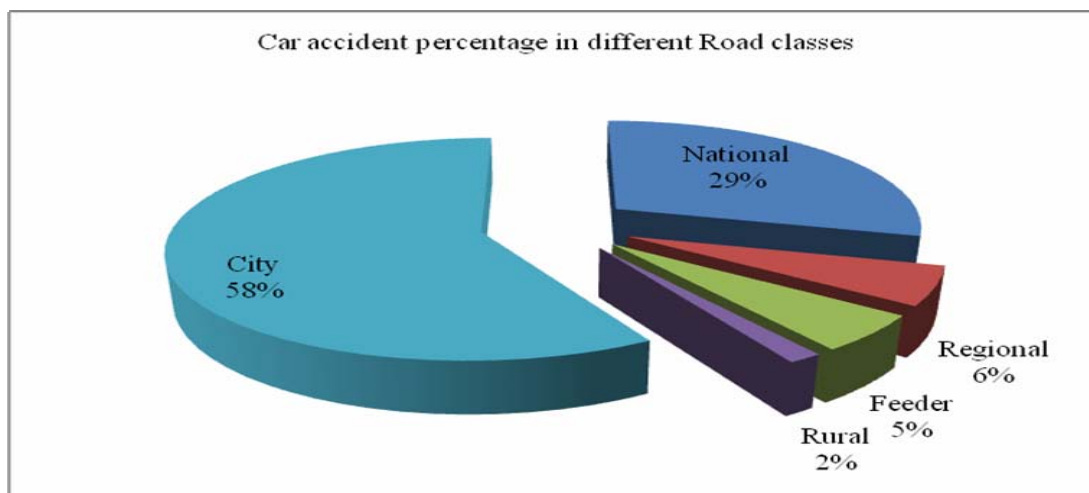


Figure 1. Percent of car accidents in different road classes.

4.3.1 Car accidents in national highways

The car accidents in national highway is the second highest among the other classes of roads. So it is important to know the car accidents situation in national highway route number. Route number 1, route number 2 and route number 5 have the significant percentage of car accidents (26%, 18% and 19% respectively).The route number accidents of National highway contribute 68.3% (589 accidents out of 863 acci-

dents) of total route number accidents. The rest of the routes contribute of 31.7%. Percent of car accidents at national highway route number is given in figure 2.

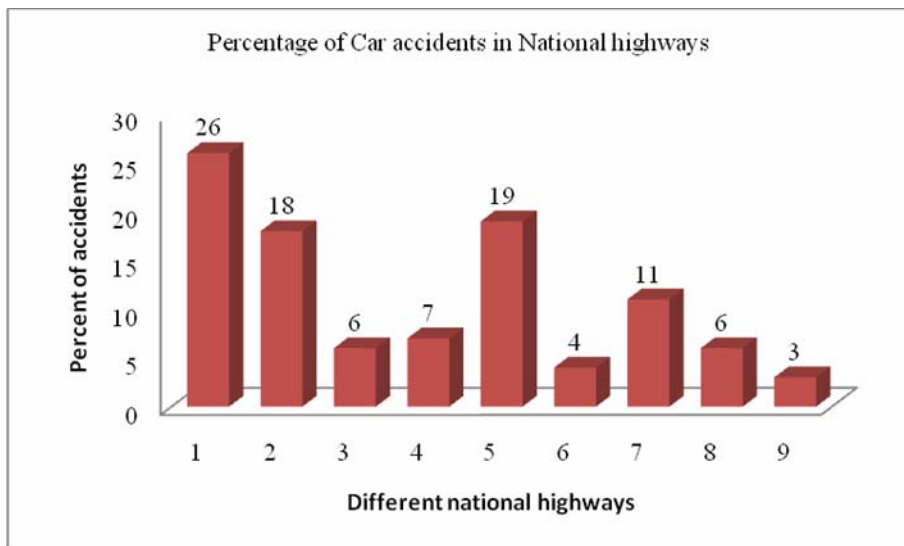


Figure 2. Distribution of Car accidents in national highways

4.3.2 Car accidents in metropolitan areas

There are four metropolitan police area in Bangladesh (i.e. DMP,CMP,KMP,RMP). The car accident in metropolitan areas for the period 1998 to 2009 is given below:

