Engineering and Technology Journal e-ISSN: 2456-3358
Volume 03 Issue 11 November- 2018, Page No.-498-505
DOI:10.31142/etj/v3i11.01, I.F. - 4.449

Fare of Public Transport Services in Case of Dhaka City and in Comparison with Neighboring Countries

Md. Aminul Islam

Civil Engineer, Transport Expert

Abstract: This paper represents the Public Transport fare in Dhaka city and its comparison with the neighboring countries context. Public Transport fare is guided by the need to recover the expense of operation and maintenance expenditure of rolling stock at a cost paid by the users' revenue which is socially acceptable to the community and users and which does not penalize the most underprivileged segment of the population. The role of public transport in the economic development of a metropolitan area means that the price of fares must not chase away users. Various studies undertaken by the world Bank show that if spending on transport is more than 15% of a household's income, public transport loses its appeal. An acceptable fare can then be examined on the basis of indices of what the poorest segment of people can pay by comparing the cost of daily return trip with the minimum household income.

A high fare could therefore constitute a factor of social exclusion as it would not allow the poorest in society to easily access the job market or public services which are usually located in city centers, while those with the least financial resources tend to live on the outskirts where accommodation is cheaper. There is strong link between mobility and income. The creation of wealth requires that earners be able to move about quickly and easily. The relationship between the number of trips made per day and per capita income is very significant.

Keywords: Public Transport, Fare, Affordability, Profit, Revenue. Cost of Transport System/Affordability

1 Introduction

The cost of transport systems, and therefore affordability, represents an important factor in urban transport planning because people use the systems so often. People need to use urban transport every day, unlike the case of intercity transport. Urban transport is used to reach workplaces and educational institutions, markets, and Doctors. Cities with relatively lower per capita income cannot afford to have expensive systems. Ensuring affordability means charging relatively low fares, which, in turn, means the operator may not be able to recover operating costs. This creates the need for subsidies.

Public Transport fare play multiple roles, it signals the markets to invest and allow the financial sustainability of operation. In reality, public transport fare balances two objectives, financially by paying for the services provided by the operators; and socially by maximizing revenue generation and promote as the basis for social equity.

2 Literature Review

Fare System in Dhaka

The present (June, 2017) bus fare rate is 1.70 taka per Km with a minimum threshold fare is 7 BDT and for Minibus fare is 1.60 taka with minimum threshold fare 5 BDT [source: Bangladesh Road Transport Authority, BRTA, http://www.brta.gov.bd/newsite/en/gazette-for-revised-fare-of-busminibus-in-dhaka-metro-and-ctg-metro-area/].

For most of the company-based buses, the passengers are to purchase bus ticket of the concerned company from the ticket booth placed at the bus stops (before boarding the bus). But in other buses, passengers have to pay the fare inside the bus to the driver, although they don't receive a ticket for that.

Table 2-1 Bus Fares in Dhaka (urban and suburban routes)

Year	Bus Fare (Tk./km)	Minibus Fare (Tk./km)
1992	0.31	0.35
2007	0.87	--
2009	1.20	1.10
2011	1.55	1.45
2012	1.60	1.50
2015	1.70	1.60

Source: *BRTA*

2.1 Fare Fixation

A twelve (12) members committee formed by Road Transport and Highway Division (RTHD) under Ministry of Road Transport and Bridges (MRTB) is responsible for the recommendation of the fare. The committee takes into consideration all the aspects starting from Capital Investments, Bank Interest, Salvage Value, Operation, Repair& Maintenance Cost and Operating Profit for the fixation of fare per km.

The committee recommends a fare per km to the Ministry for approval. Then, after the approval from the RTHD, the Dhaka Metropolitan Regional Transport Committee (DMRTC) fixes the distance-based Fare Chart in each route.

2.1.1 Regional Transport Committee (RTC)

Regional Transport Committee for Dhaka is known as Dhaka Metropolitan Regional Transport Committee (DMRTC). BRTA has constituted the DMRTC with Police Commissioner of Dhaka Metropolitan Police (DMP) as the Chairman with 15 official members from BRTA, DMP, MOC, BRTC, Dhaka City Corporation (DCC), Dhaka Chamber of Commerce and Industries (DCCI) 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.

