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Impact of Flyovers in Dhaka City of Bangladesh: A Study on the Affected People in the Adjacent Area

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ABSTRACT

Success of a city predominantly depends on the efficient delivery of urban services of which efficient transportation system can identify as the key element. An adequate and efficient transport system is a pre-requisite for sustainable economic development. The present paper comprises impact of Flyovers of Dhaka City on the Affected People in the Adjacent Areas. The ever-increasing migration rate from fringe areas initiates both horizontal and vertical expansion of the capital after the independence. The country failed to adopt any decentralization policy to overcome the population problem. To predict the changes in influence of the flyover economic evaluation is also conducted side by side. During the study, some problems have been identified and feasible recommendation evaluated in this context. The ability of Dhaka's transport system to sustain economic growth has been declining steadily day by day.

Keywords: *Transport System, Impact of Flyover, Traffic Congestion*

I. INTRODUCTION

Dhaka is fast becoming one of the largest cities in the world. With 13 million people it is also one of the most traffic congested. By 2020, the megacity's population is expected to rise to 22 - 25 million [1]. 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. In 1987, The Roads and Highway Department of Bangladesh first recommended construction of grade separated flyovers at four congested rail-crossings intersections within this situation at Mohakhali and Khilgaon intersection were so worst that they give greatest emphasis in this early recommendation [2]. Recently in Dhaka City of Bangladesh, flyover has been introduced to

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eliminate traffic congestion problem. On November 4, 2004 the incredible turn up commence in transport system of Bangladesh, as it is the inauguration of the long desired Mohakhali flyover. The second flyover in Bangladesh at Khilgaon was commissioned on March 22; 2005. Introduction of two flyovers at Mohakhali and Khilgaon intersections of the city could not bring good result as it were expected before, as real field experience is not pleasing. Inadequate roadway coupled with mix of different types of vehicles, lack of proper driving behaviour and inefficient signalling system, indiscriminate on-street parking, lack of coordination among and irresponsibility of various service providers make the overall situation is complex.

II. OBJECTIVES

The following are the specific objectives of the research work:

1. To investigate the present land use pattern of the study areas;
2. To find out the negative impacts of flyovers;

III. MATERIALS AND METHODS

In order to arrive at the desired objectives, field level data from the Mohakhali and Khilgaon Flyovers adjacent areas were collected through intensive survey by questionnaires. At first two types of questionnaires were prepared for collecting data from businessmen and landowners.

The secondary data on Mohakhali and Khilgaon Flyovers adjacent areas and related aspects were collected from various published and official sources. The concern agencies like DSM (Design, Supervision and Monitoring) Consultants, DTCB (Dhaka Transport Cooperation Board), DUTP (Dhaka Urban Transport Project), RHD (Roads & Highway Department) etc. All the collected data regarding business, transport, traffic jam and infrastructure related information were analyzed by MS Word, MS Excel, Arc/Info, Adode Photoshop 7, Adobe Illustrator 10, PDF Converter etc .

IV. STUDY AREA

The study area Dhaka city of Bangladesh is the largest cities in the world in terms of population density, 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. The country failed to adopt any decentralization policy to overcome the population problem. In 1987, The Roads and Highway Department of Bangladesh first recommended construction of grade separated flyovers at four congested rail-crossings intersections within this situation at Mohakhali and Khilgaon intersection were so worst that they give greatest emphasis in this early recommendation (DITS,

1994). The first flyover in Bangladesh at Mohakhali which is intersection coming towards the central city is finding no alternatives. The intersection has smooth link among the diplomatic zones (Baridhara, Gulshan, Banani), and Northwestern fringe (Tongi, Gazipur, Uttara). But the increased traffic creates bottleneck conditions running along the subsequent busy intersections, especially front of Prime Minister's Office, Bijoy Soroni, Farmgate, Kawranbazar, Bangla Motor, Sheraton Hotel and even Shahbag. On the other hand the second flyover in Bangladesh at Khilgaon, that is road and rail intersection is one of the busiest areas, which has smooth link among the Eastern Side (Saidabad, Jhatrabari), Western Side (Malibagh, Rampura, Gulshan, Baridhara), Southern Side (Rajarbagh, Fokhirapool, Arambagh, Motijhell and Dilkusha Commercial Area). The most of influencing zone of Mohakhali and Khilgaon flyovers are planned as residential purpose but the adjacent land use pattern is slowly converted into commercial establishment. Flyover construction deteriorated the visual impact but the benefits diverted to the local people are extremely negligible because they neither can use the flyover nor release from the traffic jam of the linked intersection.

