

E-Rickshaw Service in Barddhaman Town: Importance, Problems and Future Prospects

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Abstract:

Transportation system plays a very crucial role in urban development. The efficiency of a city usually relies on the effectiveness of its transport facilities. Besides mass public transportation system, now paratransit system also plays a vital role in people and goods movement in the urban centers throughout the world. The paratransit system gains more and more importance with the massive growth of the Indian cities. Barddhaman town, a growing urban center of West Bengal, witnessed a rapid development of E-rickshaw (locally known as Toto) service within a very short period of time. There are more than 4000 e-rickshaw operates in the streets of Barddhaman, which plays an important role in short-distance mass movement. Due to unplanned urbanization, uncontrolled population growth, lack of road space, such rapid growth of e-rickshaw became a burden on the existing transport realm. Though it is an eco-friendly, noiseless, sustainable mode of transport, but it creates burgeoning traffic congestion problem in the town. The study attempts to perceive the importance of e-rickshaw service in the urban transport sphere of Barddhaman. It also focuses on the emerging urban environmental problems and the future prospect of e-rickshaw services in the town.

Key words: E-rickshaw (Toto), Eco-friendly, Paratransit system, Sustainable, Transportation System, Urbanization

INTRODUCTION:

“Paratransit” literally means “along side of” transit. It is an alternative mode of public transportation that does not necessarily follows fixed route or schedules. The terms includes those forms of intra-urban passengers transportation which are available to the public, and distinct from conventional transit (scheduled bus and rail) and can operate over the highway and transit system. (Kirby, 1974). It is not quite fully public transit, with some convenience features of private automobile operations. In other words, it may be defined as an intermediary facility falling in between traditional public transport and the personalized automobile and may be termed as “Intermediary Public Transport” (IPT) (MUD, GOI, 2008).

The definition and scope of the paratransit system differs in developed and developing countries. In developed countries, it is “Demand Responsive Transit” (Lave and Mathias, 2009) system, which follows the route determined by the demands of individual passengers by a ‘Dial-a-Ride’ system. On the contrary, in developing countries, the supply deficit of public transportation has led to the mushrooming of paratransit system. It narrows the gap between public transportation and private vehicles.

Almost all Asian cities is characterized with a definite paratransit vehicle like *Tuk-Tuk* in Thailand, *Angkots* in Indonesia, Cycle-Rickshaw in Dhaka, Auto Rickshaw in Delhi, Mumbai, Kolkata etc. The e-rickshaw appears in first decade of 20th century in India and spreads all over the country. Now it is one of the most popular paratransit mode of transport in urban and rural areas of West Bengal due to its accessibility, flexibility, reliability and affordability.

OBJECTIVES:

The objectives of the present study are as follows:

1. To assess the importance of e-rickshaw services in the urban transport scenario of Barddhaman town
2. To identify the problems and future prospects associated with the initiation of e-rickshaw service
3. To investigate the future scope of development of e-rickshaw service along with its potentiality

STUDY AREA:

The town Burdwan or Barddhaman ($23^{\circ}13'N$ - $23^{\circ}17'N$, $87^{\circ}49'E$ - $87^{\circ}53'E$) is located in the south western part of West Bengal. Established in 1865, the municipality now consist 35 wards covering a total area of 26.30 km² (Census 2011). The total population of the town is 314265 (Census 2011) with the decadal growth rate of 10.04 percent. The town is well connected by Eastern Railway (Main and Chord line) and G.T.Road with its hinterland.

DATABASE AND METHODOLOGY:

Both primary and secondary data has been used to prepare this report. Besides relevant books and journals has also been consulted. Primary data has been acquired through direct interaction with the e-rickshaw drivers, passengers and pedestrian. Questionnaires are designed for this purpose. Random sampling method has been followed in this regard. On the contrary, secondary data is collected from Municipal office and Regional Transport Office (RTO) of Barddhaman. ArcGIS 9.2 is used for preparing maps.

