

## **Road Accidents: Contemporary Scenario and Policy Issues in Bangladesh**

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### **Abstract**

In consideration of the size of the country, road network and vehicle population, the number of road accidents and deaths and injuries caused by such accidents in Bangladesh are one of the highest in the world. In the recent days, one of the most-talked topics is what can be done to make the road a safe place where death will not be an everyday occurrence. The alarming rate of dreadful road traffic accidents may have increased due to certain reasons: lack of political concern, lack of accountability of the relevant ministers and governmental bodies, incompetent drivers, inadequate punishment etc. In this paper, the road safety situation and some contemporary issues and priorities are briefly discussed in addressing the road safety problem. Fatality in road accidents is a critical phenomenon in developing countries. About 86 percent accident occurs in developing countries, although these countries own only 30 percent of vehicle fleet (Jahan, 2006:120). Providing safer roads through reducing accidents is now a priority issue for policy makers at the national level in developing countries. Using the secondary literature, this paper is intended to focus on the involvement of heavy vehicles and their operators in road accidents as well as their behavioral habits and attitudes. This article also focuses on accident statistics, major causes and finally some recommendations have been provided.

### **Introduction**

Road accident is a global concern. Accident rates and fatalities are alarmingly higher in developing countries. Countries like Bangladesh are losing about 1.5% of annual GDP due to road accidents. Like many other developing countries, Bangladesh is experiencing a very severe road safety problem and the situation has been deteriorating with increasing number of road accident deaths, largely as direct consequences of rapid growth in population, motorization, unplanned urbanization and lack of legitimate investment in road safety. Transportation system is one of the key factors for making an urban system functional and economically efficient. There is considerable evidence that the developed countries have been successful in reducing both the number and the severity of road accidents and injuries through prioritized investments focusing on technical solutions as well as improvement in behavioral and organizational measures. Developing countries, like Bangladesh, however, have been slower in devising and adopting such scientific methods and many roads still remain sub-standard. Each year, nearly 5000 accidents as

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reported by Police occur in Bangladesh. About 40 percent of these reported accidents occur on national highways.

In this paper, an attempt has been made to present the road safety perspectives in Bangladesh. This paper also highlights the dimensions and striking characteristics of the road accident problems in Bangladesh and it outlines some emerging road safety priorities, options and policy issues in Bangladesh.

### **Growth of Road Transport Sector**

In Bangladesh, the number of registered motor vehicles on the road increased steadily by about 120 percent in a period of 14 years. Nearly 75 percent of passengers and 65 percent of freight movement are taking place on the road system. The road transport plays an important role in catering for the increasing travel demand both for the freight and passengers in Bangladesh. Although the rates of motor vehicle registration and road kilometrage have grown considerably, they are still considered to be far short of the looming demand. These factors together with the large scale shift of traffic from other modes to road, the process of rapid urbanization in conjunction with socio-economic parameters have resulted in enormous road traffic accident problems.

### **Accident Statistics**

Though the length and width of highways remain virtually unchanged for the last two decades, the number of vehicles has gone up to 15 lakh from four lakh in the last 10 years, which is contributing to accidents. Drivers after being stuck in congestion indulge in reckless driving to make up lost time. For this desperate behavior, over 3000 a year gets killed on roads as per official figure. Officially, in the last 12 years, nearly 31,000 people have died and 9,000 sustained grievous injuries in 50,000 road accidents. A total of 173 people died in July, 2011 alone according to newspaper reports.

### **Road Accident: Global Context**

Globally, road accidents and their economic and social impacts are so huge and alarming that the issue has been identified as major concern. The global context may be summarized as: about 1 million persons are killed every year, about 23-24 million persons injured every year and developing countries having less than 40% of global motor vehicle fleet, share about 86% of road accidents and consequent fatality, injury and loss (Rahman, 2006: 124).

### **Accidents on National Highways in Bangladesh**

Of the accidents and fatalities of known locations, the share of national highways is much higher 56% and 61% respectively.

