

# **Public Transport Service a Menace in Dhaka City: Present Scenarios and the Way Forward**

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## **Abstract**

This paper presents current crisis of city bus service in Dhaka. Author critically reviewed the current status of city bus services in different aspects. At present without having any form of mass transport services either MRT or BRT, the traditional bus services plays a key role for city dwellers commuting. According to RSTP, though city bus service catered 47% trips, but could not serve the derived demand-the underlying causes are described in this paper. Another negative externality is accident due to bad management of whole system. At present, city bus service is running in a chaotic, undisciplined, fragmented ownership and many operators in same route create unholy competition, strong politically backed bus service association disobeying the users' choices and expectations. The author delineates the explicit and implicit reasons of poor LOS of public transport services, current business model, route cost, etc. and the way forward to overcome these.

*Key Words: Public Transport, Operating Profit, Operating Contract, Net-Cost Contract, Gross-Cost Contract.*

## **1 Introduction**

Dhaka, the capital city of Bangladesh and the center of its administrative, political, cultural, business and economic life, has been growing at astonishing levels since the independence of the country. Dhaka Metropolitan Region (DMR) with an area of 1,528 km<sup>2</sup> is a home of more than 17 million people, almost 10% of the nation's total population. By 2020, its population is expected to rise to 20 million. It is also one of the most densely populated cities in the World, with more than 47,000 people per km<sup>2</sup> in the core area. In DMR daily around 30 million trips generated, out of which 47% trips are meet by bus. To cater this huge demand, city bus services is not enough in terms of quantity and quality. In this paper, it has been described the existing bus transport services in all aspects, particularly user's point of view. Recommends and suggests the way out solutions, which will bring discipline in the urban public bus services and minimize the accidents and its impacts.

## **2 Existing Forms of City Public Transport Service in Dhaka City**

The forms of city public transport services in Dhaka are comprised of mainly "City Bus" in the form standard bus (usually 10m long with seat capacity 50) and mini-buses (usually 8m long with seat capacity 30), and "Para-Transit" service like Tempo, Maxi, Laguna, Human Hauler, etc. Other forms of public transport services in the form of private management are CNG, Rickshaw, Easy Bike or Autos. Others city transport services in the form of private arrangement are "Taxi Cab", and recently introduces mobile app based "UBER" and "Pathao" services.

## **3 Public Transport Supply in Dhaka City**

At present (as of August 2018) the total vehicle fleet size in Dhaka city is 1.3 million, out of which the largest shares are 2-wheelers Motorcycles and Private Car which accounts for 44% and 23% respectively and merely 4% accounts for public transport bus service providers (bus 3% + minibus 1% + Paratransit [Laguna/Tempo] 1%) as shown in figure below.

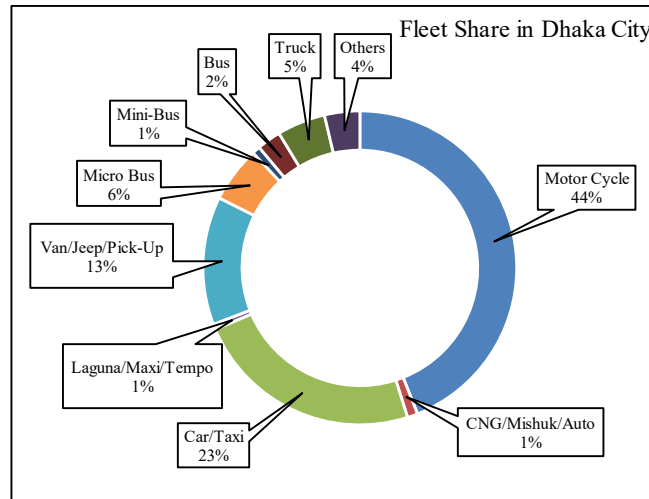


Figure-1: Share of Vehicle Fleet Size in Dhaka City [source: BRTA]

Preeminent modes of public transport in Dhaka city is Bus, Paratransit (like human hauler, laguna, tempo, etc.), CNG run 3-wheelers Autos, Taxi Cab, and Rickshaw. Since 2017, it has been introduced the mobile app based ride system, like “UBER”, “Pathao”, “OBHAI”, etc. are all can be called as paratransit service. It brings a comfort zone for the lower and middle income people in case of general commute and emergency ride service, who don't possess personal auto-mobiles.

