A PROFILE OF ROAD TRANSPORT DEVELOPMENT IN HOWRAH DISTRICT, WEST BENGAL, INDIA

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ABSTRACT

Howrah, the sister city of Kolkata displays a continuous transformation of its urban land use pattern since its inception near about 500 years ago. Transport, being the most significant parameter of urban land use change, depending upon which urban structure develops, is of great importance in this context. Howrah city in Howrah district is well known for its National Railway Terminus which brings and accelerates development of this city since 1854. At present Howrah as a primate city of this district exhibits high dominance and centralization of road based mass transport services which helps in the development of the local linkages system. But a strong contrast can be identified in the regional district level where a real paucity of mass transport services creates severe transport problems and high dependency on para transit services. In the multimodal public transport system of Howrah city, the road based mass transport services are dominated by private sector companies with certain degree of public sector intervention. The varying degree of bus services along with auto-rickshaws and trekker services within Howrah district, between Howrah district and Kolkata and between Howrah and other districts of West Bengal expresses the changing pattern of different levels of interaction among the areas. Due to the changing scenario of the transport services in this city in relation to the district scenario, an attempt has been made to analyze the spatial pattern of road based mass transport development with special reference to bus services and para transit services like auto- rickshaws and trekker services. It is also important to assess how the existing transportation system of Howrah city influences the trafficscape of this region.

Keywords: Mass Transport, Centralization, Para-Transit Services, Spatial Transport Pattern, Urban Trafficscape.

INTRODUCTION

Howrah, the smallest district of West Bengal with great potential of growth, is highly influenced by its location on the western bank of river Hugli, just opposite to Kolkata city. Howrah city within this district displays its continuous growth trend since its inception and became an important part of Kolkata conurbation. Among the various factors of growth, transport infrastructure and services provide the basic framework for its regional development. From the last 150 years, the gradual transformation of the land use pattern of this district has been highly influenced by the transport development. Major thrust was given on the then industrial sector in 1854 when the Howrah Railway Terminus was established (Government of West Bengal, 1967). Later on, construction of Howrah – Shalimar Railway Section and Shalimar Terminus in 1883 and National Linkage of Howrah with rest of the country within 1914, accelerated the rate of industrial development of this district. Another important transport medium was the all season navigable river Hugli which still serves the passenger transport in the peripheral parts of Howrah. While rail transport accelerates National passenger and commodity linkage system and ferry services in the peripheral linkage system, only road based mass transport services provide the intra and inter regional and local linkage system of Howrah. The existing road transport system helps in the reconstruction of the land use pattern of this district through which every improvement circulates directly from origin to destination and can be used by different types of people belonging in different economic classes. In this context emphasis has been given on the identification of spatial variation of road based public transport services in relation to regional demand pattern and their possible impact on the trafficscape of Howrah district as a whole.

LITERATURE REVIEW:

A real paucity is observed regarding documentation of infrastructural development, specifically road and transport development in Howrah district itself. Radharaman Mitra in his book "Kolikata Darpan" (Bengali) (1980) explained the history of transport development in Howrah city as an adjoining part of Kolkata city. The Master Plan for Traffic and Transportation in Calcutta Metropolitan Area (2001-2025), published by the Calcutta Metropolitan Development Authority (2001), provides a detailed plan for the up gradation and management of public and private Mass Transport services in Howrah Municipal Corporation. Sukla Bhaduri (2003) in her paper "Mass Transport Services in Kolkata Metropolitan City" has provided a detailed data based analysis of functions and significance of both public and private bus services in Kolkata and Howrah city. Infrastructural Development Report of West Bengal (2010) and District Statistical Handbook of Howrah District (2009) published by Government of West Bengal throws light on the progress of road development under various organizations and schemes.

OBJECTIVES:

The dynamic urban landscape in relation to existing transport services influence the mobility pattern of the passengers in this district. In this context the basic objectives of this paper are –

1. To identify the role of the dominant modes of road transport services and their existence in relation to spatial demand pattern.
2. To assess the role and viability of road based mass transport services in various ways.

