

Death on the Road: The New-age Epidemic

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January 2014

Current Events Analysis Series

Purpose of the Report

In July 2011, a truck carrying sixty schoolchildren skidded off the road and fell into a roadside ditch at Mirsarai in Chittagong, killing forty-four children and one adult.¹ The students were returning home after enjoying a school football match at the local stadium. The driver had switched lanes on the two-lane road in order to overtake a tractor and lost control while he was trying to avoid a head-on collision with the oncoming traffic. The driver did not have a driver's license or any formal training, and he was talking on the phone at the time of the accident.

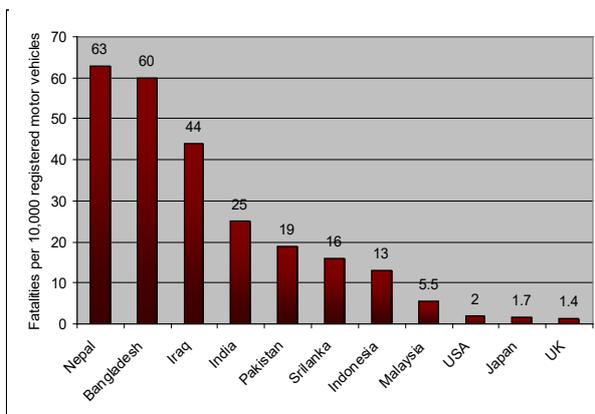
What is striking about the Mirsarai accident -- and so many other traffic related tragedies in Bangladesh -- is that they seem so preventable. A wider road, a lane divider, or a safer and better trained driver could have prevented the incident and saved so many young lives. In this report, we explore the causes of road traffic accidents, assess their impact, and suggest possible ways out of this growing epidemic.

The Extent of the Problem

What happened in Mirsarai was by no means an isolated incident. For example:²

- On March 16, 2013, seven eight-year old schoolchildren were killed and four were injured when a truck crashed into their school van in Comilla.
- On October 20 and 21, 2013, ten people were killed, including three members of the same family, and eighty-three were injured in eight separate traffic accidents.
- On November 15 and 16, 2013, twenty-two people died and twelve were injured in twelve separate road accidents.

Figure 1: Fatalities per 10,000 motor vehicles



According to official police statistics, during the last ten years, there have been approximately 3,000 annual traffic related deaths in Bangladesh.³ Although on a per capita basis the official fatality rate may not seem very high, on a *per vehicle basis*, it is alarming. According to the Accident Research Institute (ARI) at the Bangladesh University of Engineering and Technology, there are approximately 60 annual fatalities per 10,000 motor vehicles in Bangladesh, compared to 25 in India, 16 in Sri Lanka and 2 in the United States. (Figure 1)⁴

Table 1⁵ shows that while the number of accidents has declined since 1998, the number of fatalities remains high. Furthermore, as these official statistics are based on reported cases filled out by midlevel police officers (sub-inspectors), it is very likely that the true numbers are much higher. What is perhaps most alarming is almost half of the fatalities (1,488 per year based on a ten-year average) are pedestrian fatalities.

Table 1: Road Accidents in Bangladesh (1998, 2008-2011)

Year	Number of Accidents		Number of Casualties	
	Countrywide	Dhaka	Deaths	Injuries
1998	3,533	1,202	2,358	3,297
2008	3,800	642	3,570	2,416
2009	2,815	525	2,703	1,746
2010	2,437	458	2,443	1,706
2011	1,998	417	2,052	1,416

The economic costs of road accidents

In addition to the tragic loss of life, there are also economic costs to these accidents. In Bangladesh, the annual economic cost of road traffic accidents is estimated to be around 2 percent of its Tk. 151 billion (\$1.95 billion) GDP⁶. This is almost equal to the total foreign aid received in a fiscal year. The losses include direct and indirect expenses, such as

medical costs, insurance loss, property damage, family income losses and traffic congestion. A study by the police shows that the age group most vulnerable to road accidents, those between 21 to 35 years, comprises the core of the country's workforce.

Why is the problem so severe?