As per TOR, the committee is responsible for planning the bus routes of Dhaka and recommends different related issues, like fare fixation & spacing of stoppages, frequency and hours of operation, fixation of fares etc. as well as decides on the number of buses to be required for each route.

But, the DMRTC do not have necessary statistics regarding the actual demand of passengers and lacks necessary logistics as well as knowledgeable professionals to assess and develop a scientific and demand responsive Bus Route Network for Dhaka Metropolitan Area (DMA). As a result the mode of operation of the committee has been of judicial nature.

Normally, the prospective operator himself selects a route and applies for route permit. Then the committee sits in a meeting and discusses the pros &cons and then either approves or declines the proposal. So, the route development and management of the same has been proceeding in an ad-hoc manner. Moreover, very often the committee is to yield to the pressure from the representative members of the committee backed by the Politician in approving the undue proposal.

Therefore, the existing bus route network of Dhaka has failed in service optimization as well as fulfilling the expectations of both the users and providers respectively.

On the other hand, Government of Bangladesh enacted the DTCA Act on 8 March 2012, of which *Section-9 (w)* states that roles of DTCA is to route planning and fare fixation among others. But yet (as of on July 2017) DTCA is not playing its due role on this issue.

Issuance of Route Permits: Section 54MVO, 1983 empowers BRTA to constitute Regional Transport Committees (RTC) to control and regulate the Road transport services efficiently within the respective area. So for Dhaka Metropolitan Area (DMA), the DMRTC is responsible for issuance of Route permits for public transports.

2.1.2 Fare Collection

There is no systematic fare collection system in Dhaka. Some operators apply pre boarding system and they offer ticket to passengers. Some operators apply on board fare collection and normally passengers are not given any tickets. There is no facility provided by the city authority for pre boarding ticketing.

BRTC bus service, the only public owned transport service, introduced e-ticketing system Abdullahpur to Motijheel route during the tenure of January 2013 to August 2015. DTCA was piloting for introduction of IC Smart Card in All public Transport System. The Design of IC Smart is card is finalized and name of the card will be **Rapid Pass.** However, the system didn't sustain due to various facts.

According to the officials of BRTC, the facts are:

- Only 20% passengers were using the S-Pass card [prepaid IC card] others are using the e-Ticketing from the BRTC's designated counter.
- A good number of passengers ride by paying cash to the bus conductor which goes into his pocket instead of BRTC's account.
- Driver is not assisting to get passengers on board in this system, because of no incentive (on top of his salary) what he could avail from the leasing system.

Due to the aforesaid reasons, BRTC is losing the revenue and not continuing the S-Pass system to collect the fare, rather now the BRTC's Bus is running on lease basis. In the lease system, BRTC leasing the buses to a private entity to run on the fixed route in lieu of fixed lease amount, where all the revue risks are lying on the lessee.

3 Data Collection and Survey Design Strategy

3.1 Public Transport System in Bangladesh

Fare Charge by Different Modes of Transport Services in Dhaka City.

3.1.1 Bus Fare

Bus fares varies across different routes by the different nature of services offered by the public [Solely and only BRTC Buses with a market share less than 2%, source: Bus Network Restructuring and design Study, DTCA] and private operators [lions share service providers] namely in the name of sitting or less stoppage services and local services [passengers with sitting and standing provision].

Now a days [when this report was writing, July 2017] the fares are collected on board by the bus conductors mostly without providing any tickets [normally printed paper ticket] to the passengers. The hard tasks have to be carried out by the conductor by the technic of memorizing the passengers' face, which causes a frequent quarrel and scuffling between passengers and bus conductors.