Table 3. Distribution of Accidents in Metropolitan Areas

| Year | DMP | | CMP | | KMP | | RMP | | Total | |
|-------|------|------|-----|-----|-----|-----|-----|-----|-------|-----|
| | No | % | No | % | No | % | No | % | No | % |
| 1998 | 237 | 92.2 | 17 | 6.6 | 2 | 0.8 | 1 | 0.4 | 257 | 100 |
| 1999 | 168 | 92.8 | 7 | 3.9 | 6 | 3.3 | 0 | 0.0 | 181 | 100 |
| 2000 | 138 | 94.5 | 5 | 3.4 | 2 | 1.4 | 1 | 0.7 | 146 | 100 |
| 2001 | 83 | 93.3 | 3 | 3.4 | 2 | 2.2 | 1 | 1.1 | 89 | 100 |
| 2002 | 175 | 95.6 | 6 | 3.3 | 0 | 0.0 | 2 | 1.1 | 183 | 100 |
| 2003 | 186 | 96.9 | 5 | 2.6 | 1 | 0.5 | 0 | 0.0 | 192 | 100 |
| 2004 | 162 | 98.2 | 1 | 0.6 | 0 | 0.0 | 2 | 1.2 | 165 | 100 |
| 2005 | 109 | 94.0 | 6 | 5.2 | 0 | 0.0 | 1 | 0.9 | 116 | 100 |
| 2006 | 86 | 94.5 | 2 | 2.2 | 2 | 2.2 | 1 | 1.1 | 91 | 100 |
| 2007 | 102 | 93.6 | 6 | 5.5 | 1 | 0.9 | 0 | 0.0 | 109 | 100 |
| 2008 | 94 | 88.7 | 10 | 9.4 | 1 | 0.9 | 1 | 0.9 | 106 | 100 |
| 2009 | 64 | 95.5 | 3 | 4.5 | 0 | 0.0 | 0 | 0.0 | 67 | 100 |
| Total | 1604 | 94.2 | 71 | 4.2 | 10 | 0.6 | 17 | 1.0 | 1702 | 100 |

4.3.3 Car accidents in Dhaka metropolitan area

Dhaka Metropolitan Police(D.M.P.) covers 37 thanas and has a great contribution on car accidents. Mostly D.M.P is the major location for car accidents because of rapid increasing of car in Dhaka Metropolitan Police(D.M.P.) zone. In total 1604 accidents occurred in D.M.P. zone and 231 people were died at the accidents. But the dominating percent of accident severity is collision only that is 43.7% of total accidents. Grievous injury and simple injury were 33.9% and 8% respectively. The accidents rate decreased with time from 237 to 64 during last 12 years (1998-2009) because of heavy traffic decreases the speed of car and thus now driver were more careful. The trends of car accident severity at D.M.P. are given in Table 4.

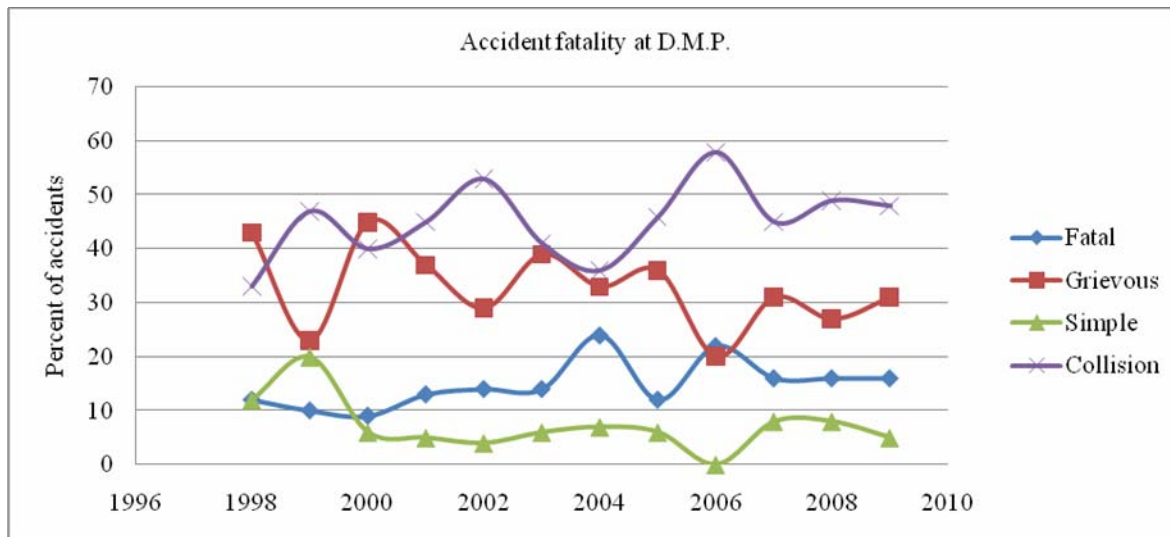


Figure 3. Distribution of accident severity at D.M.P.