LOCATIONAL ATTRIBUTES:

Howrah district, located within 22˚12′ N to 22˚48′ N and 88˚23′ E to 88˚50′ E, is consisting of Howrah and Uluberia Sadar Divisions, 14 Community Development Blocks, Bally and Uluberia Municipality and Howrah Municipal Corporation (HMC) (fig 1). Among the urban units, the most urbanized part is the HMC with an area of near about 51.74 Sq. Km with 1.08 million population load (as per 2001 census). The five boroughs of HMC with 50 wards are characterized by almost all possible attributes of developing urban landscape. Since the foundation of HMC in 1862 and transformation into the present form in 1984, it acts as the most influential part of Kolkata Metropolitan Area (KMA) and has the dual vibes for the industrial and regional development. The continuous two way interaction between Kolkata Municipal Corporation (KMC) and Howrah Municipal Corporation (HMC) through two bridges (Howrah Bridge and Second Hugli Bridge) over river Hugli transformed the whole district as one of the most notable and influential urban and industrial part of South Bengal.

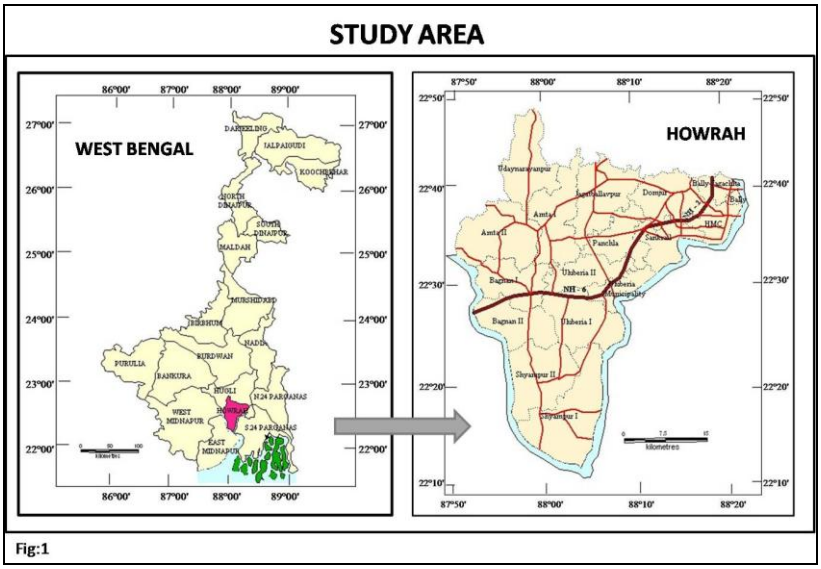


Fig:1

DATA BASE AND METHODOLOGY:

This research paper is based on the various transport related data collected from Road Transport Authority (RTA) of both Kolkata and Howrah city. Bus related information and data have been collected from Calcutta State Transport Corporation (CSTC), The Calcutta Tramways Company (CTC), West Bengal Surface Transport Corporation (WBSTC), Bengal Bus Syndicate and Mini Bus Organizations. Movement pattern analysis has been conducted for three various modes of road transport services and spatial analysis is done based on density variations through GIS generated maps. Degree of Concentration of bus service is measured by Theil's Index and Intensity Index and relationship analysis is carried on by using bivariate analysis.

AN OVERVIEW OF TRANSPORT SERVICES OF HOWRAH DISTRICT:

Among the various urban parameters of Howrah city, one of the most significant is its transport network system which includes rail, road and water ways. Although it shows somewhat a balanced transport network system in the urban perimeter but the interior rural parts are deprived especially in the access to and frequency of transport services. Brief information is given below regarding the major transport systems of Howrah to assess the role of road transport services in the multi modal transport system of this district.

RAIL TRANSPORT SYSTEM OF HOWRAH:

Railway system is the most identifiable feature in the trafficscape of Howrah, by virtue of having the National Railway Terminus. It is the most influential gateway of Kolkata for both national and local passengers. Howrah Railway subdivision belongs to both southern and south eastern railway sections with 30 different rural and 13 urban stations. Every day near about 1, 73,000 rural and 1, 90,000 urban passenger (Dey, 2012) avail this mode for their suburban communication. The suburban railway linkage system of Howrah is inextricably bounded up with Kolkata and other parts of South Bengal, which reveals different levels of interactions, influenced by both spread effect and trickledown effect.