The bus fare of few bus routes in Dhaka city are given below:

Table 3-1: Bus Fare Charged by the Bus Operators

Sl. No.	Route No.	Start Stoppage	End Stoppage	Distance (km)	Fare (BDT)	Fare BDT/km	Average Fare (Tk/Km)
1	1C	Airport	Bashabo	14.4	35	2.43	
2	12G	Mohammadpur	Motijheel	9.2	25	2.72	
3		Pallabi, Mirpur	Motijheel	15.0	35	2.33	**2.57**
4	A/132	Kakoli	Gulistan	9.4	25	2.65	
5		Mirpur-12	Airport	11.0	30	2.72	

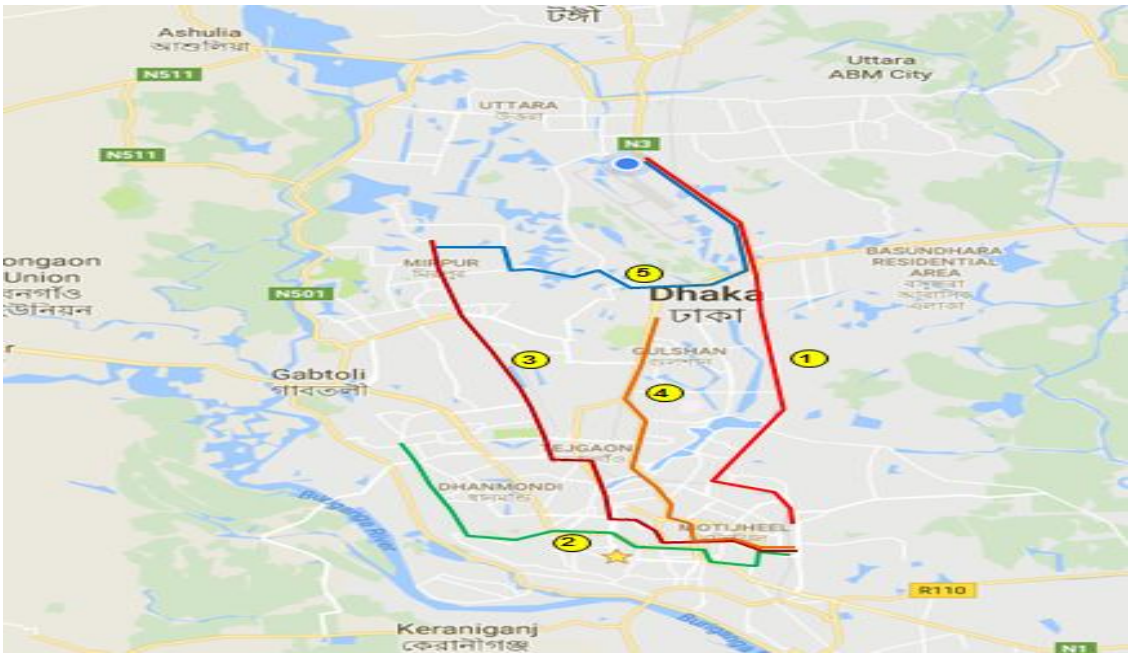


Figure 3-1: Bus Fare survey Routes

However, this fare fixed by BRTAand this fare is effective from 1st October 2015, as follows:

Table 3-2: Bus Fare Prescribed by BRTA

Bus Type	Minimum Fare (BDT)	Fare (BDT/Km)	Fare for 10 Km Distance (BDT)
Bus	7.00	1.70	17.00
Minibus	5.00	1.60	16.00

Source: *BRTA Gazette Notification Ref. No. 35.020.006.00.00.019.2013-417, dated on 16 September 2015.*

3.1.2 Three Wheelers – CNG Fare

Three wheelers run by CNG fuel is popular public transport in the form of private in Dhaka city due to its availability and easy accessibility (even access to narrow lane). It is particularly popular to the middle and lower-middle income people. This vehicle has fare-meter and passengers have to pay as per the meter reading, but in practice the driver are not obeying the govt. rule. Drivers ask and charge more (almost double) than the meter reading and in fact the fare is settled by negotiation.

CNG 3-wheelers fare prescribed by BRTA which is effective from 1st November 2015 as follows:

Table 3-3: CNG Fare in Dhaka

Item	Fare (BDT)
First 2 km	40
Onwards Per Kilometer	12
Waiting Charge per Minute	2
Minimum Fare	40
Daily Lease Amount	900

The distorted fare claimed by the driver due to following reasons:

- The daily deposit amounts claimed by the owner/lessor are more than the more than the govt. prescribed amount- in this case the liable person is the lessor.
- The amount paid by the driver to traffic police, transport association as extortion – in this case liable parties are Police, Transport Association.
- The driver's unethical greediness.