Table 1: Road lengths and accidents by road classes

Road Class	Road Length (Km)	% of Length	Number of Accidents (1998-2003)							
			All Accidents				Fatal Accidents			
			All Locations		Known Locations		All Locations		Known Locations	
			Total	%	No.	%	No.	%	No.	%
National Highways	3,086	14.84	8399	37.5	5699	54.8	6052	42.3	4081	60.4
Regional Highways	1,751	8.42	2769	12.4	1830	17.6	1979	13.8	1298	19.2
Feeder Roads	15,962	76.74	3343	15	253	2.4	2480	17.4	195	2.9
Subtotal	20,799	100	-	-	-	-	-	-	-	-
Others	170,109		7866	35.1	2625	25.2	3795	26.5	1183	17.5
Total			22377	100	10407	100	14306	100	6757	100

Note: Known Locations are stated by Km-Post

Source: RHD Webpage & Police Reported MAAP five Data (1998-2003)

### Traffic Composition and Operational Hazards

At some locations, prevalence of non-motorized vehicles was very marked. Non motorized vehicles and para transits constitute about 60% of the vehicles. Presence of a large share of non-motorized vehicles and aged, poorly maintained and worn out motorized vehicles create conflicts with the high standard inter-city buses.

### Major Reasons of Accidents

Dilapidated road conditions and rash driving of commercial vehicles are two foremost reasons for fatal accidents; among these two reckless driving can be considered as the main reason. The highways are old and have not increased much in number, length or width but the number of vehicles has gone up around 10 % every year. At least 60 % of the highways are in dilapidated condition even though highway maintenance work goes on round the year (The Daily Star, 16<sup>th</sup> August). A prompt review of literature reveals the following major factors that affect the number of fatal accidents and fatality rates:

- Driving habits;
- Road-related factors;
- Vehicle-related factors; and
- Socio-economic and demographic factors (Eskander and Istiak,nd)

Within each factor, several variables can be identified as being the most influential.

Table 2: Influential variables are presented for each factor.

Factors	Influential Variables
Driver factor	Age, alcohol, Fatigue, Seat belt usage, Speed, aggressiveness, violation history
Road factor	Posted Speed Limit, Roadside Safety Devices, Geometric Characteristics, Existence of Median and Barriers, Level of Pedestrian Traffic
Vehicle factor	Vehicle Type, Safety Equipment (Airbag, ABS), Vehicle Defects, Age Of Vehicle
Socio-economic and demographic factor	Income, Employment Levels, Poverty, Residential Density, Vehicle Ownership, Highway Network Density.

### **Excessive and Inappropriate Speeding**

In the built up sections of the highways, speed differentials and the excessive speeds pose a serious safety hazard. The average spot speed was 50-55 km/hr for all motorized vehicles and average speed of the inter-district high standard buses was around 70-75 km/hr (Hoque. *et al.*, 2006: 335). Lack or absence of service/frontage roads and speed reducing signs/measures aggravate the safety situation.

Vehicle speed has a profound effect on road accidents. In Bangladesh, one of the main causes of accidents is aggressive speed. Aggressive vehicle speed reduces a driver's ability to negotiate curves or maneuver safely around obstacles in the roadway, extends the distance necessary for a vehicle to stop and increases the distance a vehicle travels while the driver reacts to a hazard. But most of the vehicle drivers do not realize the fact that to maximize productivity, drivers are liable to try to drive safely and yet minimize the time spent in travelling between destinations (Newaz. *et al.* 2006: 375).

### **'Break Rules' Now Rules Highways**

Lawlessness and anarchy have gripped the country's road communication with driver's willfully violating traffic rules and exposing people to hazardous accidents every day. The scenario on roads is strikingly similar throughout the country. Drivers of buses, trucks, vans, private cars and microbus are constantly involved in mindless and wild races without the slightest respect for human lives.

Statistics show every year nearly 4,000 people die in around 20,000 road crashes across the country. In addition a quarter of a million people sustain minor to grave injuries in the accidents, adding to the increasing number of people without limbs (The Daily Star, 14<sup>th</sup> August).

### **Lack of Maintenance of Roadway**

Lack of proper maintenance has battered the existing roadway condition. Most of the 20,000 kilometer network of major roads in the country has become potholed due to lack of maintenance (The Daily Star, 16<sup>th</sup> August). Dilapidated road condition, badly managed intersections, disrespect to traffic rules and overwhelming number of vehicles have not

only turned the country's highways extremely dangerous but also increase travel time between the capital and the rest of the country. Due to lack of repair and routine maintenance, highways and intra-district roads have developed numerous potholes, pushing up the frequency of accidents, vehicle maintenance cost and travel time.



Source: The Daily Star, 16<sup>th</sup> August, 2011.

Fig. 1: Picture showing the damaged road condition with potholes.