WATER TRANSPORT SYSTEM:

The ferry services across the river Hugli clearly shows a high dependency on water based mass transport services of Howrah, mainly for short distance purposes. The Howrah Municipal Corporation (HMC) is directly connected with Kolkata Municipal Corporation (KMC) through nine different ferry ghats in part of HMC. Others blocks of Howrah viz. Sankrail, Uluberia I, Amta I and II, Udaynarayanpur, Bagnan I and II, Shyampur I and II - all have a total of 41 ferry ghats for direct connection with South 24 Parganas and East Midnapur districts of West Bengal (Munshi, 1980). Although such an economic, fuel efficient and environment friendly inland transport system of Howrah have the potentials for passenger movement but with due course of time, inland water transport system has not been able to maintain the balance between increasing passenger demand and supply of improved modes in comparison to other surface based mass transit system. The existing navigational hazard like siltation, bank erosion, absence of infrastructural facilities etc make the inland water transport system difficult to achieve the level of maximum carrying capacity in accordance to the growing passenger demand.

ROAD TRANSPORT SYSTEM:

Among the multimodal transport system of Howrah, road based mass and para transport services are most suitable for the daily urban and rural passenger movement. In the daily life of Howrah, the significance of bus, auto-rickshaws and trekker services as the cheapest mode for common rural and urban dwellers cannot be ignored. The daily passengers including the commuters are highly dependent on buses for their long distance movement and on autos and trekker services for mainly short distance movement. In case of Howrah – Kolkata daily urban interaction both public and private buses play a dominant role (Halder, 2002). But the degree of interaction changes with the spatial variation of the locational characteristic and infrastructural facilities.

BUS SERVICES IN HOWRAH:

Bus is the prime mode for mainly short distance and sometimes long distance mass transport services for the people of Howrah. On the basis of trip generation and destination system, the bus services of Howrah can be categorized into three different types – a) Within Howrah Bus Services, b) Howrah – Kolkata Bus Services and c) Howrah – Long distance bus services (table 1).

Table 1: Bus Services in Howrah

Category	No. of Bus routes	No. of permitted Buses
a. Within Howrah Bus services	131	2,018
b. Howrah – Kolkata bus services	148	2,601
c. Howrah to Long Distance bus services.	14	77

Source: *RTA, Howrah and Kolkata, 2010*

WITHIN HOWRAH BUS SERVICES:

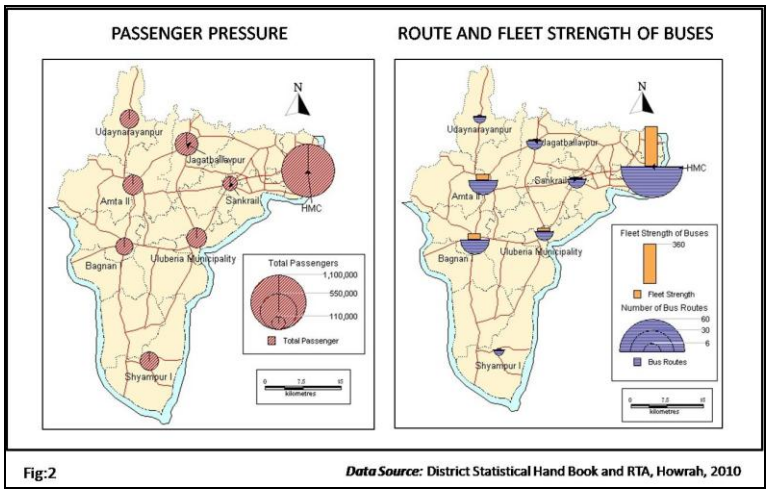


Fig:2 ***Data Source:*** District Statistical Hand Book and RTA, Howrah, 2010

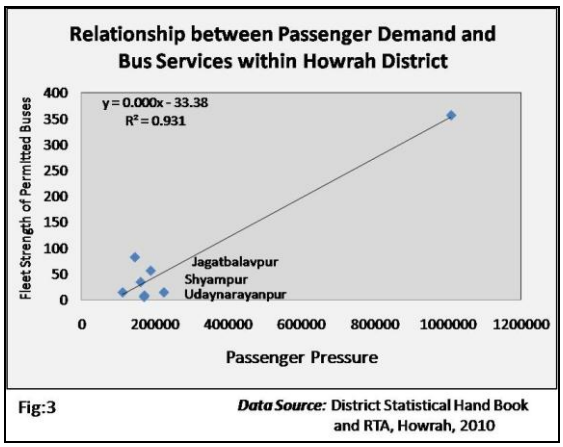


Fig:3 ***Data Source:*** District Statistical Hand Book and RTA, Howrah, 2010

The bus service of Howrah district consists of Private, Mini and Executive Buses. There are 24 different private bus routes and 34 mini bus routes with 666 and 821 fleet strength of each of them in 2010 which mainly provide services to connect Kolkata city. There are another 31 private bus routes and 42 executive bus routes with fleet