Actual fare claimed or charged by the driver is.

Table 3-4: Actual Fare Charged by the Driver to the Users

Sl. No.	Start Location	End Location	Distance (km)	Fare (BDT)	Fare BDT/km	Average Fare (BDT/Km)
1	Nilkhet	Bashabo	7.8	200	25.64	**29.57**
2	Gulshan-2	Gulistan	10.0	250	25.00	
3	Panthapath	Bashabo	6.4	200	31.25	
4	Dhanmodi (Labaid)	Bashabo	7.1	250	35.21	
5	Bashabo	BUET	6.5	200	30.77	

3.1.3 BER Fare

UBER the mobile app-based transportation networking company serves commuters like a middleman to meet their requirements of hiring a car or taxi, has its headquarters in San Francisco in US, dtarted its services in Dhaka in November 2016.

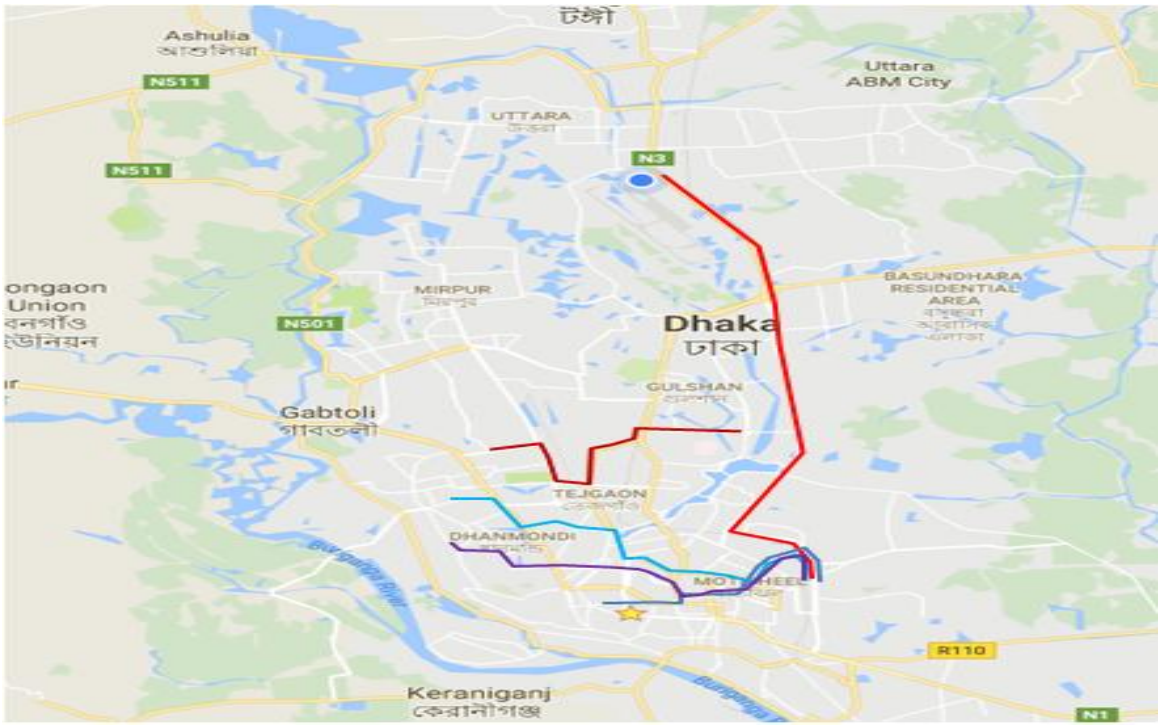


Figure 3-2: UBER Fare Survey Route

Table 3-5: UBER Fare in Dhaka

Sl. No.	Start Location	End Location	Distance (km)	Fare (BDT)	Fare BDT/km	Average Fare (BDT/km)
1	HSIA	Buddo Mundir, Atish Dipankar Road	17.78	735	41.34	**41.90**
2	BUET	Balu Math, Bashabo	6.39	250	39.12	
3	Bashabo	Dhanmondi (Road #6)	8.21	340	41.41	
4	Mohammadpur	Bashabo	9.78	375	38.34	
5	Gulshan-1	Agargaon (WB Office)	6.90	340	49.28	

