

MOBILITY AND ACCESSIBILITY PROBLEMS AROUND SCHOOLS IN DHAKA (BANGLADESH): A CASE STUDY

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ABSTRACT

Dhaka, the capital of the country and one of the most densely populated mega-cities in the world, has been lacking in proper infrastructure, considering mobility, pollution etc. To improve the situation in rapid and unplanned growth of Dhaka city both in terms of population and size, it demands a large amount of public facilities such as open spaces, playgrounds, schools, hospitals etc. The increasing number of commercial establishments, coupled with the lack of adequate parking facilities, has given rise to a tremendous amount of traffic congestion, especially during the mornings and afternoons when children are dropped off and picked up from school in Dhaka.

This paper explores the present accessibility and mobility problems around the schools of Dhaka city. A series of field survey was conducted in order to collect information's regarding walking and crossing facilities around schools in Dhaka. Based on the findings, suggestions on future planning of school facilities regarding the road accessibility issues have been suggested in this paper.

KEYWORDS: Accessibility, Mobility, Road Safety, Urban Planning, Vulnerable Group

INTRODUCTION

Background of the Study

Pedestrians in the capital remain exposed to the constant danger of losing life or limbs as reckless driving continues with impunity. Though too many lives are cut short in accidents resulting from rash driving every year, the authorities seem little concerned about taking any action to check the menace. Coupled with reckless driving and jaywalking, a lack of strict enforcement of traffic rules only makes matters worse. In recent times, disregard for traffic rules and callousness on the part of drivers and sometimes pedestrians have accounted for many a tragic accident in the city and elsewhere. In particular, the deaths of school-going children owing to rash driving have moved all but those who are responsible for ensuring road safety.

Nine-year-old girl Sidratul Muntaha Paloma, the brightest student in class-II of the Ibrahimpur branch of Monipur High School and College, is the latest victim of reckless driving. Paloma was killed when a bus rolled over her in Mirpur on a wintry morning on Wednesday last week. She was going to school with her mother. Earlier on February 3, 2010, tragedy of a similar kind occurred before Willes Little Flower School when class-I student Hamim Sheikh was crushed to death by a bus as his mother looked on in horror.

Bangladesh Road Transport Authority and police estimate that accidental deaths hover around the figure of four to five thousand annually and the number of those injured is six to seven thousand. Accident Research Institute of BUET portrays a more dismal picture. It notes that road accidents in Bangladesh claim on an average 12,000 lives annually and lead to about 35,000 injuries. According to Dhaka Metropolitan Police statistics, 198 people were killed in 259 crashes in the city in the first half of 2010. Around 72 percent of fatal accidents are caused by vehicles hitting pedestrians.

Although recklessness and callousness in drivers are a prominent cause of the accidents, many pedestrians prefer to cross roads by clearly flouting traffic rules and risking not only their own lives but also the lives of motorists and other pedestrians.

Incidents of people crossing a busy thoroughfare instead of using a foot over bridge nearby have become a common picture in the city. The 52 foot over bridges in the city built by Dhaka City Corporation and Rajdhani Unnayan Kartripakkha and four underpasses now remain poorly utilized because of random jaywalking as pedestrians find most of the footbridges and subways unsafe and filthy. They allege many footbridges are located in such a place that they are of no use, while vendors, sex workers and beggars capture a major portion of these bridges. The poor condition of these old structures discourages people from using them.

They are forced to walk along the streets due to illegal occupation of pavements by parked cars, shops, vendors and construction materials. But the authorities concerned seem to be turning a blind eye to these problems. Lack of an adequate number of traffic personnel and safety measures on the roads in front of educational institutions are another reason why school-goers and their parents are so at risk of becoming casualties of rash driving.

Nature of Transportation in Urban Areas in Bangladesh

Dhaka, the capital city of Bangladesh, has a population exceeding 10 million. With a growth rate of about 8 per cent per year, it is expected to be the seventh largest city in the world by 2015 (Nagari 2001). Rapid population increase over the past decade has resulted in its transport services becoming no longer able to respond to the travel needs of its residents. This demand has not been matched by sufficient investment in transport infrastructure, services and management. Traffic and public transport conditions in Dhaka have seriously deteriorated, characterized by daily traffic jams, traffic congestion, long delays and high incidence of road accidents.