strength of 346 and 185 respectively that offer bus services in the interior parts of this district. The two maps of Howrah (fig 2) represent the existing passenger pressure of different important nodes of Howrah district in relation to the offered number of permitted bus routes with fleet strength. Although such interrelation reveals a clear positive trend between passenger pressure and fleet strength of permitted buses (fig 3) but there is a high degree of disparity in Shyampur, Jagatballavpur and Udaynarayanpur in terms of availability of buses in relation to existing passenger demands. Hence a distinct inequality can be observed between the eastern part adjacent to Kolkata city and the peripheral areas of Howrah district. Bus services must be provided to these marginal areas for enhancing the existing transport system and for better connectivity.

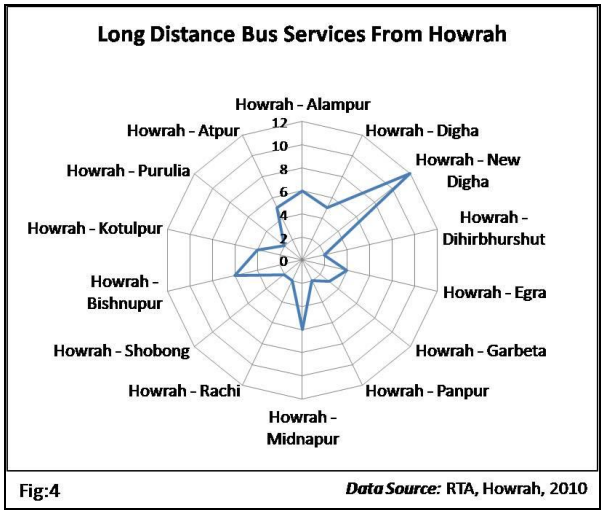
HOWRAH – KOLKATA BUS SERVICES:

Howrah and Kolkata together forms the busiest urban landscape in the entire eastern part of India where the two cities, situated on two opposite banks of river Hugli, are linked up through three bridges from north to south viz. *Nivedita Setu*, Howrah Bridge and Second Hugli Bridge. Howrah Bridge also known as *Rabindra Setu* and Second Hooghly Bridge as *Vidyasagar Setu* connect the two Municipal Corporations directly through which every day a million of passengers commute for various purposes. Apart from personalized vehicles and taxies, bus is the only mode for mass transport services on these two bridges. It acts as the prime mode for the common urban passengers to reach Howrah or Kolkata easily. 14 different types of buses ply on these two bridges with near about 148 different bus routes and 2,600 numbers of permitted buses daily. Table 2 shows type wise variation of routes and number of permitted buses. It represents a close relation between public and private sectors where private transport exceeds the public transport services. Among the different buses, Mini buses and Private buses rule over the other types for mass transport services on Howrah Bridge with a fleet strength of 1,335 and 766 buses respectively.

Table 2: Type - Wise Variation of Number of Bus Routes and Permitted Buses

Types of Bus Routes	Number of Bus Routes	Number of Permitted Buses
CSTC Midi Bus	3	31
Midi Bus	1	6
CTC Midi Bus	18	146
State Bus	14	162
Private Bus	20	766
Mini Bus	52	1,335
CTC Long Distance Bus	7	27
Office Special Bus	3	9
Ladies Special Bus	2	4
Special Bus	14	57
SBSTC Special Service Bus	1	6
SBSTC Midi Bus	2	10
Executive Bus	8	34
District Service Bus	3	8

Data Source: *RTA, Kolkata, 2010*



HOWRAH – LONG DISTANCE BUS SERVICES:

Presence of National Railway Terminus at Howrah city and Shalimar and many other sub urban railway stations in northern and central part of Howrah reduces the pressure on long distance bus services except in some interior part mainly the southern part of Howrah. Long distance buses are available mainly from the Howrah city. Among the various long distance bus routes (fig 4) the most important is the Howrah – New Digha route. The long distance bus services mainly connect Howrah city with interior parts of Howrah and with its adjacent district like Hooghly, East and West Midnapur, Purulia, Nadia etc. An interstate long distance bus service from Howrah to Ranchi is also notable in this regard although the demand is not up to the mark.

