A Study on causes of Road Accidents at Dhaka to Comilla Highway

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Abstract

This study is aimed to investigate the causes of road accidents at Dhaka-Comilla highway which is one of the busiest highways in Bangladesh. This highway is one of the most important highways in Bangladesh as it connects two most important cities Dhaka the capital of Bangladesh and Chittagong the main port city of the country. Investigation was based on field survey that includes photogrammetric survey and questionnaire survey. Questionnaires were done on drivers and pedestrians. For this purpose 100 people were selected in each category. Investigation reveals that according to drivers the main reason for accident is overtaking and 33% agreed on this cause. 32% and 26% drivers think that main reason for accidents are unawareness and narrow roads respectively. Almost half of the driver (47%) blamed pedestrians as the main responsible groups for accident. On the other hand 34% pedestrians think unawareness is the main cause of accident. 32% thinks overtaking is the main cause and 27% thinks untrained drivers in the road are the main reason for accident. 47% pedestrians blamed drivers as the main responsible group for an accident. Field survey shows lots portion of the highway has poor road surface and has narrow width. Reckless driving, over speed and overtaking tendency were found as common phenomenon. Also there were not enough overhead bridges or zebra crossing for pedestrians to cross the roads. There are not enough speed breakers and have a number of roads with sharp bending which increase the chances of road accidents.

Keywords: Highway, Drivers, Pedestrians, Accidents, Overtaking.

Introduction

Traffic accident has become a major concern for almost every country around the world. According to WHO 1.25 million people died and 20-50 million people got sustaining road injuries from road accidents in 2013 year alone [1]. Bangladesh is also suffering a great deal due to road accidents every year. With growth of population number of motorized vehicle is increasing every day. But due to unplanned urbanization, poor road conditions and unawareness among the drivers and pedestrians the rate of accidents are also increasing every year. Statistics from the Road Safety Cell (RSC) of the Bangladesh Road Transport Authority (BRTA) show the annual fatality rate in road accident in Bangladesh is 85.6 per 10,000 vehicles which compares to rates of below 3 per 10,000 vehicles in most developed countries [2]. According to another report 8642 people were killed and 21,855 were injured due to road accidents in Bangladesh in 2015. 1305 people become permanently disabled and 52 percent of the deceased were the lone breadwinners for their families [3]. Pedestrians suffer the most in case of accidents. A study shows that pedestrians accounted for 49% of all reported fatalities and for urban areas it is 62% [4]. Main mode of transportation in Bangladesh is road transport. 70% of travels are conducted on roads [5]. So road transport plays a vital role in country’s economy and social welfare. But this road transportation system needs to be improved with due consideration for safety, minimizing accidents and risks. Highways are generally more affected by accident than the urban roads. Because heavy vehicles duel more in highways and study shows that
Trucks and buses are major contributors to road traffic accidents accounting for about 58% of vehicular involvement in accidents [4].

This study investigates some causes of road accidents in one of the major highways in Bangladesh namely Dhaka-Comilla Highway. Some objectives are listed below:

- To study the cause of accidents and suggest corrective measures at potential location
- To investigate the causes of road accidents in Dhaka-Comilla Highway
- To suggest some remedial measures for increasing the awareness between the pedestrian and drivers

Materials and Methods

Field visits were made in different section of Dhaka-Comilla highway to collect different kind of data for investigation. The locations of study points were Durgapur, Shashongacha, Kandirpar, Thakur Para and Katabari.

To collect information questioner were developed for both drivers and pedestrians. The questioners were developed based on the factors like causes of road accident, who are the main responsible group for road accident, awareness among the people and their suggestions to reduce the percentages of road accident. In addition different data and information were collected from different sources like Dhaka Metropolitan Police (DMP), Bangladesh Roads & Highways, Accident Research Institute. Photogrammetric survey was also conducted on different sections of the highway. The flow chart of the process of study is given below.

Results and Data Analysis

Data analysis is performed in three sections individually- questioner survey with drivers, questioner survey with pedestrians and photogrammetric survey.

Findings from the Questioner Survey with Drivers

For this questioner survey 100 drivers were selected. Among them 55% drive buses, 35% driver trucks, 18% drive motorcycles and 6% drives private cars and others (Fig 2).

Drivers were mostly poorly educated and only 7% of them has finished their school. 80% stopped their education after finishing primary school and 13% began high school, however didn’t complete it (Fig 1). This poor education has leads to an incredible absence of knowledge among the drivers about roads and road safety and it might be a reason for the greater percentage of accidents in this road. Illegal driving is another major cause
for road accidents, as 10% of the drivers admitted that they do not have any sort of license or permit for the driving (Fig 3).

Accidents in this road are so severe that 53% of the drivers have faced at least a road accident in the last year (Fig 4). 33% of the drivers said the main reason for accidents is overtaking and 26% pointed out narrow road for the main reason of the accident. Another important cause of accidents pointed out by the 32% drivers is their unawareness about different traffic rules (Fig 5). Drivers blamed pedestrians as the main responsible group for accidents and 47% agreed this cause. Also 33% of them blamed themselves for the main reason for accident (Fig 6).

This long highway is the travel route for thousands of people and for transporting goods between the two major cities of Bangladesh. As a result buses (56%) and trucks (23%) are the most common vehicles who suffer accidents regularly (Fig 7). Another important issue addressed by the drivers is the long driving hours with very few breaks as 42% of them has to drive more than 10 hours every. This long driving can easily causes fatigues and tiredness among the driver which hampers the concentration and tidiness and leads to an accident.
Another important issue was noted in this survey is the driver errors during driving. 96% of the drivers do not wear seatbelts during (Fig 9) and 39% of them use mobile phones during driving (Fig 10). This is a very alarming indication and they need some training and awareness program from government and others about road accidents. Government has taken some steps for improving the condition for road accident in Bangladesh according to drivers. Drivers also have suggested different measures for remedying the current situation i.e. training for the drivers, awareness programs, improved traffic system etc. (Fig 11 & Fig 12).