Table 4 : Trends of Car accidents at D.M.P.

| Year | Fatal | | Grievous Injury | | Simple Injury | | Collision Only | | Total | |
|-------|-------|----|-----------------|----|---------------|----|----------------|----|-------|-----|
| | No | % | No | % | No | % | No | % | No | % |
| 1998 | 29 | 12 | 102 | 43 | 27 | 12 | 79 | 33 | 237 | 100 |
| 1999 | 17 | 10 | 39 | 23 | 33 | 20 | 79 | 47 | 168 | 100 |
| 2000 | 12 | 9 | 62 | 45 | 9 | 6 | 55 | 40 | 138 | 100 |
| 2001 | 11 | 13 | 31 | 37 | 4 | 5 | 37 | 45 | 83 | 100 |
| 2002 | 25 | 14 | 50 | 29 | 7 | 4 | 93 | 53 | 175 | 100 |
| 2003 | 26 | 14 | 72 | 39 | 11 | 6 | 77 | 41 | 186 | 100 |
| 2004 | 38 | 24 | 54 | 33 | 12 | 7 | 58 | 36 | 162 | 100 |
| 2005 | 13 | 12 | 39 | 36 | 7 | 6 | 50 | 46 | 109 | 100 |
| 2006 | 19 | 22 | 17 | 20 | 0 | 0 | 50 | 58 | 86 | 100 |
| 2007 | 16 | 16 | 32 | 31 | 8 | 8 | 46 | 45 | 102 | 100 |
| 2008 | 15 | 16 | 25 | 27 | 8 | 8 | 46 | 49 | 94 | 100 |
| 2009 | 10 | 16 | 20 | 31 | 3 | 5 | 31 | 48 | 64 | 100 |
| Total | 231 | 14 | 543 | 34 | 129 | 8 | 701 | 44 | 1604 | 100 |
| % | 14.4 | | 33.9 | | 8 | | 43.7 | | 100 | |

4.4 Car accident by collision type

Collision type is one of the important considerations in the development of accidents reduction countermeasures. Data shows that 33.3% accidents caused by rear end and then come hit pedestrians with 25.8% and head on collision with 17.4%. In the trends 2003, rear end accidents were 118 which are the highest among the others. For the hit pedestrians collision in 1999 it was 93 which is the highest. Head on collision type is found to be highest in 2003 with 63. The highest of total accidents occurred at 1998 (339) but it gradually decreased with time. There are ten types of accident types are given below in figure 4.

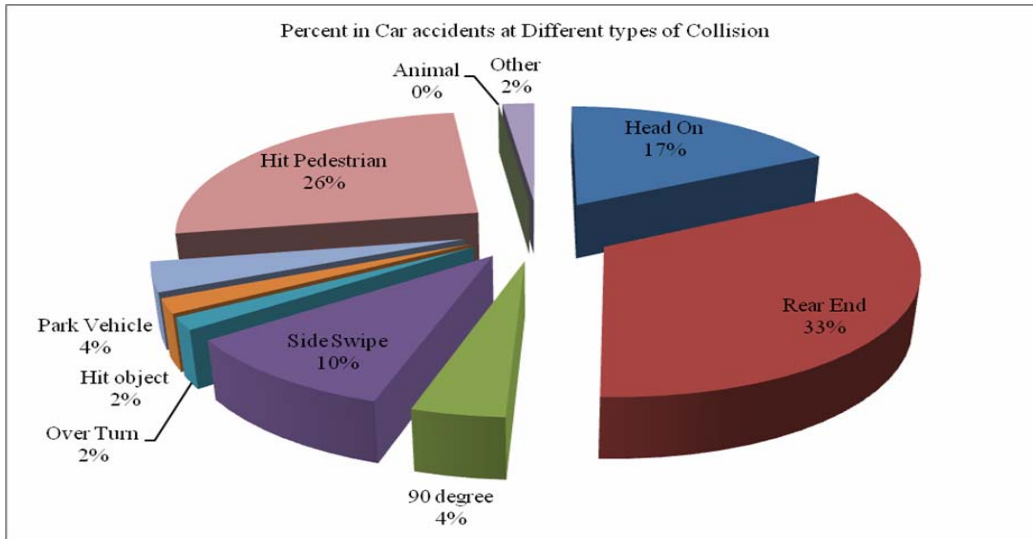


Figure 4. Percent of car accidents at different types of collision.