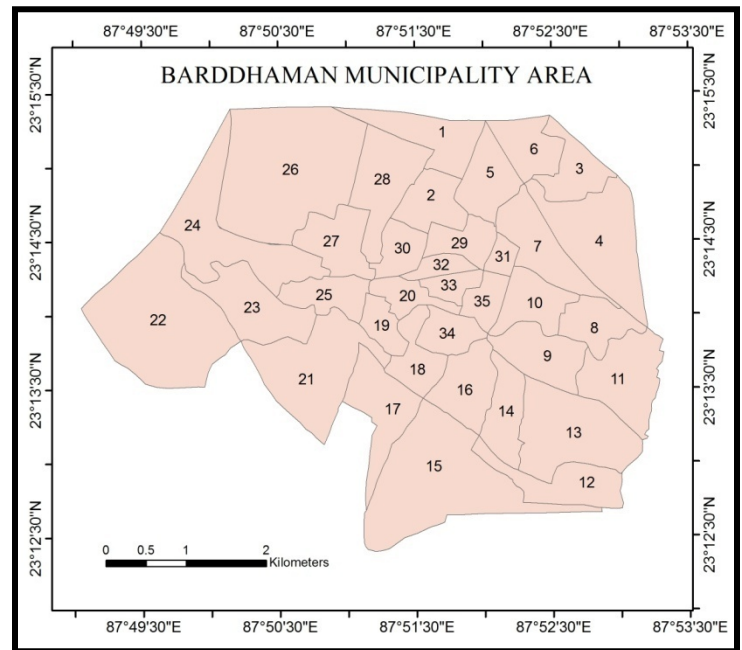


Figure 1: The Study Area

RESULTS AND DISCUSSION:

1. E-RICKSHAW (TOTO) SERVICE IN BARDDHAMAN: AN OVERVIEW

Being the district headquarter and an important economic centre Barddhaman town attracts thousands of peoples. As a consequence, the population of the town was increased from 39,818 in 1865 to 3,14,265 in 2011. Such rise in population size exerts a heavy pressure on the existing urban transport and also urge for a more developed and effective mass movement system. Due to inadequate public transport a strong need of alternative paratransit was felt. To fulfill the increasing demand, E-Rickshaws had been introduced in Barddhaman nearly two years ago (probably in the year 2014). These new mode became popular within a very short period of time and spreads all over the town, especially in the fringe areas of the urban center. Govt. records show that near about 4000 e-rickshaws are now running in the streets of the town. But, a primary survey done by the author reveals that, the actual number is far from the recorded figure. In reality nearly 6000-7000 e-rickshaws are in motion. Among them only 565 e-rickshaws has been registered under Regional Transport office (RTO) of Barddhaman. Rest of the e-rickshaws is un-registered and those are driven by non-licensed drivers (*Anandabazar Patrika*, 12.05.2016). There is no fixed route of their movement. The main concentration zone of e-rickshaws are the Station area, Rajbati area, Golapbag more, Burdwan Medical college more, Khosbagan, Nababhat, Borehat area etc. Today it is the most popular, reliable paratransit mode of the town.

2. ROLE OF E-RICKSHAWS IN BARDDHAMAN TOWN:

“E-cart” or “E-rickshaw” means “a special purpose battery powered vehicle of power not exceeding 4000 watts having three-wheels for carrying goods or passengers as the case may be, for hire or reward, manufactured, constructed or adapted, equipped and maintained in accordance with such specifications, as may be prescribed in this behalf.” [The Motor Vehicles (Amendment) Ordinance, 2015].

The e-rickshaw became a most important pillar of urban transport of Barddhaman town. Now, it is the fastest-growing transit system in the town. This battery operated tri-cycle plays a vital role in mass and goods transport from one part to another part of the town. Due to the absence of suitable alternative paratransit system, it gains popularity at a rapid speed. It became the fastest growing paratransit mode in rural and urban areas of West Bengal.