Findings from the Questioner Survey with the Pedestrians

For this questioner survey 100 pedestrians were selected. Among them only 18% finished their graduation and 27% has completed HSC. This shows lack knowledge among the pedestrians which indicates the lack of awareness about traffic rules and regulations (Fig 13). According to 34% pedestrians the main reason for traffic accidents is the unawareness. 32% also indicated overtaking tendency of the drivers leads to traffic accident and 27% blamed the untrained drivers for traffic accident (Fig 14). Survey shows that night time for the most accident happening time in this highway (Fig 17). Also according to pedestrian buses, trucks and motorcycles are the most common vehicles who suffer accidents regularly (Fig 16).

Errors from pedestrians also make a significant contribution for accidents. In survey it is found that 42% of pedestrians use phone while crossing the roads which needs to be reduced very quickly (Fig 18).
41% of the pedestrians said that the road is very risky and precautionous steps needs to be taken very quickly. They have suggested many precautionary steps for reducing traffic accidents. Among them 52% agreed that awareness building will reduce the number of accidents. While 21% thinks training driver and 20% thinks of widening of road will contribute in the reduction of traffic accidents (Fig 19). Another important thing pointed out by the drivers is the steps government should take in this matter. 41% of them think that regular road maintenance will reduce the accident rate significantly. Other suggests banning unfit vehicles, training programs for drivers and improved traffic system can play a great role in reducing highway accidents (Fig 20).

**Findings from the Photogrammetric Survey**

Field visit at the selected highway has revealed a lots important issues regarding road accident. Roads have many distraction elements which can hamper the concentration of a driver while driving. Poor road surface (Fig 22) and distraction due to road repairing was found in multiple points of the highway (Fig 21). Reckless driving was also observed with the competition among the drivers i is a very common scenario in this highway. This highlights a significant cause of accidents in this road. Also many vehicles were found not maintaining necessary lane discipline (Fig 23). Overtaking tendency was found among the most of the drivers (Fig 24). Most of the drivers avoid seat belts and helmets while driving which raise a question about their awareness level about the importance of using different safety measures while driving (Fig 25). All of this highlights an alarming issue about the current condition of the drivers who dwell this road frequently.
Road conditions of some portion of the highway were found very poor. Narrow width of the road has added more misery for the people who use this highway regularly. Good news is government are doing repairing works of those portions of the highway and widening the roads in some sections. Also there are some sharp bents without any proper signs. Unawareness and unwillingness to follow traffic rules were observed among the pedestrians. There were few foot over bridge were observed in long intervals. It leads pedestrians to cross road whenever they want and wherever they want. Also there were view zebra crossings were found and drivers seems to pay less attention on dropping speed on this point. All of this made this road a dead trap for the pedestrians and precautionary steps needs to be taken immediately.

**Conclusions**

Based on these findings some general conclusions are made. This conclusion will
help us in developing different traffic awareness programs for the people and can help the government to take necessary steps for reducing road accident hazards. The general conclusion obtained from this study are summarized as follows

- Based on the survey, it is found that according to drivers main reason for road accidents are overtaking tendency, unawareness and Narrow roads.
- Also drivers blamed pedestrians and themselves for the main responsible group for causing an accident. They also think poor road surface and narrow roads can also cause accidents.
- On the other hand pedestrians thinks the main causes of accidents are overtaking tendency, unawareness among the people and untrained drivers.
- They blamed drivers the most for accidents. They also think pedestrians are also responsible with drivers for an accident.
- Drivers have given their suggestions for reducing traffic accident. 48% voted increasing awareness, 35% voted reducing overtaking and 13% voted widening of road as a mitigation measures for road accident. Drivers also suggested steps for government for reducing accident percentage rates. 34% drivers voted training of drivers, 25% voted improving traffic system, 23% voted increase road width and 18% thinks road maintenance as necessary steps for government to mitigate traffic accidents.
- Pedestrians have also given their suggestions for reducing traffic accident. 52% voted for increasing awareness, 21% voted for increasing road width and 20% voted for training the drivers as a mitigation measures for road accident. Pedestrians also suggested steps for government for reducing accident percentage rates. 41% pedestrians voted road maintenance, 33% voted for training of drivers, 14% voted improving traffic system and 12% thinks banning outfit vehicles as necessary steps for government to mitigate traffic accidents.
- Photogrammetry survey shows that there are many portions of the highway having a very poor surface to drive and due to busy road there lots of distractions for drivers. There are sharp bents without proper signs. It also seen that drivers have less awareness while driving. Overtaking tendency is a very common scenario for the drivers. Also some unwanted behavior like not following traffic rules, over speed and competition among themselves, not using helmets or wearing seat belts are found among the drivers. There are also not enough highway polices available for imposing traffic law. Also there are very less zebra crossing and overhead bridges for pedestrians crossing. As a result pedestrians risk their lives by randomly crossing roads anywhere they wants.

Based on the conclusion drawn above following observations can be made

- Mass awareness is needed among the people about traffic rules and regulations and traffic accidents.
- Government should impose traffic rules and regulations strictly.
- Government should train drivers about different traffic rules and regulations.
- There should be more highway police stations at close intervals in the highway.
- Government should ban unfit vehicles immediately
- Separate lanes should be constructed for motorized and non-motorized vehicles.
- Seminars, campaign, rally etc. should be arranged regularly to build awareness among people.
- More zebra crossings and overhead bridge should be constructed for crossing pedestrians.

This problem can be mitigated with the cooperation of everyone and thousands of innocent lives can be saved every day.

References