There are many causes of Bangladesh's deadly traffic situation. Some of the more salient causes include:

- **Structural problems and a lack of planning:** Dhaka has grown at an alarming rate. From 1995-2010, it added an average of over 400,000 residents every year, a rate of growth that exceeded most other major global cities (with the exception of New Delhi and Shanghai). Accompanying this population increase has been the rise in the number of vehicles on the roads, which increased by 133 percent over the period from 2004 to mid-2012, from 303,215 vehicles to 708,197 vehicles.⁷ Unfortunately, Dhaka's road infrastructure has simply failed to keep up with this dramatic growth. The same is true outside of the capital. There are almost no roads in the country that qualify as "highways."⁸ Inter-city roads in Bangladesh generally have only two lanes, which results in numerous head-on collisions as drivers attempt to overtake slower vehicles.
- **Failure to enforce traffic laws:** Enforcement of traffic rules and laws is practically non-existent. For example, while traffic police are numerous in Dhaka (around 3,300), their job is primarily to direct traffic – not to enforce the laws. In fact, line level officers (constables), which make up approximately 75% of the force, lack the authority to enforce the law.⁹ Even if the rules on the books were to be enforced, the fine amounts are based on the 1976 Dhaka Metropolitan Police Ordinance and have not been adjusted for inflation. As such, driving on the wrong side of the road can only be punished with a maximum fine of Tk 200 (\$2.50). As a result, there are effectively no consequences for illegal behavior.
- **A problem of drivers:** The number of drivers is estimated to be only one for every three motor vehicles,¹⁰ with the country needing approximately 150,000 new drivers each year.¹¹ The Bangladesh Road Transport Corporation (BRTC) has 17 training institutes¹² and 58, out of some 350 non-governmental driving schools which have approval from Bangladesh Road Transport Authority (BRTA)¹³. The interview respondents considered most of these to be poorly run and offer substandard training. According to Jagoree's informative documentary on traffic deaths, red tape, corruption and high costs (it costs up to Tk.8000 to obtain license) and poor enforcement discourages many drivers from obtaining an authentic driver's license.¹⁴ Regardless of whether they are legally licensed or not, many drivers, particularly those working for privately-owned buses and trucks, are overworked and are often fatigued on the steering wheels. Many work shifts last up to 24 hours; this is particularly the case for those whose low wages are based on the number of trips they make.
- **Failure to monitor unfit vehicles on the road:** Motor vehicles, especially buses and trucks, often have faulty brakes, worn-out tires and missing headlights and are not fit to be on the road. Despite this reality, there are only 41 BRTA inspectors to check all 83 components of

1,500,000 vehicles each year. Shamsul Hoque, former director of the Accident Research Institute said that simply issuing fitness certificates based on visual survey only creates room for corruption. There was a 2003 plan to use World Bank financing to develop a vehicle inspection system; however, it was never implemented.

- **Failure to provide and maintain road signs and markings:** Road signs, lane divisions, lane markings, pedestrian crossings, and traffic lights are all inadequately used. Furthermore many safety tools such as stop signs and pedestrian “Walk”/“Don’t Walk” indicator lights are completely absent.
- **Mix of a diverse range of vehicles of varying speeds on the same road:** One of the catalysts of the Mirsarai tragedy was a tractor moving at a much slower pace than other highway traffic. In the cities, the same tension exists between motor vehicles and rickshaws. However, banning these slower moving vehicles is not feasible as they cater to the local needs.

Towards solutions

Clearly there are a numerous measures that will need to be taken to reduce traffic accidents and fatalities. The above discussion suggests that road infrastructure needs to improve dramatically. Four-lane highways with dividers or two-lane highways with local service routes parallel to the highway would go a long way to improving the safety of inter-city transit.¹⁵ The discussion also makes clear that there is need for more meaningful regulation. Improving traffic safety will require the enforcement of traffic laws, verification of driver’s licenses, and inspection of vehicles. There are other potential measures as well:

- **A focus on high risk locations:** Locations where at least three fatal accidents have taken place over the course of three years are defined as “black spots.”¹⁶ These locations often entail sharp bends with trees or other structures obstructing the vision of the drivers. The Accident Research Institute identified around 222 “black spots” over a stretch of 180,000km of road. Focusing on these locations offers a cost-effective way of reducing accidents and fatalities.
- **Public transportation, rail, and waterways:** Up until 1972, road, waterway and railway were almost equally used for transportation, but the scenario changed in the late 1970s. As of 2010, an estimated 88% of people and 80% goods were being transported using the road network.¹⁷ The waterways of Bangladesh have also been reduced significantly, from 24,000km to only 5,700 km of functional waterways.¹⁸ Revitalizing these alternative modes of transportation offers a safer and potentially cheaper option to Bangladesh’s roads.