4.5 Hourly trends of car accidents

Hourly variation of car accidents is very important to know the exact time period of huge car accident in Bangladesh. Most car accidents occurred at day time (06:00-18:00) with the peak at 10:00-12:00 hours of a typical day with 6.9% to 7.2%. Next moderate peak come from hour 15 to hour 17 hour which is varies 4.9% to 6.8%. 67.4 percent car accidents happen at day time and 22.7% car accidents occur at night time. The hourly distribution of car accident of year 1998 to 2009 is given in table 5.

Table 5. Hourly distribution of car accidents

| Time | Fatal | | Grievous injury | | Simple injury | | Collision only | | Total | |
|-------|-------|-----|-----------------|-----|---------------|------|----------------|-----|-------|-----|
| | No | % | No | % | No | % | No | % | No | % |
| 0 | 31 | 3.5 | 25 | 2.6 | 5 | 1.9 | 14 | 1.7 | 75 | 2.5 |
| 1 | 17 | 1.9 | 23 | 2.4 | 3 | 1.1 | 15 | 1.8 | 58 | 2.0 |
| 2 | 7 | 0.8 | 13 | 1.3 | 2 | 0.8 | 8 | 1.0 | 30 | 1.0 |
| 3 | 16 | 1.8 | 15 | 1.5 | 8 | 3.0 | 2 | 0.2 | 41 | 1.4 |
| 4 | 21 | 2.4 | 15 | 1.5 | 3 | 1.1 | 10 | 1.2 | 49 | 1.7 |
| 5 | 23 | 2.6 | 11 | 1.1 | 4 | 1.5 | 15 | 1.8 | 53 | 1.8 |
| 6 | 31 | 3.5 | 25 | 2.6 | 2 | 0.8 | 14 | 1.7 | 72 | 2.4 |
| 7 | 36 | 4.1 | 42 | 4.3 | 9 | 3.4 | 30 | 3.6 | 117 | 4.0 |
| 8 | 35 | 4.0 | 40 | 4.1 | 5 | 1.9 | 49 | 5.8 | 129 | 4.4 |
| 9 | 51 | 5.8 | 60 | 6.2 | 18 | 6.8 | 54 | 6.4 | 183 | 6.2 |
| 10 | 54 | 6.1 | 73 | 7.5 | 27 | 10.2 | 60 | 7.1 | 214 | 7.2 |
| 11 | 68 | 7.7 | 60 | 6.2 | 25 | 9.5 | 63 | 7.5 | 216 | 7.3 |
| 12 | 58 | 6.6 | 68 | 7.0 | 22 | 8.3 | 57 | 6.8 | 205 | 6.9 |
| 13 | 52 | 5.9 | 50 | 5.2 | 14 | 5.3 | 41 | 4.9 | 157 | 5.3 |
| 14 | 47 | 5.3 | 52 | 5.4 | 13 | 4.9 | 49 | 5.8 | 161 | 5.4 |
| 15 | 59 | 6.7 | 62 | 6.4 | 23 | 8.7 | 58 | 6.9 | 202 | 6.8 |
| 16 | 51 | 5.8 | 63 | 6.5 | 16 | 6.1 | 61 | 7.3 | 191 | 6.5 |
| 17 | 47 | 5.3 | 57 | 5.9 | 12 | 4.5 | 29 | 3.5 | 145 | 4.9 |
| 18 | 27 | 3.1 | 28 | 2.9 | 7 | 2.7 | 26 | 3.1 | 88 | 3.0 |
| 19 | 40 | 4.5 | 37 | 3.8 | 14 | 5.3 | 35 | 4.2 | 126 | 4.3 |
| 20 | 41 | 4.6 | 41 | 4.2 | 6 | 2.3 | 46 | 5.5 | 134 | 4.5 |
| 21 | 27 | 3.1 | 33 | 3.4 | 8 | 3.0 | 42 | 5.0 | 110 | 3.7 |
| 22 | 14 | 1.6 | 37 | 3.8 | 3 | 1.1 | 30 | 3.6 | 84 | 2.8 |
| 23 | 31 | 3.5 | 40 | 4.1 | 15 | 5.7 | 32 | 3.8 | 118 | 4.0 |
| Total | 884 | 100 | 970 | 100 | 264 | 100 | 840 | 100 | 2958 | 100 |

4.6 Accident severity by driver age

The car drivers are mostly young and middle aged (aged 18-35 year) who is predominantly involved in road accidents accounting about 79 percent. The trends of car accident severity vs. driver age are given below in figure 5.