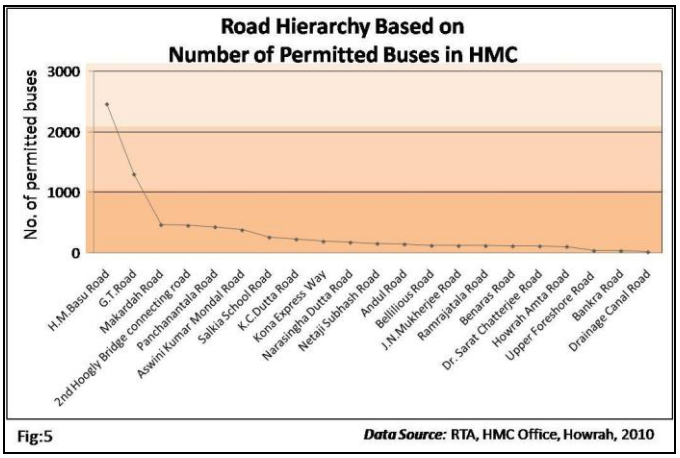
HOWRAH CITY BUS SERVICE PATTERN:

The area that directly linked up with Kolkata and act as the most influential part of Kolkata Metropolitan Area (KMA) is the Howrah Municipal Corporation (HMC) or the Howrah city. This is the most urbanized part of Howrah district consisting of 50 wards distributed in five boroughs with high concentration of population. This cosmopolitan city has excellent accessibility to other parts of India through both rail and road based transport system (Halder, 2007). The Howrah Railway Station serves as a main gateway to enter Howrah as well as to Kolkata. The city has near about 300km of metalled road and good number of semi metalled road. This area has maximum concentration of buses connecting Kolkata as well as other parts of West Bengal. Table 3 presents brief information about road based bus transport services of five boroughs of HMC. A brief information regarding the borough wise variation of major and minor roads are given in the following table.

Table 3: Borough - Wise Analysis of Bus Transport Services in Howrah Municipal Corporation

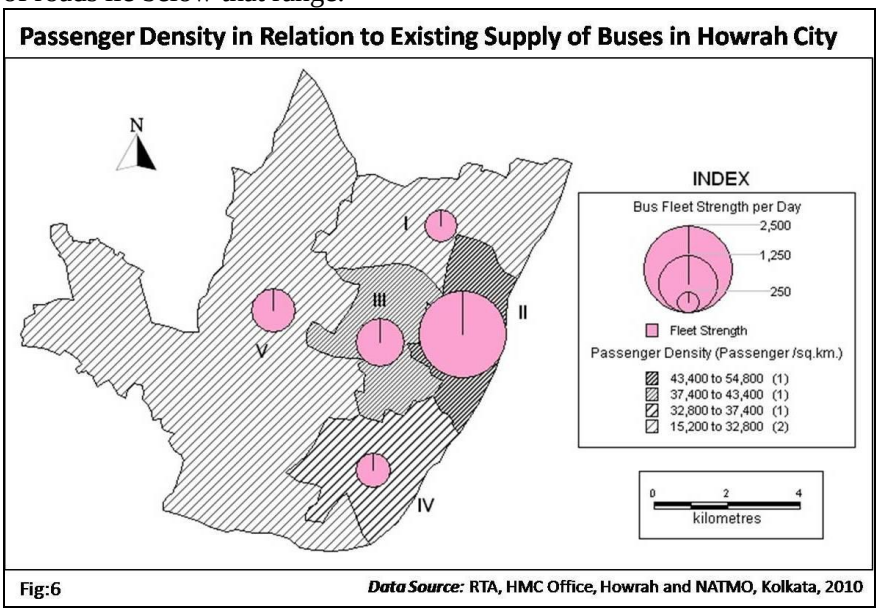
Borough	Number of Wards	Population (2001)	Area in sq. km.	Number of roads under bus services	Length of roads in km	Number of Bus Routes	Number of Permitted Buses
I	1,2,3,4,5,6,7,8,9,11	1,86,929	10.05	14	22.54	30	405
II	10,12,13,14,15, 16,17,18,19,29	1,75,563	5.89	13	20.80	139	2,462
III	20,21,22,23,24, 25,26,27,28,43	1,56,247	7.22	11	18.14	51	877
IV	30,31,32,33,34, 35,36,37,38,40	1,43,231	7.43	16	24.5	33	455
V	39,41,42,44,45, 46, 47,48,49,50	3,20,755	21.16	22	113.54	57	738