In Figure 2, generated trips by Rickshaw, Motor Cycle, CNG, Private Cars, and Buses in 2014 are shown with registered vehicles share (in numbers) of each type. It shows that only 4% share of registered numbers of buses and minibuses are catering for 47% of person trips, whereas 28% private car catering merely 9% of person-trips, and 39% motor cycles catering only 3% trips. One suggestions can be drawn here, that government should go for space efficient transport (since our road space is limited) to take initiatives to discourage the usage of personal car, and to take favorable measures to increase quality bus services to meet the present and future demand.

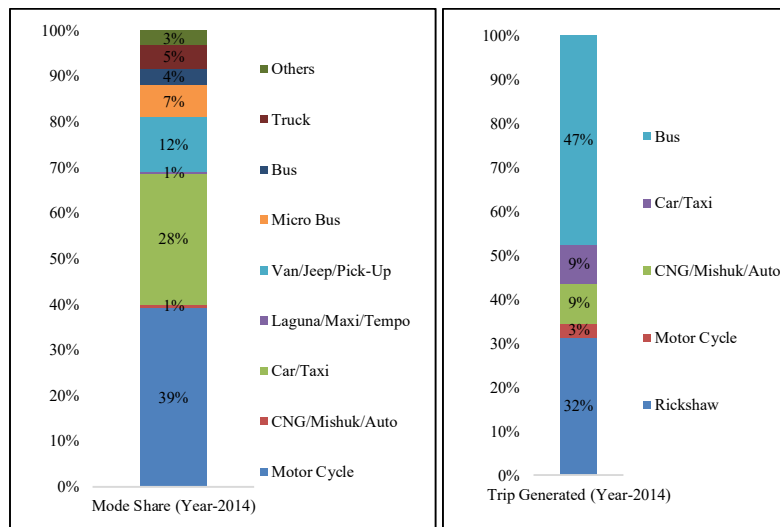


Figure-2: Vehicle Fleet Share and Trip Generation Share [source: RSTP, 2016]

#### 4 Public Bus Routes in Dhaka City

Public bus routes in Dhaka city is administered by Bangladesh Road Transport Authority (BRTA), a government organization under Ministry of Road Transport and Bridges (MORTB) have the rights to issue route permits and to revoke it. The task of issuing route permit is exercised by a committee formed by BRTA. The entire procedure will be described later.

As of March 2018, there are 359 numbers of bus routes in Dhaka city. In these routes, there are total 8,917 buses are issued to operate, out of which there are 6,112 are standard buses and 2,805 are mini-buses. These bus routes are operated mainly in main thoroughfares and secondary roads in Dhaka city. BRTA also issues route permit to Human Hauler services. As per BRTA records (March 2018), there are 106 planned routes for human haulers within city and out of these, only 34 routes are currently operating with at least 733 human haulers on service. Different types of human haulers are: Tempo, Laguna, Maxi, etc. Seating capacity of Tempo and Laguna is around 10 to 12 persons.

## 5 Present Scenarios/Status of Public Bus System in Dhaka

In order to describe the present scenarios of bus system in Dhaka city, it is intended to divide the section in following subsections, namely administrative aspect, operational aspect and level of service aspect.

### 5.1 Administrative Aspects

The six main government organizations to regulate and manage the public transport system in Dhaka Metropolitan Area. Three of them (DTCA, BRTA and BRTC), are under the umbrella of the MORTB. DNCC and DSCC are under Ministry of Local Government Division and DMP is under Ministry of Home affairs.

For issuance of route permit, BRTA constitutes Regional Transport Committees as per Sec 54 of MVO. For DMA, the Committee is known as Dhaka Metropolitan Regional Transport Committee (DMRTC), which is constituted by Police Commissioner of DMP as the Chairman with 15 official members from BRTA, DMP, MOC, BRTC, DCCs, Dhaka Chamber of Commerce and Industries respectively and 4 representative members (General Secretaries) from Bangladesh Sarak Paribahan Samity, Bangladesh Bus Truck Owners Association, Bangladesh Sarak Paribahan Workers Union and Dhaka District CNG Owners Association respectively.