V. RESULTS AND DISCUSSION

a) Historical Background of Dhaka City

Dhaka City was established on the bank of the river Buriganga and at that period a river-based economy controlled the city dwellers. From that time, the city grew only at one side of the river, mostly towards north. After the independence of Pakistan, Dhaka City was declared as the provincial capital of East Pakistan. The river was dying gradually while the land communication from Dhaka to the other parts of the country was improving. Dhaka city exploited the following factors and used them to their advantage: Dhaka's historical background, fine climatic condition, advantages of being a capital city, better quality of life comparing to other cities, better job opportunities and skilled man power. Especially after the independence of Bangladesh, the growth of this city never went down. Although Dhaka City's area is less than one percent of the country's total land area, it supports about 10 percent of the total population of the country. Now traffic congestion becomes a burning question for the city dwellers along with all levels of policy makers. As Mohakhali and Khilgaon considered as the connecting node between central city and the north-eastern fringe arena, it has remarkable role in the greater Dhaka transport context. For this several developing steps have been implemented in the last fifteen years to improve the situation. But most of them have fallen in vain due to some hidden inherent characteristics of the intersection, user behavior and unwise non-feasible policy enforcement [5].

b) Dhaka becoming one of the largest mega cities

Dhaka is fast becoming one of the largest cities in the world. With 13 million people it is also one of the most traffic congested. By 2020, the megacity's population is expected to rise to 22 - 25 million. This rapid population growth together with the limited space available for new transport

infrastructure will further aggravate the heavy congestion in Dhaka. Bangladesh already has one of the highest traffic fatality rates in the world. Upgrading transport services for more efficient use of limited space is therefore critical for ensuring people's mobility, improving their quality of life, and boosting economic growth [6].

c) Mohakhali Flyover at a Glance

The first flyover in Bangladesh at Mohakhali was commissioned on October 4, 2004. The construction process of the flyover began in December 6, 2001. The 1.12 km flyover was built by first Metallurgical Construction Limited, a Chinese firm, under the World Bank funded Dhaka Urban Transport Project. The Roads and Highways Department implemented the project. The construction cost was about BDT 116 crore. The four-lane flyover, which is 17.9 meters wide, has 552 piles and 19 piers. It has two ramps. The length of ramp on the north of the flyover towards the Airport Road is 147 meters and its length on the west, in front of Shaheen College is 177 meters [3]. **Figure- a** represents the Mohakhali flyover and **Map -c** represents Sketch Map of Mohakhali Flyover Area

d) Khilgaon Flyover at a Glance

The second flyover in Bangladesh at Khilgaon was commissioned on March 22, 2005. The construction process of the flyover began in September, 2001. The 1.9 km flyover made completely by the local experts. Local firm Development Construction Limited built the flyover on internal funds. The Local Government Engineering Department implemented the project. The flyover has been constructed at a cost of about BDT 81.75 crore. The two-lane flyover, which is 14 meters wide, has 543 piles. The flyover has a 780-meters main bridge and three ramps. The length of the flyover towards Saidabad is 303 meters, Malibagh 190 Meters and Rajarbagh 285 meters. The ramp towards Saidabad is 220 meters, Malibagh 202 meters and Rajarbagh 222 meters. **Figure-d** represents the Khilgaon flyover and **Map-d** represents Sketch Map of Khilgaon Flyover Area [4].

e) Negative Impact of Adjacent Area

Mohakhali is an important intersection of Dhaka City. Mohakhali area is a commercial area. A number of 80 businessman's opinion was surveyed for evaluate to impact of flyovers on the adjacent areas. A few shops are fully and a few shops are partly damaged during the construction of flyover. A large number of people are affected for construction of flyover. Monthly income of businessmen has decreased after construction of the flyover. Job opportunity has decreased on the adjacent shops [3].

Khilgaon is an important intersection of Dhaka City. Khilgaon area is used as a mixed purpose. Road side of the building is used residential and commercial purpose. Ground floor is shop and top floor is used for residential purpose. A number of 110 businessman and 30 landowners opinion were surveyed for evaluate to impact of flyovers on the adjacent areas. Businessmen are more affected in the areas. Their monthly incomes

are reduced after construction of the flyover. Paint, tyre, rod, cement etc are heavy goods. To bear this goods are needed large space. Edges of the flyover are very narrow strip. This narrow strip is hampered for business. They cannot easily handle these goods and also for the customers. Forty four shops are fully and few shops are partly damaged by flyover. A few landowners are affected by the flyover. They lost their land, building, tin shed structure and trees.

Some specific negative impacts are given below:

1. Construction of flyover causes loss of lands, displacement of population and loss of social cohesion.
2. A great effect on the economic activities.
3. Loss of employment.
4. The significant damage of infrastructure of private and public property.
5. There is evidence that health hazards may potentially occurred.
6. There are also a number of impacts on environment.
7. Noise and air pollution increased on the adjacent areas.
8. Accident increased on the adjacent areas.
9. Traffic congestion increased on the surrounding areas [3].