Data Source: HMC Office, RTO of Howrah and Kolkata, 2010



On the basis of number of buses running on the roads, road hierarchy can be derived from where it can easily be identified that maximum concentration of buses can be observed on H.M.Basu Road as it directly connects Howrah with Kolkata through Howrah Bridge. Another important road is the G.T.Road as it serves as the nerve

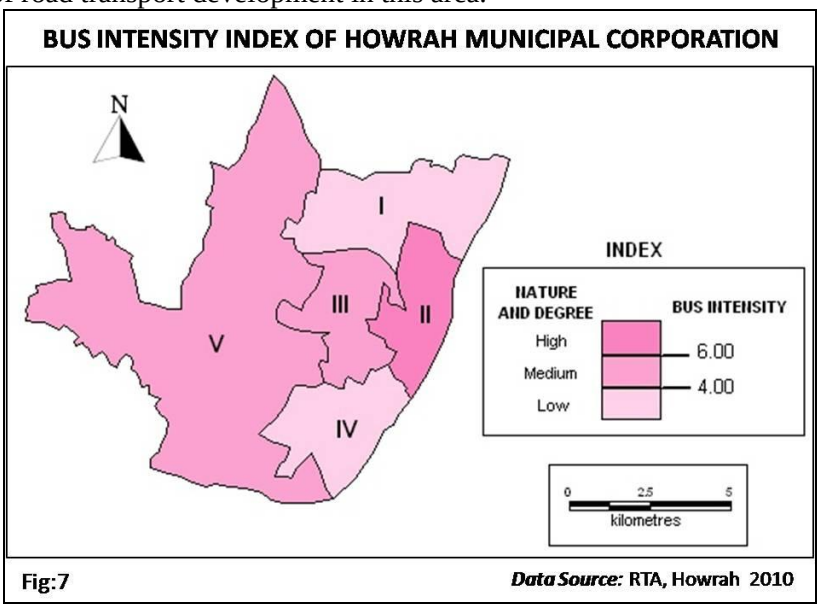
that stretches in the north south direction in the eastern part of HMC. The given road hierarchy diagram (fig 3) clearly reveals the dominance of only two roads above 1000 bus fleet strength on an average week day whereas maximum number of roads lie below that range.



The five borough containing ten wards each, varies greatly according to their locational attributes and shows significant dissimilarity regarding passenger pressure and supply of buses (fig 6). Among these five boroughs, the smallest but most developed part is borough II with maximum population, road, bus routes and bus density. This is mainly because of –

- Direct connection with Kolkata through Howrah Bridge.
- Location of Howrah National Railway Terminus.
- It is the Central Business District zone of Howrah City with all major administrative and commercial units.

While borough II represents the commercial and administrative concentration, borough III and IV are characterized by presence of high percentage of residential areas. Borough IV is also connected with Kolkata through Second Hugli Bridge. Thus borough II, III and IV are comparatively developed part of HMC in comparison to borough I and V. Although borough V has maximum area but it is least developed part of HMC with minimum population and road density and very low number of buses. The locational attributes influence the spatial variation of road transport development in this area.



The concentration of bus services in these five boroughs of HMC can be measured by *Bus Intensity Index* (table 4) (Yeats, 1972). It is expressed as the percentage share of fleet strength of each borough to the total fleet strength of the concerned area. Through this index the level of bus service development can be recognized. This is unit free and therefore is very useful for comparative study. This analysis represents the nature and degree of

regional inequalities in the perspective of bus service development. Figure 7 reveals that maximum bus intensity is in borough II although two other adjacent boroughs of Kolkata city have less intensity even than the peripheral borough.

Table 4: Determination of Bus Intensity Index of H.M.C. (2010)

Borough	Total Fleet Strength	Total Number of Bus Routes	Percentage of Fleet Strength to the Total Fleet Strength (x)	Percentage of Route Number to the Total Route Number (y)	Bus Intensity (B.I.) = $\sqrt{\frac{x+y}{2}}$
I	405	30	8.203	9.677	2.990
II	2462	139	49.868	44.839	6.881
III	877	51	17.764	16.452	4.136
IV	455	33	9.216	10.645	3.151
V	738	57	14.948	18.387	4.083
	Σ = 4937	Σ = 310			

Source: Computed by the author

TREKKER SERVICES IN HOWRAH:

Apart from bus services, Trekker is the most popular para transit system of Howrah, mainly in the interior parts, where the frequency and availability of buses are very low or uncertain. People, who reside away from Howrah city, rely more on trekker services than buses due to easy availability and comfort factor. The reasons behind the high demand of trekker services are as follows-

- Availability of trekker in some interior parts where buses are not prevalent.
- Frequency is higher in comparison to the buses.
- Short distance movement is profitable, less time consuming and comfortable.
- Although fare is a little bit high than the bus fare but it compensates with the availability and comfort factor.
- Sometimes the trekkers reach those areas according to the passengers' demand which is not possible for buses.
- The trekkers stop according to the passengers demand either for getting up or for getting off, instead of stopping at intervening stoppages.
- It also acts as feeder services to the ferry ghats.

At present, trekker service is one of the profitable businesses in many parts of Howrah district, mostly in Udaynarayanpur, Bagnan, and Shyampur where bus services are really very low in number. But sometimes such high demand of trekkers creates various problems like –

- High passenger demands degrade the comfort level. Normally a trekker can carry 12 to 14 persons but most of the time they overload themselves by carrying even more than 20 persons at a time.
- Such exceeding carrying capacity of trekkers enhances the probability of accidents at any time.
- Sometimes trekker services rule over certain routes due to lack of bus services where they can increase their fare rate arbitrarily ignoring the passengers' request and due to the paucity of other modal options passengers could hardly afford to resist these phenomena.
- High air pollution is also resulted from these services.
- The high demand of trekker services makes people eager to get permit for introducing new trekker routes in other parts of Howrah, which ultimately may lead to the over congestion of such services and wiping out of bus services in the interior parts.

In spite of all these positive and negative attributes, it is true that where bus services are absent or insufficient, trekker services are able to provide a viable public transport services for the local passenger. Some of the major trekker routes are given below in table 4 to show the spatial coverage of this service within Howrah district.

Table 4: Major Trekker Routes of Howrah

Origin	Destination	Number of Permitted Trekkers
Bagnan	Betia	15
	Benapur	13
	Gadiarah	8
	Garchumuk	8
	Siagorimore	11
Udaynarayanpur	Amtakalatala	22
	Bargachia	13
	Harali	2
	Munshirhat	6
Amta	Balichak	9
	Joynagar	1
Uluberia	Bowalia	18
	Chengali	6
Domjur	Andul	14
	Narna	6
	Katlia	2
Sankrail	Nazirganj Ferry Ghat	46
	Wadipur Kali Mandir	12
Shyampur	Jogkhamari	7
	Shibgange	13
	Sitapur	8
	Gadiarah	10
	Amberia Kheyaghat	9

Data Source: *RTA, Howrah, 2010*

AUTO-RICKSHAW SERVICES IN HOWRAH:

Where trekker services rule mainly the rural transport services, auto services dominate the short distance movement in the urban areas and mostly at the city core of Howrah. In the present scenario of urban transport development of Howrah, the significance of auto services is unquestionable. Some of the advantages are as follows –

- Auto Rickshaw is acting as the most rapid transit system for short distance movement purposes.
- It is the most convenient mode on the feeder roads connecting the railway stations and ferry ghats of Howrah.
- It is largely acting as link transport network of sub-urban railways.
- In terms of cost and time, the stage carriage system of auto rickshaws has got a relative advantage over manually operated rickshaws particularly within short distance and in relatively longer distance it enjoys an edge over buses and mini buses in terms of assured comforts (World Bank, 2002).

Table 5 shows the description of major 18 auto routes plying within Howrah Municipal Corporation and Bally Municipality, where most of the routes connect stations with the city core. High demand of Auto services are observed in the Howrah Maidan area which is basically the CBD zone of Howrah city.

Table 5: Auto Services within the Jurisdiction of Howrah Municipal Corporation and Bally Municipality

Route	No. of permitted Auto
Howrah Maidan to Salkia	50
Howrah Station to Salkia	100
Howrah Station to DonBosco	40
Belgachhia to Salkia Chowrasta	40
Bamungachhi to Bandhaghat	30
Belgachia to Kadamtala	20
Parijat Cinema to Bally Khal	30

Howrah Station to Shibpur Tram Depot	20
Belur Station to Chandauri	50
Bhattanagar Daspara to Lilua Station	50
Bakultala to Santragachi Station	15
Shibpur Ferry Ghat to Ichhapur Khudiram Statue	20
Nazirgange to Tikiapara	30
Lilua Station to Ghusuri	20
Mouri Mill Gate to Ramrajatala Station	20
Ramtala Station to Baltikuri	15
Santragachi Rail Colony to Belepole	15
Lilua Station to Belur Launch Ghat	20