**Route Permits Conditions:** Normally route permits are issued for a period of 3 years to operate on a fixed route with designated stoppage and number of seats in the bus. During operation, the buses should also exhibit the time table and fare table. However, due to lack of enforcement, many operators are violating the route permit conditions and operating the buses changing the origin, destination and even stoppages. Some of the buses are operating without even having a route permit.

On the other hand, govt. enacted DTCA Act on 8 March 2012, of which Section-9 (u) states that DTCA is to planning public transit route, determine policy and planning to define the route and designate lane and its implementation. Also, in section 9(w) states to fix the public transport fare. But yet (as of on July 2018) DTCA is not capable to play its due role on these issues.

### 5.2 Existing Infrastructural Facilities for Bus Service

Existing infrastructural facilities acts as a catalytic agent to function in properly the public bus services in any city. In Dhaka, the condition and status of the infrastructural facilities for bus services are presented below.

**Road Infrastructure:** the total road network length in DMA area (298.65 km<sup>2</sup>) is 1,320.71 km in which 4% are highway (RHD National and Regional Highway), 12% are primary and secondary road, 85% are local narrow road. The road density is 4.4 km per km<sup>2</sup>. Local streets, particularly in old parts of the city, are too narrow for buses to circulate, making it only possible for rickshaws to run along them.

Furthermore, the major roads are in North-South direction, but in the East-West direction there are lack of such arteries. As a result, it is an unbalanced network system. In fact, there are few obstacles behind this, Kamalapur Railway Station, Old Tejgaon and New Kurmitola Airport, Dhaka Cantonment, BGB head quarter, etc.

**Bus Stoppage:** in Dhaka city bus stops in the form of shades or shelters practically inexistent and most importantly, there are no designated bus stops except a very few. As a result, drivers stop everywhere and anywhere (even in the middle of the road) for picking up and dropping off the passengers. In many occasions the buses just slow down to pick-up/drop-off passengers, without completely stopping, posing accidents to the passenger. Furthermore, the bus stops areas are the most traffic chaos points and most of them are without having bus bays. But the situation is little better in the locations where bus bays have been provided, for example, Banani, Kakoli, Khilkhet, etc.

**City Stop Over Bus Terminals:** In reality there are no city bus terminals in Dhaka for operation of city buses belonging to private operators. But the buses are using Fulbaria at Gulistan as city stop over terminal without having any space. The buses park on along Zahir Raihan Sarani street almost complete blocking the road. Consequently, buses are usually operating from the roadside of different originating and terminating points of the

City. Gulistan, Motijheel, Kamalapur, Pallabi, Abdullahpur, Victoria Park, etc. are the main originating points in the city center. Similarly, most of the private sector buses operate from road sides and even carry repair and maintenance activities on the same.

### 5.3 Operational Aspect

**Route and service Features:** At present (as of 03 March, 2018), there are 359 bus routes issued by BRTA. As it has been mentioned earlier, most of the main arterial roads of Dhaka run in north-south direction and there are serious deficiencies of roads in east-west direction. As a result, most of the bus routes of Dhaka city also run in north-south. In fact, about 10 out of the 359 bus routes run in east-west direction.

**Bus Operators and Vehicle Fleet:** The city bus services are operated by two sectors, one is govt. owned “BRTC” service and other is “Private Operators”. BRTC operations are described in section 3 above. Private sector is divided into two groups; one is company based single ownership and other is non-company based individual ownership, though these individual owner buses eventually are operating under the banner of some other companies. Actually, BRTA licensed route permit to a company to operate bus service in a particular route. The company then run the buses either by its owned buses or individual owners feed the buses under that umbrella company in lieu of commission from the individual owners. At present, there are 309 companies are operating the city bus services under 359 bus routes. In fact, the numbers of individual companies are unknown.