VI. CONCLUSION

As a transport improvement, flyover is an advance tool which involves high technology and lots of resources. As being a superstructure, it has many prerequisite to function effectively such as extra land in the intersection, available by-pass roads etc. The present service of the flyover can be ensured through opening the cantonment roads for public use or shifting the Kamalapur rail station to countryside. The flyover has not meeting with its basic objectives because of having no by-pass roads to drain the access traffic. At present government have plans to construct more flyovers at the congested intersections. Flyover requires huge money but only traffic discipline with simple planning technique can better reveal with the critical traffic problems.

VII. RECOMMENDATIONS

Some recommendations of flyovers in Dhaka City on the adjacent affected people are the following:

1. Mohakhali and Khilgaon intersection area is mainly commercial area. A lot of economic activities are accumulating here. If government takes better planning, it may reduce damage of the businessmen for the construction of flyover.
2. Government didn't give proper attention for businessmen and land owners. Government gave a small amount of compensation compare to total loss. It is essential to compensate affected people. When a new project will be implemented, government should give priority for compensation.

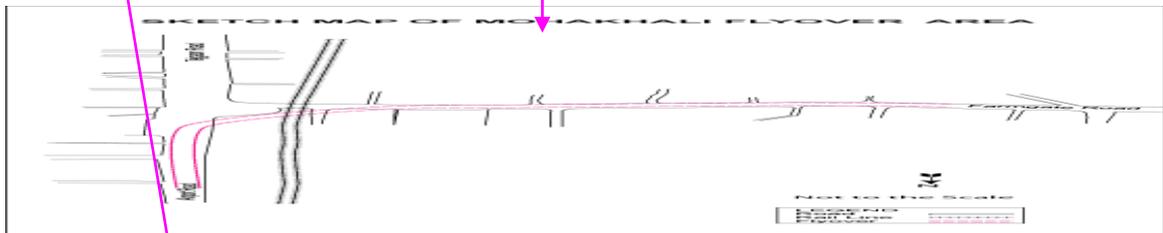
3. Many workers lost their job on the adjacent shops. Government could create opportunity for those workers.
4. Businessmen claimed that they cannot handle goods easily because of narrow footpath. Proper planning could solve this problem.
5. It is essential to evaluate to flyovers necessity, applicability, and traffic jam solution of the adjacent areas.

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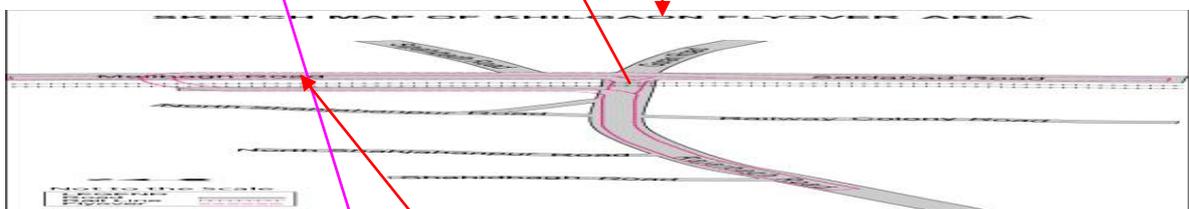
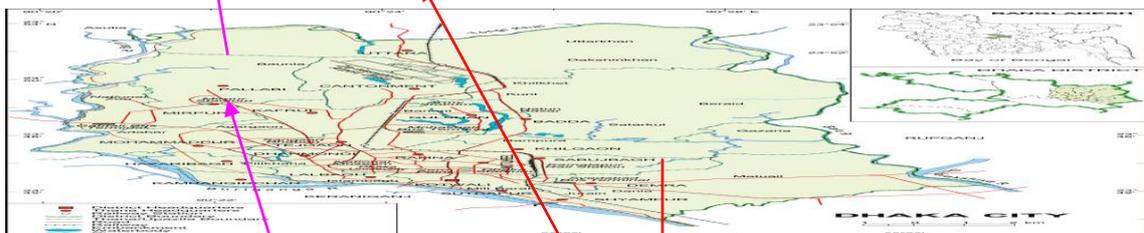
a.



c.



b.



d.



Figures & Maps: (a) Mohakhali Flyover in Dhaka City of Bangladesh,(b)Khilgaon Flyover in Dhaka City of Bangladesh, (c)Sketch Map of Mohakhali Flyover Area in Dhaka City of Bangladesh (d) Sketch Map of Khilgaon Flyover Area in Dhaka City of Bangladesh (Source: Bangla Pedia & Google)