Data Source: *RTA, Howrah, 2010*

ROAD TRANSPORT DISTRIBUTION PATTERN ANALYSIS IN HOWRAH CITY:

To assess the spatial distribution pattern of road based transport services within Howrah Municipal Corporation, Theil's index has been calculated based on the fleet strength of three important modes viz. buses, auto-rickshaws and trekkers. *Theil's Index* is an important indicator to evaluate whether the service is equally distributed all over the study area or their presence is merely concentrated in certain enclaves within that area (Rogerson, 2010). Here the index is calculated for the three selected modes to compare their distribution pattern within the HMC zone.

$$\textit{Theil's Index} = \log n - \sum_{i=1}^{n} x_i . \log \frac{1}{x_i}$$ Where, n = No. of observations

$$x_i = \frac{x}{\Sigma x}$$, x = Selected Criteria

Table 6: Theil's Index of Road Transport Services of Howrah Municipal Corporation (2010)

Boroughs	Fleet Strength of Buses	$x_i . \log \frac{1}{x_i}$	Fleet Strength of Autos	$x_i . \log \frac{1}{x_i}$	Fleet Strength of Trekkers	$x_i . \log \frac{1}{x_i}$
I	405	0.089096395	232	0.096505338	140	0.108469739
II	2462	0.150689698	947	0.159624966	242	0.139881522
III	877	0.133311022	320	0.115009621	220	0.134703423
IV	455	0.095428506	460	0.135962372	286	0.148137796
V	738	0.123384685	510	0.141484392	320	0.152825683
Σ	**4937**	**0.591910306**	**2469**	**0.648586684**	**1208**	**0.684018163**
Log n		**0.698970004**		**0.698970004**		**0.698970004**
$\log n - \sum_{i=1}^{n} x_i . \log \frac{1}{x_i}$		**0.107**		**0.050**		**0.015**

Source: Computed by the author

The value of Theil's index ranges from 0 to 1, where 1 denotes concentration in one place while 0 means even distribution. The Theil's index of all three indicators represents that all of these modes are more or less equally distributed within HMC although maximum equal distribution of services sequentially decreases from trekkers, autos and lastly bus services. Hence it can be said that in comparison to the mass transport services, para transit services are evenly distributed and have more passenger demand than the bus services.

RECENT PROBLEMS IN MASS TRANSPORT SERVICES IN HOWRAH:

The huge population density at the urban core of Howrah creates serious transport problems affecting both socio – economic and environmental conditions. Some of the recent problems of mass transport services in Howrah are as follows:

- Very low road space at the city core (near about 3.2% to that of the total area).
- High population density (especially in Borough II, III and IV) and no scope to increase road space in these Boroughs.
- High passenger and traffic density.
- Imbalances between existing demand and supply of buses.
- Road congestion by trucks, para transit modes and personalized vehicles causes low road space for bus services.
- High level of inequality in road space and bus services among different Boroughs. For instance, Borough I and V are having very low road and bus density in comparison to other Boroughs.
- High congestion near the railway station area in borough II creates serious problems during peak hours.
- No such road infrastructural development has yet been taken.
- No future transport development and traffic improvement plan in HMC area have been implemented.
- High level of air pollution at the city areas resulted due to large number of old, badly maintained diesel buses etc.

CONCLUSION:

Very recently government has given thrust on solving the transport related problems in urban core of Howrah district. Among them, most notable one is the East – West Metro Railway Project (Government of West Bengal, 2000-2005) where the construction work is going on rapidly to connect Howrah city directly with Kolkata without depending on the already overloaded three bridges. But this is only for accelerating the interaction between these two cities. The interior parts are still neglected as far as the transport network development plans are concerned. Thus, in spite of the introduction of metro railway services, which will be confined in the peripheral urban area of Howrah, one cannot deny the importance of the bus and auto services for the common urban travelers and trekker services for the rural travelers to maintain the balance in the road transport system. The flexibility and low cost system of operation and maintenance of these modes, together with the prior existence of the necessary roadways, means buses, autos and trekkers, are likely to remain firm favorite in both rural and urban parts of Howrah district. Therefore government should take immediate necessary actions for the overall up gradation of the existing road based mass and para transit systems in Howrah.

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