The solution will not just come from the authorities

While clearly there is much the government can and should do to resolve the country’s traffic problems, it is important to recognize that we as ordinary citizens are also part of the problem – and therefore need to be part of the solution. The Center for Enterprise and Society at ULAB recently conducted a survey of over 800 pedestrians at four Dhaka intersections to understand why most Dhaka pedestrians do not use pedestrian footbridges despite the high number of pedestrian fatalities. Surprisingly, we found that even though 53.4% of respondents reported that they were “very worried” of being hit by a vehicle while crossing the street, these individuals were *no more likely* to use pedestrian footbridges than those respondents who were just worried, not very worried, or not at all worried.¹⁹ Furthermore, even though 17.7% of respondents reported that they had actually been hit by a car and an additional 18.3% reported that someone in their family had been hit by a car, these individuals were also *no more likely* to use pedestrian footbridges!

Not using footbridges is not the only basic safety precaution not being taken. Using police data, the Accident Research Institute found that in 97.7% of traffic injuries in 2010, the injured party was not wearing a seat belt or -- in the case of motorcycle-- a helmet.²⁰ This is basically the same percentage as in 1998. These are not only horrendously high percentages, but they show that there has been no change or improvement over time. As such, a solution to the traffic fatalities problem requires that ordinary citizens obey mandatory traffic regulations, stop illegal practices, take safety precautions such as driving defensively, wearing seat belts, using pedestrian footbridges and wearing helmets when riding motorbikes and bicycles.

Concluding remarks

“Life in Bangladesh is cheap,” said Catherine Masud after she lost her husband filmmaker Tareque Masud in a fatal car crash on August 13, 2011 on the Dhaka-Aricha highway in Manikganj, which also killed four others on the vehicle.²¹ Catherine along with three others survived the crash. In her own words, the fact that she was wearing a seatbelt possibly helped her survive. The tragic loss of an important national figure led to prompt government action in fixing around 20 “black spots” on the highway where the accident took place. While these actions have perhaps already saved lives, hundreds of “black spots” still remain unattended. It is clear that through a mix of infrastructure investment, enforcement, and education promoting traffic safety, traffic fatalities can be reduced.

¹ “Mirsarai tragedy trucker caught”. 2011. *The Daily Star*: June 22.

² “7 school kids killed in Comilla road crash.” 2013. *The Daily Star*: March 16; “Road crashes kill 10”. 2013. *The Daily Star*: October 22; “22 killed in road accidents.” 2013. *The Daily Star*: November 17.

³ Accident Research Institute. 2011. “Road Safety Facts.” Dhaka: Accident Research Institute

⁴ *Ibid.*

⁵ *Ibid.*

⁶ WHO. “Prevention and Cure of Major Non Communicable Diseases.” Country Office for Bangladesh. World Health Organization.

⁷ Bangladesh Road Transport Authority (2012) http://www.brta.gov.bd/images/files/motor_v_dhaka_05-08-12.pdf

⁸ Shishir Kanti Raut, executive engineer of Roads and Highways Department.

⁹ Daniel M. Sabet. 2013. “Fear is not Enough: Testing the impact of risk on pedestrian behavior in Dhaka, Bangladesh.” Working Paper. Center for Enterprise and Society.

¹⁰ K. Enayet Ullah, secretary general of Bangladesh Road Transport Owners Association.

¹¹ Osman Ali, general secretary of Bangladesh Road Transport Workers’ Federation

¹² Bangladesh Road Transport Corporation. List of BRTC Training Institutes. www.brtc.gov.bd

¹³ BRAC. BRAC Driving School. www.roadsafety.brac.net

¹⁴ “Death Trap.” 2013. A Documentary directed by Monjurul Haque and produced by Jagoree.

¹⁵ Md. Shamsul Hoque, Former director, Accident Research Institute (ARI), BUET

¹⁶ Md. Shamsul Hoque, Shah Md. Moniruzzaman and S.M. Sohel Mahmud. 2007. “Effectiveness of black spot treatments along Dhaka-Aricha highway” *Journal of Civil Engineering*: Vol 35(2) 93-104

¹⁷ Prof Anu Muhammad, member secretary, National Committee to protect Oil and Gas, Mineral Resources and Power-port

¹⁸ Aminur Rasul Babul, member secretary, Movement for Establishing Safe Waterway.

¹⁹ Sabet. “Fear is not Enough”

²⁰ Accident Research Institute. Road Safety Facts.

²¹ “Tareque, Mishuk among 5 killed”. 2011. *The Daily Star*: August 14

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