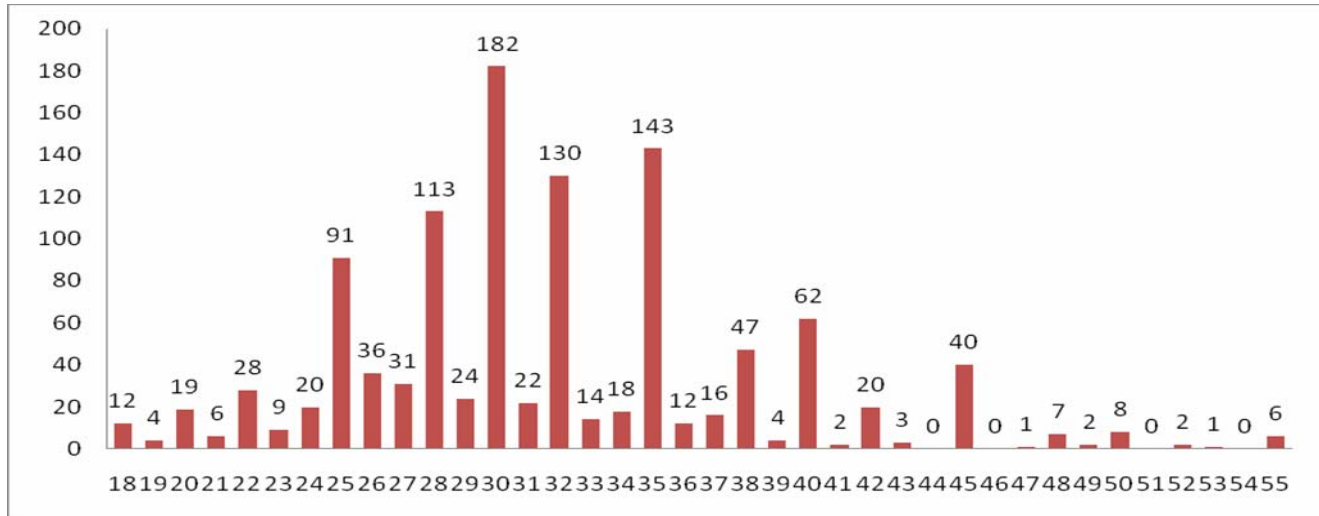


Figure 5. Car accident severity by driver age

4.7 Major factors contributing to car accidents

In case of car accidents, major contributing factors are speeding (46.6%) and careless driving (48.7%). All contributing factors are given below in table 6.

Table 6. car accidents contributing factors

| Contributory Factors | Fatal | | Grievous injury | | Simple injury | | Collision only | | Total | |
|----------------------|-------|------|-----------------|------|---------------|------|----------------|------|-------|------|
| | No | % | No | % | No | % | No | % | No | % |
| None | 77 | 4.4 | 49 | 2.5 | 21 | 4.2 | 17 | 1 | 164 | 2.8 |
| Speed | 768 | 44.1 | 904 | 46.9 | 237 | 46.9 | 826 | 48.9 | 2735 | 46.6 |
| Care | 847 | 48.7 | 943 | 48.9 | 231 | 45.7 | 834 | 49.4 | 2855 | 48.7 |
| Sleep | 4 | 0.2 | 3 | 0.2 | 0 | 0 | 0 | 0 | 7 | 0.1 |
| Close | 3 | 0.2 | 1 | 0.1 | 2 | 0.4 | 3 | 0.2 | 9 | 0.2 |
| Signal | 4 | 0.2 | 1 | 0.1 | 1 | 0.2 | 1 | 0.1 | 7 | 0.1 |
| Over Turn | 9 | 0.5 | 7 | 0.4 | 5 | 1 | 5 | 0.3 | 26 | 0.4 |
| Turning | 2 | 0.1 | 1 | 0.1 | 1 | 0.2 | 2 | 0.1 | 6 | 0.1 |
| Alcohol | 2 | 0.1 | 2 | 0.1 | 0 | 0 | 0 | 0 | 4 | 0.1 |
| Pedestrian | 7 | 0.4 | 12 | 0.6 | 0 | 0 | 0 | 0 | 19 | 0.3 |
| Passenger | 0 | 0 | 0 | 0 | 1 | 0.2 | 0 | 0 | 1 | 0 |
| Road Condi- tion | 2 | 0.1 | 1 | 0.1 | 1 | 0.2 | 0 | 0 | 4 | 0.1 |
| Road Feature | 2 | 0.1 | 0 | 0 | 2 | 0.4 | 0 | 0 | 4 | 0.1 |
| Weather | 0 | 0 | 1 | 0.1 | 1 | 0.2 | 0 | 0 | 2 | 0 |
| Vehicle De- fects | 5 | 0.3 | 0 | 0 | 2 | 0.4 | 0 | 0 | 7 | 0.1 |
| Load | 1 | 0.1 | 1 | 0.1 | 0 | 0 | 0 | 0 | 2 | 0 |
| Tire Burst | 1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Animal | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other | 6 | 0.3 | 3 | 0.2 | 0 | 0 | 1 | 0.1 | 10 | 0.2 |
| Total | 1740 | 100 | 1929 | 100 | 505 | 100 | 1689 | 100 | 5863 | 100 |