Dhaka traffic uses a multi modal transport system that includes walking to work and motorized and non-motorized movement. After pedestrians, the rickshaw is the second largest mode of transport in the city. There are several, widely varying estimates of the number of rickshaws; those licensed number around 80,000 and 43,000 more are likely to be licensed and to those can safely be added 300,000 operating illegally. Rickshaws not only dominate the transport system of Dhaka city, they are also a major source of employment in both the rickshaw pulling operation and in related ancillary industries. Without a well-organized scheduled bus system or any other mass transit system, Dhaka city presently depends largely on rickshaws in the city. Therefore, the popular view is that the city's transport system could be improved by replacing cycle rickshaws with a motorized system.

Accessibility and Safety Issues of Road Infrastructure around School

The way people travel (mobility) has a major bearing on the environment and on their health. The quality of life in a city is linked to the modes of transport available and actually used. Safety is a major concern in Dhaka at large. There are several dimensions related to safety, such as risk of injury, which is related to road and traffic conditions, behavior of road users, as well as the enforcement of traffic laws. As Dhaka's population grows and vehicular traffic increases, the issue of safety of vulnerable road users, in particular, becomes even more urgent.

In this report, therefore, accessibility, mobility and safety conditions have been brought together to analyze the sustainability, Accessibility and Safety Issues of Road Infrastructure around School of Dhaka. A transportation system that affords the greater majority of user's maximum mobility, access and safety is considered sustainable. This perspective is relevant for cities like Dhaka where vulnerable road users who make the bulk of road users are often forgotten in important

policy and planning debates as well as investment decisions, a situation that is inequitable, unsustainable, and therefore ought to be reversed.

Problem of Vulnerable Groups

Vulnerable groups includes only those categories of road users who have limited psychomotor abilities i.e. children and elderly. These groups when exposed in the traffic environment generally more vulnerable because they have limited sense of traffic speed; hence they cannot properly judge the speed and distance of oncoming vehicles and get grievous injuries. Children are vulnerable road users around school. Road-related fatalities are the leading cause of death for children aged between 0 and 12 years and the third highest cause of injuries behind falls and unintentional injuries. Keeping in the view of the above present paper discusses about the problems of children (including children with disability), the kind of problems they face while being exposed in traffic environment and what could be done to enhance their accessibility.

OBJECTIVES AND METHODOLOGY

Present paper highlights major and essential needs of the children with 5 to 12 years and major types of barriers for them related to access and mobility problems around school. To achieve the objectives of this paper, a series of survey were conducted and Five schools were selected for questionnaire survey. Finally, this paper prescribed requirements of school according to present planning standards compared with its real scenario in study area along with nature of school going students and schools.

Analytical Process Was Conducted in these Following Steps

- Analysis of the study area is done on the basis of road network system and infrastructure around the site.
- Observation of children aged 5 to 12 years was done at various time of the day according to the changes of activities of the people.
- Problems and effects of mobility and accessibility were discussed with the general people and the users.
- The entire findings were analyzed on the basis of safety and security issues.

The guidelines aim to assist school communities in the identification of road safety issues in their school environment and the development of strategies to address these issues. Key outcomes expected from the use of strategies suggested in this document include:

- A safer environment for children on their way to and from school.
- More children walking and cycling safely to school.
- A decrease in the traffic congestion surrounding the school during before and after school.
- A greater awareness and commitment to school road safety by the whole school community.

ANALYSIS OF THE SURVEY

Study Area Selection (Location of Schools)

Keeping in view of the above increasing risk of the road accidents among school going children five schools were selected for the access facilities pertaining to road side infrastructures adjacent to the schools. These five schools were adjacent to the main road side and as per the survey findings students of both the schools were compelled to cross the road

without zebra crossing as the roads adjacent to the schools did not have that proper provision.

Case Study 1: Dhaka Residential Model College

Dhaka Residential Model College (also referred to as DRMC) formerly known as Residential Model School, is a public school in Mohammadpur, Dhaka, the capital of Bangladesh (As shown in figure: 01). The school offers education for students ranging from third grade to twelfth grade (approximately ages 7 to 18). With over 4,000 students, 1,000 of which reside in its six dormitories, DRMC is one of the largest residential schools in the country.



Figure 1: Satellite Image of Dhaka Residential Model College (Left), Some Images of Dhaka Residential Model College (Right)

Case Study 2: Oxford International School

Oxford International School (OIS) is an English medium co-education School following the academic programme of the University of Cambridge, UK up to GCE O and A Level. House # 34, Road # 27 (old), Dhanmondi R/A, Dhaka, Bangladesh. (As shown in figure: 02).