**Bus Operation Mechanism (at current context):** In current context, the company having the route permit to operate in a route, the buses are not operating under his own management, rather, the company contract the buses to the driver on a daily basis in lieu of certain fixed amount. The driver and conductor income depends on top of the amount of fair revenue they can collect after deducting the deposit amount of contract, different types of underhand tolls, fuel cost, and other costs. As a result, the income risks rest upon the lessee (the driver and conductor). Another aspect is that in a particular route and in a particular corridor (partly or fully), more than one company operates which creates competition among the buses to catch the passenger. *For example*, Mohhamadpur to Motijheel there are more than 5-companies (12A, 12B, 12C, 12G, 12F) are operating that creates highly aggressive completion among the operators.

Having income risk on shoulder, the drivers and conductors are become speed rush to complete the round trips to maximize the fare revenue. On the other hand, the drivers become mad rush with fierce completion with other buses to catch the passenger, and sometimes waiting for the passengers obstructing the carriageway at stops.

**Drivers-Deployment by the Bus Owners and their Conduct:** many bus owners recruit drivers considering relationship and recommendations of known people without properly examining their driving skill. In addition, transport owners trying to hire drivers as little pay as possible. As a result, many unskilled drivers are at wheels. Not all, but many of drug addicts are becoming professional driver, of them don't have the minimum training and basic knowledge of driving.

**Accidents:** the principle reason of accidents is the presence of unholy competition among the lessee, who are assuming the revenue risk. Among other reasons are the complete indiscipline in road environment, co-existent of motorized and non-motorized vehicles, frequent violation of traffic rules, haphazard road crossing by the pedestrian, unfit old aged vehicle, etc.

### 5.4 Level of Service

Level of service is an important aspect to evaluate the quality of service. Reviewing previous study and transport system of Dhaka city, eight attributes will be described in this section.

**Comfort:** The purpose of public transport not only to transport from one place to another, but also in a comfortable way. Comfortability is a subjective measure and its depends on some other dimensions. Dhaka city bus service is very crowd – in most of the buses the passenger remains standing with less room to easy movement, except few city sitting bus services. Another dimension is that the bus is uncleaned-both the floor and seat, the widow base, etc. the seating arrangement is very congested-when passenger sit on seat, the knee touches with the front seat backside. Besides sometimes passengers experience rude behavior from staff members and in particular the female passengers get sexually harassed by them.

**Waiting Time:** Two types of waiting time the passengers have experienced in a trip, one at the origin of the trip before boarding into bus, other is the waiting time passengers have experience at the stoppages before the terminus point of the trip to complete the journey. Since the revenue and profit risks rest upon the driver and conductor, they make intentional delay to catch more passengers in a stoppage-irrespective of thinking of onboard passengers at the origin and stoppages in a trip.

**Safety:** safety is the serious concern in case of Dhaka city bus service. Due to existence of revenue and profit risks upon the driver, they make fierce competition with each other to complete more round trips and to catch more passengers. This unholy race leads to accidents. A recent accident occurred on 29<sup>th</sup> July 2018 that caused by speed racing of two buses of Jabal-e-Noor Paribahan that killed two students of Shaheed Ramiz Uddin Cantonment School and College. Following that grievous accident, a tremendous uproar happened among the student across the city. As a result, government forced to take immediate measures to bring discipline in the public transport.

**Frequency:** in Dhaka city, during peak hour, the infrequent services of buses causes long queue of users and caused anxiety to the office goers from the apprehension to be late. After arriving at bus stops, it is totally uncertain when the bus will arrive. Bus drivers do not follow any fixed schedule. There are no declared time table for passengers.

**Accessibility:** accessibility is an important determinant of level of service of bus system. Since the demand is high, the buses become full crowd in the first one or two stoppage of origin of the route, therefore, the passengers afterwards stoppages has limited or almost no access into the buses.

**Security:** public transport users are more vulnerable to physical attack, in particular female passengers are more vulnerable. Sexual harassment, snatching bags, and unpleasant condition in bus, misbehavior by the staff members are very common. Female suffered the most, for example, eve teasing, misbehave by driver, staffs and male passengers, unpleasant touching, snatching, and sexual harassment, etc. In dark weather snatching and hijacking is very common for male and female both. In a very chaotic environment, the bus passengers also experience pick pocketing, stealing the cell phone, etc. In recent times, it has been reported many incidents that female passengers are raped inside the buses by the driver and staff members.