4.8 Further analysis of car accidents

Analyzing some others aspects of accidents, we have the following outcomes: Car accidents occur mainly at highways and cities due to speed (around 46.5%) and careless driving (48.8%). Higher portion of car accidents occur due to rickshaw, truck, bus, tempo etc. The distribution of accidents by days of week and months of year does not show any significant variation. Around 97% of drivers do not wear seatbelts and 5% found alcoholic. Accident factors considered were road surface condition (dry 97.4%), surface type (sealed 99.6%), surface quality (good 98.8%), road geometry (straight 95.1%), weather condition (fair 97.1%), maneuvering characteristic (ahead 83%) etc. The age of casualty mostly in between 25 to 40 years is accounting 64.6 per cent.

5 SOME GENERAL ROAD SAFETY COUNTERMEASURES

The data and analysis presented the severity of car accidents and to reduce the number and severity of accidents some countermeasures is required. Some road environmental and regulatory countermeasures are given below:

- Installation of median: The placement of road medians with flaring openings, provision of pedestrian refuge islands will ensure pedestrian safety as well as reduce will reduce the accident frequency.
- Improvement of shoulder: Running off road and head on collisions can be significantly reduced.
- Inadequate traffic control devices (signs, marking etc): Traffic control devices should be installed properly where needed thus reduces accidents due to various road geometry problems.
- Better intersection design: High accident intersection treatments through adequate visibility, channelization, traffic islands and redesigning cross road intersection into staggered T-junctions may reduce accidents rate.
- Controlling speed and errant behaviors of drivers: The behaviors of car driver are completely unpredictable due to their overtaking tendency and over speed at free road. So controlling speed and behavioral chance may help to reduce accidents fatalities.
- Provision of NMV facilities: In addition to the installation of road signs, markings etc. construction of parallel service roads on both side of highway, protective raised walking and crossing facilities as well as installation of street lighting facilities should be provided in the locations where pedestrian and NMV activities are high. NMV should be given roadside facilities as it differentiates speed variable with motorized vehicle.
- Maintenance of road surface: Damage road surface should be immediately maintain for reducing body damage of car and damage road disturbed free flow of car. As a result driver are got angry and lost the control.
- Treatment of roadside objects: Adequate safe place at road side may reduce head on collisions with Bus, Truck in Bangladesh because of the tendency of Bus, Truck driver by occupying most of the roadway.
- Increase safety awareness of road users and driver training: Safety awareness is important criteria for road users when they used roads. Driver training is the key factor to increase awareness about safety.

6 CONCLUSIONS

This paper has mainly highlighted the general characteristics of car fatal accidents and makes an attempt to establish the most common types of fatal accidents and the causal factors. The fatal accident of car is much more than injury and collision only accidents. In urban areas, the car traffic is huge compared to rural areas and the accident rate is almost double. So the drivers of car in city areas should be trained properly. Age of 26 to 35, casualties is very high. Most of the accidents occur due to careless driving and high speed and most fatalities happen due to unwillingness of the drivers for wearing seat-belts. Most frequent accident types were rear-end, hit pedestrians and head-on collision. Higher portion of car accidents occur due to NMV, truck, bus, tempo etc. Almost all accidents occur at dry and sealed surface, good and straight road at fair weather. Countermeasures stated above might help in minimizing the fatality rate of car accident.

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