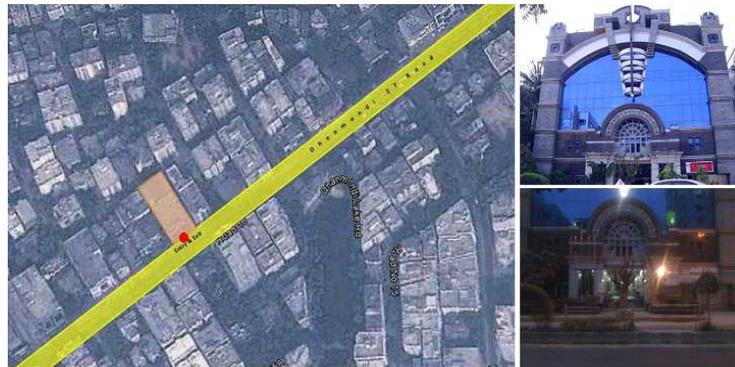


Figure 2: Satellite Image of Oxford International School (Left), Some Images of Oxford International School (Right)

Case Study 3: Willes Little Flower School & College

Willes Little Flower School and College is one of the first English medium school in the heart of Dhaka, Bangladesh (As shown in figure: 3) and was established in 1956 by Philanthropist Josephine Willes. Willes has a long national reputation for academic excellence. The school is located in the center of the metropolitan Dhaka city in the Kakrail area. It is part of the Ramna Metropolitan Zone. The school is considered the one of the two land-marks of the Ramna Zone. The school is just besides Razmoni Ishaka Hotel.



Figure 3: Satellite Image of Willes Little Flower School & College (Left), Some Images of Willes Little Flower School & College (Right)

Case Study 4: Dhanmondi Government Boys' High School

Dhanmondi Govt. Boys’ High School, commonly known as DGBHS; is a public educational institution located at the intersection of Mirpur Road and Manik Miah Avenue in Dhanmondi, Dhaka, Bangladesh (As shown in figure: 4).

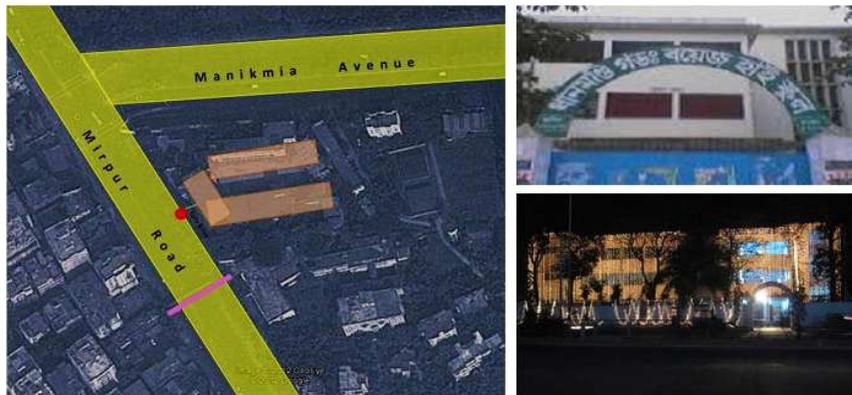


Figure 4: Satellite Image of Dhanmondi Govt. Boys’ High School (Left), Some Images of Dhanmondi Govt. Boys’ High School (Right)

Case Study 5: Motijheel Government Boys' High School

Motijheel Government Boys' High School, or popularly known Central Government School, is one of the top ranked schools in Bangladesh. It was established in 1957 as Central Government Boys' School (As shown in figure: 05).

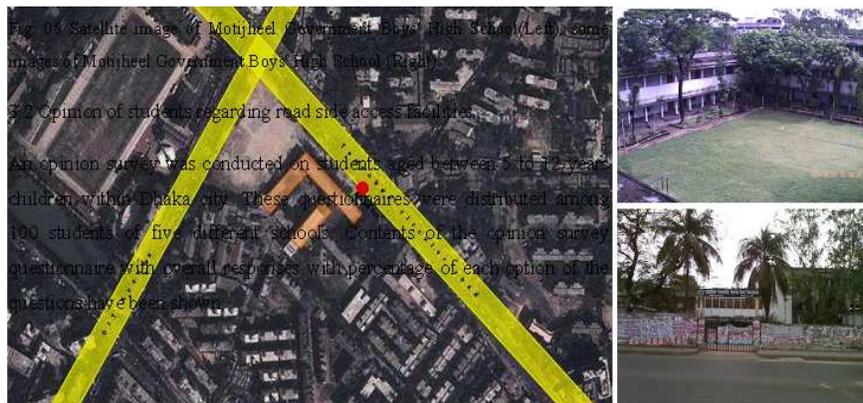


Figure 5: Satellite Image of Motijheel Government Boys' High School (Left), Some Images of Motijheel Government Boys' High School (Right)

Opinion of Students Regarding Road Side Access Facilities

An opinion survey was conducted on students aged between 5 to 12 years children within Dhaka city. These questionnaires were distributed among 100 students of five different schools. Contents of the opinion survey questionnaire with overall responses with percentage of each option of the questions have been shown.