### **Driver Incompetency**

Public transport drivers have no formal training, they are excessively overworked. Unqualified drivers get licenses through unfair means. Reckless overtaking on a highway full of curves leads to frequent accidents. Speed reducers at risky bends are very much essential. Reckless driving, blind curves and little or no speed reducing measures are on most of the highways in particular, for example: Dhaka-Aricha single carriageway have led to many fatal accidents. Even though this very important highway connects the capital with the southwest, the authorities concerned have not converted the entire road into a dual carriageway or install central reservations through out. The problem is made worse by reckless driving and fearless overtaking on the crowded road. There are many spots on the entire highway network, where large trees block motorists' view of oncoming traffic. There are no measures at many portions of the roads to force drivers to reduce speed. Vehicles often fail to remain in their lanes while taking the curve at speed and if they are not very cautious, collisions happen. Sometimes, helpers take over wheels with fake license and little or no training.



Source: The Daily Star, 16<sup>th</sup> August, 2011.

Fig. 2: Driving with an unskilled small boy in an unfit vehicle.

### Heavy Vehicles in Road Accidents

The issue of over-involvement of heavy vehicles: trucks and buses in accidents and injuries are of particular concern in Bangladesh. Traffic safety priorities in most Asian countries identified trucks and buses as major contributors to road accidents. In Bangladesh, accident problems are predominantly characterized by the over involvement of trucks and buses including minibuses. Studies of road accidents revealed that heavy vehicles, such as trucks and buses including minibuses are major contributors to road accidents (bus/minibus 33%, trucks 27%) and in fatal accidents, their shares are 35% and 29% respectively. This group of vehicles is particularly over involved in pedestrian accidents accounting for about 68% (bus/minibus 38%, trucks 30%). It may be noted that in the vehicle composition, the shares of buses and trucks are 5.2% and 8.3% (Hoque. *et al.*, 2006: 388)

### Curve of the Road

Trimming of trees and road curves for clear vision, construction of jiggle bar and road islands at the bends through expanding roads can significantly bring down the number of road accidents. Some curves on major highways has no chevron sign (to indicate direction), curve sign and rumble strips to help drivers avoid collision. Besides, the roadside trees in most cases block the drivers from viewing the road clearly.



Source: The Daily Star, 15<sup>th</sup> August, 2011.

Fig. 3: Overtaking tendency on the curved section.

### Risky Spots Left Risky

The Roads and Highways Department (RHD) is yet to introduce road safety audit to detect accident prone points on highways, where road crashes claim several hundred lives every year. The Accident Research Institute (ARI) of Bangladesh University of Engineering and Technology (BUET) recently handed over a list of over 200 accident

prone points, termed as “black spots”, on 10 major highways to the communications ministry. The Roads and Highways Department (RHD) took no measures to take care of the black spots. Road design and safety circle of RHD have neither the manpower nor logistics to conduct safety audit on highways and treat the faulty spots. The ARI listed 22 black spots on Dhaka-Aricha highway, where 311 people died in road crashes between 1998 and 2007.

### **Negligence of the Traffic Police**

The government set up the police unit to ensure a safer highway network and a smooth traffic management system. Even after 6 years in operation, the highway police remain almost inactive due to shortage of manpower and logistics (The Daily Star, 16<sup>th</sup> August).

### **Policy Issues on Road Safety**

According to STP (Strategic Transport Plan), safety is the first and foremost consideration for the transportation system. The high frequency of death, injuries and property damage especially on roads leads to an associated loss of productivity. In turn, this results in a large burden on the economy and a traumatic effect on the victims and their families. It is estimated that some 3% of the gross national product is lost due to these occurrences and a staggering figure of 700\$ million every year. The high rate of collisions and injuries is caused by many factors.

Policies will be written to alleviate the situation but improving the status of public awareness and individual’s responsibilities are the key issues here. In STP, some recommendations are made focusing on the improvement of the existing roads.

### **Need for Vehicle Licensing Control**

The government via Bangladesh Road Transport Authority (BRTA) aims to revise and improve the present system of vehicle registration in order to eliminate the possibility of vehicles which are not-roadworthy obtaining a certificate to operate. To facilitate this, the government is willing to provide the necessary funds and other measures, which will be needed to establish and maintain an up to date database of both vehicles and drivers. The database will be managed by BRTA but will be accessible to law enforcing agencies and safety engineers. The vehicle testing program will include test of brakes, steering, windscreens and lights. The government is also willing to encourage the private sector to establish trained technicians to undertake the vehicle testing program under license from BRTA.