**Travel Time:** public transport users in Dhaka are experiencing longer travel time due to persistent traffic congestion, extended waiting time at stoppages by the bus driver, picking up passengers randomly aside from stoppages, city street blocking by diverse political and cultural occasions, frequent road digging by the utility service providers in an uncoordinated manner, traffic movement halt due to VIP movement, etc.

**In summary,** considering the level of service attributes, the quality of public transport in Dhaka is undesirable. In fact, Quality of Public Transport is one of the subcategories of infrastructure categories out of 30 qualitative and quantitative factors across five broad categories: stability, healthcare, culture and environment, education, and infrastructure, where every city was assigned a rating of relative comfort by The Economist Intelligence Unit (The EIU), a sister concern of The Economist. The EIU in its Global Liveability Index 2018 report, Dhaka ranked the second least liveable city in the world.

## 6 Way Forward to Solve the Dhaka Bus Service

It is badly needed to reform the bus sector in Dhaka city to meet the continuous increasing demand and reduce accidents. In a bid to accomplish this complex task, it is needed a holistic approach. In the following subsections, it is presented this approach.

### 6.1 Bus Sector Reform

At present, as per BRTA statistics, 8,917 approved buses from 309 companies are operating on 359 routes in Dhaka city. Out of these 204 companies, only around 6 are big companies having around 100 buses, meaning that other companies have few buses and all operate on and share with the same routes – leading unholy competition. Having no monitoring activities and control on private operators, the LOS of Dhaka city bus service is very poor. Therefore, it is needed to reform the bus sector, from this urge 3-entities needed to form for successful and sustainable bus service operation – **Regulator, System Manager and Operator.**

**Regulator** will adopt the vision and policies. They will set the standards for operator's service targeting to attain the expected LOS. They will also craft the network planning and regular updating based on the city's growth dynamics and direction. In case of Dhaka city bus services DTCA could be act as the regulator.

**System Manager** will design the system, service design, operation plan, marketing and branding. BusNet a new company owned by government, could play as system manager. It will take the initiative to limited the number of companies with minimum optimum number of buses to maximize the entrepreneurial nature of the private sector and its financial leverage in order to provide a customer-oriented product and to minimize competition. Instead of individual route permit per route and more than one companies per route, it is recommended packages of

routes awarded to a single company. System manager will contract with the operator on a gross cost contract basis and collect the revenue and paid the operator on a service basis.

**Operator** will operate the bus and do maintenance and repair works. Under this system all the existing individual small operators will form consortium companies having each at least 100 buses. The consortium companies could be act as an umbrella company, under which several individual ownerships can join together and operate in a specific route. Private operator contract system will be the Gross Cost contract system where private operator to operate on route packages but are paid on the basis of performance and not on the basis of passenger revenues. A gross-cost contract pays the operator a specified sum to provide a specified service for a specified period.

### **6.2 Business Model for Bus Service**

For bus service operation, it is required the availability of rolling stocks (i.e. bus) and their management by adequate personnel. Main assets involved are vehicles, depots, supporting infrastructure (interchanges terminals, bus stops, shelters, bus lanes, etc.) and other assets (e.g. fare collection system equipment)

It is recommended that DTCA/BusNet facilitates the acquisition of the fleet, possibly with loans to the private operator for approximately half the economic life of the fleet (about 5 years). These loans would apply funds from participating private local banks and other international financial sources (including existing bank facilities if those options were available).

### **6.3 Risk Sharing**

It is important to clearly separate the risks borne by the public sector from those borne by the private bus operator. The most important risks that can affect the level of service for which operators are contracted are demand risk and revenue risk. With the gross cost contract, the operator will free of these risks. Operator will be paid per km operation basis by the regulator and in this case DTCA. The fare will be collected by the DTCA management.

### **6.4 Political Commitment**

In case of Dhaka city bus service, above 3 factors are the necessary conditions, but political commitment is the sufficient condition to remove the impasse in public transport as well in the bus service. Say for example, for instance Dhaka city has a well-defined vision and policies and vibrant institution, but lack of political commitment it makes impossible to implement the policies. Besides this, in case of Dhaka city, the private bus service operators and drivers have strong associations and they are heavily politicized. Therefore, without strong political commitment practically it is difficult to bring any changes in bus service system.

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