Opinion of students regarding road side access facilities

School name: All

Location:

Sl.no	Questions	Options	Response	Percentage
1a	While	arriving at the school	10	20%
		Departure from the school	40	80%
1b	How do you cross the road?	With parents	0	
		With teachers	0	
		With security guards	0	
		With senior students	0	
			0	
2	Do you cross the road from zebra crossing?	yes	0	
		no	50	100%
3	Reason for not using zebra crossing	absence of zebra crossing	49	98%
		others causes	1	2%
		very high traffic volumn	9	18%
4	The road facing to school is having	high traffic volumn	25	50%
		medium traffic volumn	0	
		low traffic volumn	0	
			0	
5	Presence of enforcement near school	always	30	60%
		sometimes	14	28%
		rarely	0	
		never	0	
6	Behavior of motorists/drivers towards the predestrians	very aggressive	6	12%
		somewhat aggressive	23	46%
		neutral	19	38%
		Friendly	2	4%
		very friendly	0	
7	Fellow pedestrians/road users help during any crisis	always	33	66%
		sometimes	17	34%
		rarely	0	
		never	0	
8	Traffic police help you during any crisis	always	20	40%
		sometimes	19	38%
		rarely	1	2%
		never	10	20%
9	Presence of footpath adjoining school premises	yes	50	100%
		no	0	
10a	Walking on the footpath is	very comfortable	0	
		comfortable	21	42%
		uncomfortable	25	50%
		very uncomfortable	2	4%
10b	Why the answer is "uncomfortable" or "very uncomfotable"	uneven surface	0	
		full of packed cars	0	
		not proper width for walking	6	12%
		other please specify: Bike and hawker	4	8%
			0	
11	How do the children cross the road	running	2	4%
		walking	48	96%
		making queuing	0	
		other activity(if any):	0	
			0	
12	Perception of the road user behavior towards the children	very aggressive/not yielding	0	
		somewhat aggressive	2	4%
		neutral	46	
		friendly	2	4%
13	How do the disable cross the road?	very friendly	0	
		taking help from someone	30	60%
		using wheel chair?	2	4%
		no one seen	18	
		other activity(if any):	6	12%
14	Reason for not using foot over bridge near school?	absence of foot over bridge	30	
		others causes: bad smell & anti social activities	16	32%
15	Presence of hawker/salers at footpath?	yes	30	60%
		no	20	40%
16	Security guard of the school help you during any crisis	always	35	70%
		sometimes	5	16%
		rarely	0	
		never	0	
17	Presence of unauthorized vehicle at footpath?	yes	32	64%
		no	8	16%
18	Presence of parking(car/bus) near school?	yes	20	40%
		no	30	60%
		others	0	

RECOMMENDATION

Based on questioner survey the following recommendations are made with a view to reduce the mobility and accessibility problems around the selected schools.

- Awareness should be raised among students, guardians and security guards. Visual and media based Campaigning about road safety accessible feature among students, guardians and security guards and to all categories of road users.
- Planned width of pavements (Side walks) to allow for safe walking conditions for the disabled and other pedestrians. Maintenance of smooth pavement surface and low grade slopes.

- Enforcement of pavement use for walking and provide adequate space for other uses (hawker/sellers) where feasible.
- Building of safe crossing overhead/ underground bridges which may include the use of lifts/ ramps to ensure safety both from traffic accidents as well as from crowded pedestrian environments.
- Banning of Presence of hawker/sellers at footpath should be affected immediately. The problem can be reduced by relocating the Hawker from footpath.
- Law enforcing authorities should prohibit unauthorized vehicle at footpath.
- Applying efficient traffic management technique should ensure discipline vehicular movement.
- The problem can be reduced by proper designing the parking space near school.
- Use of zebra crossing should be mandatory while crossing the road.

CONCLUSIONS

This paper has explored that there is severe accessibility and mobility problems around educational institutions (schools) in Dhaka city .These problems are complex and highly interrelated. It demands greater co-operation between the all concerned (policy makers, transportation planners, traffic engineers, school administrators, drivers, parents and students, and possibly others who may have knowledge or expertise regarding the safety and mobility issues around school)to take some urgent action to the development of systematic road safety practice through implementation widespread countermeasures.

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