### **Need for Driver Licensing Control**

Road crashes are a major cause of loss of life and property and the major factor in such crashes is the driver. Researchers estimate that 85% of all causative factors of accidents involve the drivers. The training, education and medical fitness of the drivers are necessary elements and should be evaluated before issuing any license to a driver. These controls are seriously lacking in Dhaka. It is said, 90% of drivers in Dhaka are holding fake driving licenses. The government via BRTA requires reviewing the existing system of issuance of driving license in order to amend it in favor of an improved and modern system. The government needs to ensure that the drivers are trained, skillful, aware of traffic rules, literate and medically fit to obtain a driving license. The private sector has to

be encouraged to establish modern driving schools to train drivers in the rules of the road and the control of his vehicle.

### **The Re-planning of Stations, Stops and Terminals**

Bus stations, ferry terminal and stops have been haphazardly established and are unsuitable to a growing demand for transport. Due to improperly planned bus routes and poorly located bus stops, buses stop and load/unload passengers on the road close to the intersections that cause unnecessary congestion and create a serious risk of accidents to the passengers. The government needs to build upon the public transport plan in order to re-plan and re-site the locations of bus stations and stops so as to ensure better co-ordination and passenger safety.

### **Enforcement of Traffic Rules**

The achievement of better control and improved safety on the roads depends on many factors. Among these factors, the effective enforcement of traffic rules and regulations is the most important. The enforcement of traffic rules and regulations has been very poor due to many reasons including:

- Lack of suitably qualified and trained police personnel
- Lack of reliable up to date database of licensed vehicles and drivers
- Lack of proper equipment and tools for enforcement
- Lack of co-ordination between various departments involved in the traffic and transportation system
- Inadequate penal provisions and enforcement procedures
- Highly mixed vehicular traffic on the road controlled under separate rules and authorities

In order to ensure effective enforcement of traffic rules and regulations, the government requires initiating actions to update the relevant acts, rules and regulations. The government should also strengthen BRTA and Dhaka Metropolitan Police (DMP) with necessary tools, equipments and trained personnel to enable them better enforce the laws.

Road safety issues depend on education, engineering and enforcement of traffic rules. In the engineering section, proper maintenance of the road infrastructure is included. Every construction in the roadway sector should go through proper monitoring and evaluation process (Sikdarand Bhavsar, 2009:14)

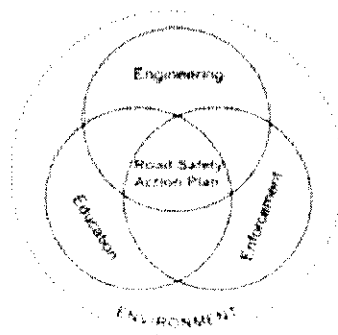


Fig. 4: A conceptual framework of road safety action plan.



### **Some Findings and Suggestions**

The major findings and recommendations of the study are listed here with clarity.

#### **Major Findings**

- Public transport drivers have no formal training; they are excessively overworked.
- Drivers never get punished for deaths in accidents.
- Unqualified drivers get licenses through lobbying by unions.
- Bribery is rampant in issuing fitness certificates; authorities do not check vehicles.
- Official statistics show over 3,000 people die in accidents every year, while non-government sources say it is no less than 12,000.
- The length of highways has remained unchanged, but the number of vehicles increased almost four times in one decade, making drivers aggressive on free parts of roads.

#### **Suggestions**

##### ***For Roads***

- The only long term real solution is to make all our national highways double lane on each side with dividers all along.
- Pending the above, all dangerous turning points should be identified all over the country, and dividers should be erected at each point. Bangladesh University of Engineering and Technology (BUET) identified 200 such spots last year. No action has been taken at any one of them till date.
- It is necessary to conduct an immediate countrywide survey on conditions of national highways and take a comprehensive plan to repair rather than ad hoc initiatives.
- The government needs to strengthen, modernize, and make accountable the road maintenance department. It has the reputation of being highly corrupt, inefficient and wasteful without a minimum of supervisory system. The more than Tk 600 crore annual road repair budgets, as people assume, is mostly up for grabs.
- There is urgent necessity of setting up a national monitoring authority to supervise road maintenance and repair.

