

Way to Integrated Transportation System in Dhaka City

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Rapid urbanization has led to the continuous increase in the number of vehicle users, inadequate transportation facilities and policies, the lack of reliable public transport, unplanned and inefficient traffic management practices, and inadequate parking facilities have created a very delicate situation in the existing transport system in Dhaka city. Lack of coordination among transport, road, and rail and waterway management makes the existing communication more intolerable.

Traffic jam for Dhaka is currently a major problem. Two major reasons for traffic congestion have been identified- inexpensive transport management and dependency on personal vehicle due to insufficiency of public transport. There are 33 times more cars than buses in the city, cars account for just 13 percent of passenger transportation, while buses are responsible for 49 percent. The average traffic speed in Dhaka is currently only 6.4 kph (kilometers per hour). But if vehicle growth continues at the current pace without substantial investments in public transports, the average speed may fall to 4.7 kph by 2035 almost as slow as walking (Gallagher, 2016)¹. Recent studies of Bangladesh Road Transport Authority show that around 2 million people are traveling through Dhaka in a variety of ways. Despite the continuous increase in the number of private cars, the non-motorized transport (walking, rickshaw or bicycle) is much higher (40%), because most passengers are middle and low income group. There are 10 flyovers in RAJUK area (Survey Report, DAP 2016-35)². 76% of the trips in Dhaka are short trips (Bhuiyan, 2007)³ and flyovers mainly encourage the long distance trips. So flyovers are not playing any significant role in mass transport but encouraging the use of passenger cars and in the long run do a very little to reduce traffic congestion.

It is very important to take an effective and affordable public transport system for the development of transport system in Dhaka. Present bus routes of Dhaka city isn't well-integrated though there are 359 nos. permitted routes exists. Here, only 25 bus companies have more than 50 buses and some buses are being run under full personal supervision (Source: Dhaka Transport Coordination Authority, 2018). The current bus transport system is very low quality and inappropriate. Competitive attitude of

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1. Gallagher, R. (2016), "Prioritizing Dhaka's Urban Transport System", e-book Published by the Copenhagen Consensus Center and BRAC, Wiley, USA.
 2. RAJUK (2016-35), Survey Report, Preparation of Detailed Area Plan (2016-35) for DMDP Area; Lot-2, Part-B, Rajdhani Unnayan Katripakkha (RAJUK).
 3. Bhuiyan, A. A. (2007), Final Report, Study on Bus Operation in Dhaka City", Air Quality Management Project, Department of Environment, Ministry of Environment and Forest.

bus companies for passenger, reckless and un-trained drivers, unfixed fare, non-fixed bus stoppage etc. are now the features of our bus service. Multiple bus companies on the same route, not well coordinated and weak management committee, insufficient training of employees, not consider the passenger safety, reimbursement of rent in indefinite and non-formal rules, inadequate bus stop, lane and depot etc. are the major identified reasons behind this huge problem.

Government has planned to manage this large number of bus routes through only six companies. However, the main objectives of this plan are to provide assistance in the transfer of passengers to the mass transit (BRT and MRT) stations.

If it is possible to bring the current bus services to the right management, it can be possible to reduce the additional pressure of the passengers. In that case-

- Create separate bus lanes on every street and arrange their uninterrupted movement.
- Give them more importance in connection with signals.
- To establish inter-connectivity network with the coordination of railway and waterways, in order to establish new stations as per the needs of the development of the commuter rail service and to free the existing rivers and canals from the occupation and reconstruct the new canal and reconnect them.
- Introducing Feeder Bus Service* in the local passenger transport system so that local passengers can easily come to the nearest bus station.
- Well operated bus terminals.

Like the Tokyo, London, Berlin or Singapore, we have one of the main means of piloting to travel in Dhaka through various walks of life (20-30%). In this case, the city authorities must take measures according to the maximum importance of pedestrians. For pedestrian traffic, steps should be taken to sideways and secure roads so that people are encouraged to walk, so that the pressure on the vehicles will be reduced.

The steps should be taken to construct pedestrian way in every road-side, adjacent to canal or lake area or adjacent to the park. It is significant to those roads where there is no provision to construct pedestrian ways; pedestrians and vehicles will move simultaneously and in this case vehicles must run at walking speed.

In total travel, the amount of travel by bicycle is much higher in other cities of the world, such as Berlin-13%, Tokyo-16%, Shanghai-20%, Amsterdam-28% and Beijing -32%. In comparison, only 2% in Dhaka due to the absence of separate bicycle lanes and lack of security in the traffic, people are losing their enthusiasm for cycling day by day. On the other hand, rickshaw is an important medium for a limited distance of travel. Rickshaw plays a supporting role in a local area-based journey from the station. However, this rickshaw is given the least importance in our traffic

* Feeder Bus Service: Minibus service for local area people only, which allows local passengers to go to the nearest main bus station.

management. Now have to find out the solution for rickshaw and also bicycle movement.

A plan of rickshaw and bicycle movement should have been formulated. There must have a provision for specific rickshaw and bike lane in each street. Rickshaw and bicycle crossing arrangements should be arranged along with other vehicles on the road junction. To provide adequate space in the stations for their parking and might be introduced Bicycle Rental Share System **.

In the traffic management, one-way movement road, parking control, effective traffic signal or bus stop scheduling are also important. It is possible to increase the average speed of traffic movement of Dhaka by about one-third in fair traffic management.

The waterway is a very popular and effective medium for passenger and freight transport because of low cost. But due to free occupation, proper management and lack of necessary infrastructure development this medium is being disabled day by day.

According to Mouza records and current position, every river and canals should be seized. To bring navigability back of all waterways. The path of pedestrians and bicycle movement will be set up by binding the sides of the water bodies. Box culvert cannot be built on any canal, if it is present then break it and make the elevated road and run the canal. The bridges established on river and canal should be constructed at the appropriate height so that there is no problem in movement of the vessel. The network plan of the vessel movement should have been formulated. Finally, coordination with the bus or train station, the place of landing station/jetty should be selected and the necessary road connections should be established.

Commuter trains are an important medium of communication in the neighborhood of Dhaka, along with neighboring districts of Gazipur, Tangail, Mymensingh, Narsingdi, Brahmanbaria, Bhairab and Kishoreganj. Therefore, the authority will have to be more focused on this medium.

The main rail corridor (if any) should be the location of adjacent stations in the main corridor, such as airports, commercial centers, mixed land use zones, high-density residential areas, university or shopping center, in the main travel generator (trip generator) in this city. Commuter railway service must be coordinated in the community including transit development and pedestrian facilities around the station area. The commuter rail service must be properly adjusted with the transit system and with multiple common transports such as buses, vessels, month transit, inter-city rail service, where possible multiple transfer facilities should be kept.

** Bicycle Rental Share System is a service in which bicycles are made available for shared use to individuals on a short term basis for a price or free. Many bike share systems allow people to borrow a bike from a "dock" and return it at another dock belonging to the same system. Docks are special bike racks that lock the bike, and only release it by computer control. The user enters payment information, and the computer unlocks a bike. The user returns the bike by placing it in the dock, which locks it in place. Other systems are dock less. For many systems, smartphone mapping apps show nearby available bikes and open docks