3.1.4 Taxi Cab Fare

In Dhaka city, two types of taxi cab service are available i.e. Air-Conditioned and Non-Air-conditioned. Government in April 2014, inaugurated new taxi cab service by granting two companies – one is Army welfare Trust and another is Toma Paribahan to run the services. The fare is as follows:

Table 3-6: Metered Taxi Cab Fare in Dhaka

Item	Fare-AC (BDT)	Fare-Non-AC (BDT)
First 0~2 km	85.0	50.0
Onwards for each Kilometer	34.0	20.0
Waiting Charge for 2-min	8.5	5.0
Extra Fare when booked by phone call	20.0	20.0
Fare for 10km Distance Travel		

Running Time=	=(10/16)=37.5 m	=(10/16)=37.5 m
Waiting Time=	=(75-37.5) = 37.5 m	=(75-37.5) = 37.5 m
Fare for 10km Distance Travel=	=(85+34*8)+(8.5/2*37.5]=516.4	=(50+20*8)+(5/2*37.5]=303.4
Average fare per km (BDT)=	**51.6**	**30.4**

3.1.5 Rickshaw Fare

Rickshaw, the non-motorized three wheelers is very popular in Dhaka city, due to its easy accessibility & omnipresence. This public transport in the form of private rent is within the reach of the common people. It is widely driven by human peddling, but recently electric-motor has been adopted to drive instead of human peddling. This form of transport has many socio-economic and environmental positive impacts. Mainly, Rickshaw has zero pollution [in case of human peddling], accomplish a substantial number of employments [both in operation and manufacturing]. It is locally manufacturing, therefore local industry contributes to economy. More importantly, Rickshaw is available at all corners of the country and can be ridden metallic and non-metallic roads.

In case of Dhaka city, a few roads are main/arterial, but most of the city streets are comprised of collector or distributaries and local streets –which can only be accessed through this rickshaw. And all of these city streets are ridable by rickshaw except a few thoroughfares.

The fare of this form of transport is widely varied over area and place. Rickshaw fare varies over rural to urban area and even urban core to peri-urban areas. In the following table few fares haven given to apprehend the fare economics.

Table 3-7: Ricshaw Fare in Dhaka

Sl. No.	Start Location	End Location	Distance (km)	Fare (BDT)	Fare BDT/km	Average Fare (BDT/Km)
1	Atish Dipankar Road	Motijheel	2.8	50	17.86	**19.25**
2	Shantinagar (Eastern Plus Market)	Balur Math, Bashabo	3.1	60	19.35	
3	Atish Dipankar Road (Buddo Mondir)	Dholaikhal (Old Dhaka)	4.8	100	20.80	
4	Bashabo	Ramkrishna Mission Road	2.2	40	18.20	
5	Shajahanpur (IBBH)	Kodomtola, Bashabo	2.5	50	20.00	

3.1.6 Para-Transit – Human Hauler/Maxi/Laguna/ Tempo Fare

In Bangladesh, para-transit is also much popular for its affordable fare. Depending on the geographical areas variations, it is often called by maxi, laguna, tempo, chander-gari, etc. In rural and sub-urban areas this service is operated by demand responsive with or without any fixed route, but in Dhaka city (along with major divisional head-quarters) this service is operated on fixed route. Since most of the city streets, especially in old city area are narrow where buses could not be able to ply, these para-transits can easily ply on these narrow streets. Besides these, in some routes where demand is very high but the available bus routes frequency/headway is very high, those routes are lucrative for the para-transits operators.