##### ***For Vehicle Fitness***

- All vehicles of 10 years and above should be immediately taken off the roads. The rest should undergo proper fitness certification process that must include suspension and tie-rod checks. As it is observed by many, the current fitness process is a shame and corrupt.
- Weighing stations should be set up on all national highways to control overloading of trucks. Trucks carrying more weight than permitted, damage roads, destroy bridges and cause road accidents.
- Locally made bus-bodies are not built to specification, resulting in over-turning at high speed. This has to be re-examined thoroughly for the sake of safety.

##### ***For Drivers, Owners, Regulators***

- It is necessary to recast Bangladesh Road Transport Authority (BRTA) with professionals, and provide regular training to the staff to familiarize them with modern management and safety measures.

- Driver licensing process must be computerized and made corruption free. It is found that many drivers have vision problems including night blindness but are not aware of it. Many require glasses but do not get them because of expenses.
- Police seldom take punitive action against delinquent truck or bus drivers because of bribe and threat of strikes by bus drivers or owners associations. The authorities need to reach an understanding on this issue.
- Highway police need to be better equipped, increased in number and be accountable. They should not become an instrument of harassment and extortion.

### Conclusion

It is not expected that the incidents of road accidents to take away more valuable lives. As it is not a natural disaster, the control of it is in our hands. Policy makers should be concerned enough to remedy the situation before many more lives are taken away by this demon called "road accident". It should not also be forgotten that this demon does not operate by itself as in most cases, the dangerous/careless driving by drivers is the operative cause of such road accidents that should strictly be brought within the control of comprehensive legislation. The paper has attempted to highlight the road accident situation in Bangladesh. Many varied factors and issues involved in road accidents are briefly discussed. Driving speed has direct influence on the number and severity of road accidents. Driving speed combined with human factors like drivers' attitude, driving skills, pedestrians' road use behavior and environmental factors like road condition, density of road side activities, weather condition etc. are the main contributing factors to cause road accidents. Speed restriction can be considered as the safest and fastest way to reduce number of accidents on roads. This target (lowering accident rates) cannot be reached without continuous cooperation with all stakeholders working in road safety and without Government support. Although road accident situation in Bangladesh presents a horrific scenario at the moment, it is heartening to note that Roads and Highways Department has made it mandatory to include 'road safety' as a component of all road construction and major road maintenance projects. Raising public awareness will also be a concomitant issue with road safety.

### References

- Jahan, A. A. 2006. 'Road Safety Countermeasures and Traffic Calming Practices in Roads and Highways Department (RHD) in Bangladesh', paper presented in the International Conference on Road safety in developing Countries 2006, organized by Accident Research Centre (ARC), BUET, Dhaka, 22-24 August, 2006.
- Rahman M. U. 2006. 'Road Safety Auditing-A Proactive Engineering Practice for Road Safety Improvement', paper presented in the International Conference on Road safety in developing Countries 2006, organized by Accident Research Centre (ARC), BUET, Dhaka, 22-24 August, 2006.
- Newaz K. M. S. 2006. 'Speed Limit and Accidents on National Highways: A Case Study ', paper presented in the International Conference on Road safety in developing Countries 2006, organized by Accident Research Centre (ARC), BUET, Dhaka, 22-24 August, 2006.
- Hoque M. M. 2006. 'Heavy Vehicle Safety in Bangladesh: Accident Involvement, Driver's Behavior and understanding in Road Safety', paper presented in the International

Conference on Road safety in developing Countries 2006, organized by Accident Research Centre (ARC), BUET, Dhaka, 22-24 August, 2006.

Eskander S. M. S. U. and Khandokar Mohammad Istiak K. M.,nd. 'An Empirical Study of Trends and Economic Determinants of the Epidemic of Road Traffic Accidents in Bangladesh' retrieved from [http://www.sgvs.ch/congress09/upload/p\\_237.pdf](http://www.sgvs.ch/congress09/upload/p_237.pdf) on 27-8-2011 on 20<sup>th</sup> August, 2011 at 4pm.

Government of the People's Republic of Bangladesh , 2005. Strategic Transport Plan for Dhaka, 2005. Urban Transport Policy (Final Report), Dhaka: Ministry of Communication, Government of the People's Republic of Bangladesh,.

Sikdar P. K. and Bhavsar J. N. 2009. Transport and Communications Bulletin for Asia and the Pacific. *Road safety scenario in India and proposed action plan*, pp.1-16

The Daily Star, 2011. Retrieved from <http://edailystar.com/index.php?opt=view&page=22&date=2011-08-16> on 17<sup>th</sup> August, 2011