Table 3-8: Human Hauler Fare

Sl. No.	Start Location	End Location	Distance (km)	Fare (BDT)	Fare BDT/km	Average Fare (BDT/km)
1	Gulistan (Golap Shah Mazar)	New Market/Nilkhet	3.0	15	5.00	**4.00**
2	Gulistan (Bangabandhu Square)	Bashabo	4.0	16	4.00	
3	Mugda Bishwa Road	Motijheel (Shapla Chattar)	2.6	10	3.85	
4	Jigatola Bus Stand	Farmgate	4.2	15	3.57	
5	Badda Link Road	Mohammadpur	8.5	30	3.53	
6	Rampura Bridge	Madertek (Banasree Housing)	3.7	15	4.05	

4 Transport Cost in Neighbouring Country (say in India) and Comparative Analysis

4.1 Public Transport System in India

Urban Transport services are provided by both public and private operators. Types of modes meeting the transport demand are Metro, Bus (Large and Mini), Local Train, Tram, Cycle-Rickshaw, etc. Besides these there are intermediate modes of public transport such as auto-rickshaw, tempos, and taxis. The fares of the public transport services are tabulated in the following tables:

Public Bus and Minibus fares in India as on 26 August 2014 are presented below:

Table 4-1: Bus and Minibus Fares in India

Item	Bus Fare (RS)	Item	Minibus Fare (RS)
First 4 km	6	First 2 km	7
Onwards Per Kilometer	1	Onwards Per Kilometer	1
Fare for 10 km	12	Fare for 10 km	15
Average fare per km	1.2	Average fare per km	1.5
Average fare per km (equivalent BDT)	**1.5**	**Average fare per km (equivalent BDT)**	**1.9**

Table 4-2: Private Bus Fare as on 01 November 2012

Item	Bus Fare (RS)	Item	Minibus Fare (RS)
First 0-3 Km	5	First 0-3 Km	6
Next 3-6 Km	7	Next 3-6 Km	7
Next 6-10 Km	8	Next 6-10 Km	8
Next 10-16 Km	9	Next 10-16 Km	9
Next 16-19 Km	10		
Onwards every 3 Kilometer	1	Onwards Per Kilometer	1
Fare for 10 km	8	Fare for 10 km	8
Average fare per km	0.8	Average fare per km	0.8
Average fare per km (equivalent BDT[1])	**1.0**	**Average fare per km (equivalent BDT)**	**1.0**

Taxi Fare:

Table 4-3: Metered Taxi Fares in India

Item	Fare (RS)
First 0~2 km	32.5
Onwards for every 200m	3.0
Waiting Charge for 2-min 12sec	1.2
Minimum Fare	25.0
Fare for 10km Distance Travel	
Running Time=	=(10/16)=37.5 m
Waiting Time=	(75-37.5) = 37.5 m
Fare for 10km Distance Travel=	(32.5+15*9)+[(3/1.2*37.5]=261.25
Fare for 10km Distance Travel (equivalent BDT)=	330.2
Average fare per km (equivalent BDT)=	**33.0**

Assumption: taking waiting time same as Dhaka

[Taking 10 km distance travel takes 1h:15m or 1.25h, where average running speed 16 km/hr (not taking the waiting time)] [*Source: Service Level Benchmark in Urban Transport for Indian Cities, September 2013, p-29*]

4.2 Public Transportation System in Nepal

Public Transport services in Nepal is fully operated by private sector and self-financed. The fare structure is set by Govt. and is based on the passenger kilometer travelled. The public transport services are provided by several thousand private operators, which are organized into mode-specific associations and operate along over 200 routes. Public Transport vehicles represents less than 3% of total registered vehicle fleet in Kathmandu but their travel mode share is almost equal to that of private vehicles (Cars & Motorbikes) which constitute 93% of total vehicle fleet. However, a substantial number of trips are made on foot which accounts for 41% of total trips, while almost 28% are made by Public Transport (MoPIT/JICA, 2012 & SMEC, 2013). The share of low-occupancy vehicles such as minibuses, microbuses& tempos are operating within Kathmandu valley accounts for 94% of total public transport vehicles, while share large buses is only 6% (MoPIT/JICA, 2012). The types of public transport modes in Kathmandu valley are:

Table 4-4: Types of Public Transport Mode in Kathmandu Valley, Nepal

Type of Public Transport	Passenger Capacity	Number of Operating Route	Number of Operating Vehicle
Tempo	11-13	21	913
Micro-Bus	10-16	90	2,036
Mini-Bus	26-35	107	2,036
Large-Bus	36-50	4	336

The fare of public transport modes in Kathmandu Valley are presented below:

[1]Exchange Rate 1 RS = 1.2638 BDT (source: Bangladesh Bank Economic Data, Date: August 09, 2017 [https://www.bb.org.bd/econdata/exchangerate.php

Bus Fare:

Table 4-5: Bus Fare in Nepal

Item	Bus Fare (NPR)
Bus Fare Per km	1.86
Bus Fare per km (equivalent BDT[2])	**1.40**

Taxi Fare:

Table 4-6: Taxi Fare in Nepal

Item	Fare (NPR)
Minimum Fare (First 1-km)	14.0
Onwards for every km	36.0
Fare for 10km Distance Travel	
Running Time=	=(10/12)=50.0 m
Waiting Time=	No Waiting time Fare
Fare for 10km Distance Travel=	(14+36*9) = 338.0
Fare for 10km Distance Travel (equivalent BDT)=	263.0
Average fare per km (equivalent BDT)=	**26.3**

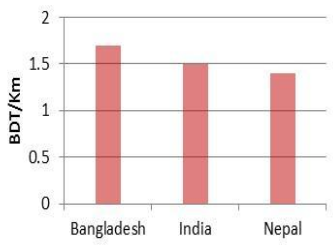
Source: http://www.ktm2day.com/2015/02/12/government-cuts-fare-on-public-transportation/

[Taking 10 km distance travel takes 1h:15m or 1.25h, where average running speed 12 km/hr (not taking the waiting time)] [*Source: Ramesh POKHAREL and Surya Raj ACHARYA, "Sustainable Transport Development in Nepal, September 2013, p-29*]

5 Data Analysis (Comparison of Transport Fare)

Comparison of Bus Fare

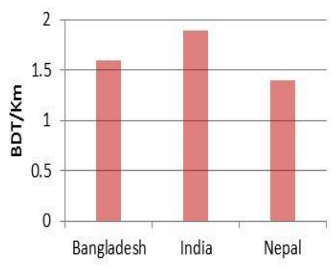
Country	Bus Fare (BDT/Km)
Bangladesh	1.7
India	1.5
Nepal	1.4
Highest in Bangladesh	



Bus (large bus with seat-capacity 50) fares in Dhaka city is 1.70 BDT per kilometer. From the above table and graph it is evident that bus fares per kilometer is higher than the neighboring country cities in India and Nepal. Compare to India it is 13.33% higher and to Nepal it is 21.43% higher in Dhaka city public bus transport fare.Whereas bus fare is lower in Nepal among these 3-countries, and it is 21.4% lower than Dhaka and 7.1% lower than Indian city's.

Comparison of Mini-Bus Fare

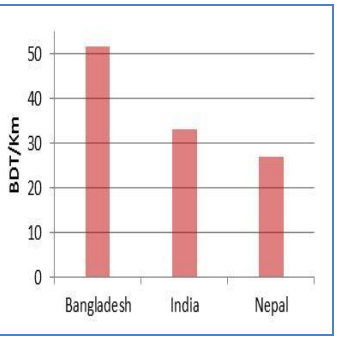
Country	Mini-Bus Fare (BDT/Km)
Bangladesh	1.6
India	1.9
Nepal	1.4
Highest in Bangladesh	



Minibus (seat capacity 35) fares in Dhaka city is 1.6 BDT per kilometer. From above table and graph, it is found that minibus fare in an average per kilometer is higher in India than urban cities in Bangladesh and Nepal. In compare to the fare in Bangladesh and Nepal, Indian city's minibus fare is 18.75% and 35.71% higher respectively. Whereas the minibus fare is lower in Nepal among these 3-countries, and it is 14.3% lower than Dhaka city and 35.7% lower than Indian city's.

Comparison of Taxi Fare

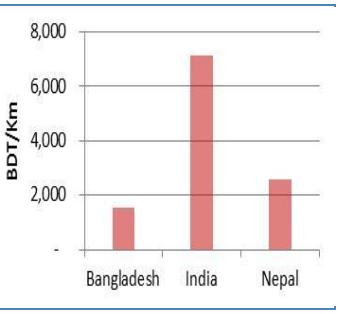
Country	Taxi Fare (BDT/Km)
Bangladesh	51.60
India	33.00
Nepal	26.90
Highest in Bangladesh	



Taxi fare in Dhaka is 51.6 BDT per kilometer, whereas this fare is relatively lower in India and Nepal. The taxi fare in Dhaka is 56.4% higher than India and 91.8% higher than Nepal. Among these 3-countries, this fare is lower in Nepal, which is almost half of Dhaka's fare and 22.7% lower than India.

Comparing the Gross Domestic Product (GDP) per capita in these 3 countries, it has been observed that in India per capita is higher and in Bangladesh it is lower among these three countries.

Country	GDP per Capita in USD
Bangladesh	1,524
India	7,153
Nepal	2,573
Highest in India	



6 Authors observation and Assessment on Dhaka's Public Transport Fare

From above section, it is observed that the public transport fare in Nepal is lower than in compare to India and Bangladesh, whereas the public transport fare is higher in Bangladesh among these 3-countries only exception of minibus fare which is higher in India.To assess and consolidate the public transport fare, it is trying to critically observe from country's economic performance (GDP) point of view. Among these 3-countries the GDP is higher in India and lower in Bangladesh, indicating purchasing power capability is higher in India and lower in Bangladesh. Relating from this sense, it can be conferred that possessing

---

[2] Nepalese Rupee (NPR) = 0.788 BDT

lower purchasing power Bangladesh's people had to pay higher fare in transport.

The existing revenue model of Dhaka's transport business is based on number of passengers carried by vehicle - this had lead to dangerous practices and poor service quality to maximize profit, such as unhealthy competition among the operators, overcrowding, picking up passengers from undesignated areas, longer waiting time and un-reliability.

7 Conclusion

The public transport fare in Dhaka is higher than the neighboring countries like India and Nepal. The bus fare in Dhaka is 13.3% and 21.4% higher than India and Nepal. The taxi fare in Dhaka is 56.4% and 91.8% higher than India and Nepal respectively.

Acknowledgement

The author is grateful to the Dhaka Transport Coordination Authority (DTCA) and Bangladesh Road Transport Authority (BRTA) for providing the information and data. The author sincerely expresses the special thanks to Dr. Md. Shamsul Hoque, Professor, Department of Civil Engineering, Bangladesh University and Technology (BUET) for valuable suggestions and guidance on preparing this paper. I am also grateful to Md. Anisur Rahman, Traffic Engineer, DTCA, for his inspiration and help to access in the government organization to collect the information. Any mistakes and omission in this paper remain my responsibility.

References

1. Bangladesh Gazette, Dhaka Transport Coordination Authority, *DTCA Act 8th March 2012*. www.dtca.gov.bd
2. Bangladesh Road Transport Authority (BRTA), *Motor Vehicle Ordinance (MVO) – 1983*, www.brta.gov.bd
3. "National Environmentally Sustainable Transport (EST) Strategy for Nepal" Ministry of Physical Infrastructure and Transport (MoPIT), with technical support from United Nations Center for Regional Development (UNCRD), Nagoa Japan, April 2014.
4. Gazette for revised fare of Bus/Mini-Bus in Dhaka Metro and Chittagong Metro Area, Bangladesh Government Ordinance 16 September 2015, www.brta.gov.bd
5. Suman Udas, *Public Transport Quality Survey*, 2012, Clean Air Network Nepal (CANN).
6. *Public Transportation in Kathmandu Valley, Restructuring and Reforming the System*, MaYA Fact Sheet#4.
7. *Urban Transport in India: Issues, Challenges, and the Way Forward*, Sanjay Kumar Singh, Associate Professor of Economics, Indian Institute of Management Lucknow, Lucknow – 226013, India.
8. *Service Level Benchmark in Urban Transport for Indian Cities*, Study undertaken by CoE Urban Transport, CEPT University, Ahmedabad, India, September 2013.
9. *India: West Bengal Corridor Development Project*, Project Number: 32203, Loan Number: 1870 October 2012, Asian Development Bank.
10. Ramesh POKHAREL and Surya Raj ACHARYA, *"Sustainable Transport Development in Nepal, September 2013.*