1. E-rickshaws are non-polluting, noiseless and environmental friendly mode of transport. It provides smooth, comfortable and hassle free journey. It is safe, simple and very easy to ride. They are spacious and comfortable for passengers and are outfitted with luxurious and comfortable seats, attractive designs along with strong body and chassis.
2. It provides demand responsive service to the passengers. As they don't have any fixed route, they move along the routes, determined by the passengers. Even, they bear door to door service in some cases. E-rickshaws can easily viable to those areas where any conventional mass transport system can't access/ ingress. It fills up the supply deficit of public transport.
3. Near about 50% passengers pointed out that, e-rickshaws are economically profitable in some cases. It charges only ` 10 for covering any distance in any direction. For instance, if a person goes from Barddhaman railway station to Bara Nilpur, he/she has to pay `30-35 to the cycle-rickshaw, whereas the fare of the toto is only ` 10

Table:I Reasons for Preference of E-rickshaw

Reasons	Respondents (%)
Comfortable Journey	25
Economically Profitable	50
Demand Responsive Service	15
Absence of alternative paratransit service	10

Source: Primary Survey, 2016

4. It offers alternative job opportunities to the under-educated, poor youth population of Barddhaman. A person can easily earn `12,000-15,000 (approx) in a month with one-time initial investment of ` 90,000-1,35,000. They are easy to operate and require less maintenance cost. It runs on batteries and it does not require filling petrol, diesel or gas. There is no need to refill any kind of fuel. Only nominal battery charging fees are required on daily basis to run these e- rickshaws. Vehicle manufacturing industry and several services are also developed due to the e-rickshaw service, which creates new job options.

3. PROBLEMS CREATED BY E-RICKSHAW SERVICE:

Some new problems emerge after the initiation of E-rickshaw service in the town. The problems should be enlisted as follow:

- **Traffic Congestion:** Due to inadequate road space, increasing number of e-rickshaw creates a tremendous traffic congestion problem. 90% pedestrians and the local residents of the town indicate that, the uncontrolled growth of e-rickshaw increase the magnitude of traffic congestion. As, the existing road space is limited. So, increasing number of e-rickshaws exerts an immense pressure on the roads, which restrict the smooth traffic flow. The G.T. Road is worse affected by the problem of traffic congestion. Along with main roads, all the narrow nook and corners (lanes and by lanes) experience the same problem with varying magnitude.
- **Shrinkage of Road space:** As the e-rickshaw doesn't have any fixed stand, they stand beside the road. It reduces the road space, which consequently accelerate the problem of traffic congestion and overcrowding.
- **Increasing Possibilities of Accident:** Inadequate road space, large number of unauthorized e-rickshaws, enhancement of traffic congestion and overcrowding, improper traffic controlling system, rough and harsh driving by e-rickshaw driver ultimately increases the possibilities of accidents. Events of accidents are increases after the initiation of e-rickshaw service. Most of the e-rickshaw drivers are unaware of the traffic rules and regulation. Thus road accidents are more frequent. Besides lack of basic safety equipments increases the risk of the passengers and pedestrians.
- **Discourteous Behavior of E-Rickshaw Drivers:** Uncivil behavior of some e-rickshaw drivers is also may be noted as a problem. In some cases, some passenger experienced inhuman attitude by the operators.

4. SHOULD E-RICKSHAWS (TOTO) STAY IN THE TRANSPORT SYSTEM OF BARDDHAMAN?

Introduction of a new thing in an existing system always has its own pros and cons. Similarly the e-rickshaw service in Barddhaman town shows some evils along with its valuable service. Now the question is that, should e-rickshaw stay in the roads of the town? Or they should be banned?

Initially the e-rickshaws were not regulated by any central law in India. In 2014, Delhi High Court banned running of e-rickshaw in Delhi, over safety concerns raised through a public litigation. Tripura was probably the first state in India, which provide

registration and license to this new but popular mode of public transport. The Motor Vehicles (Amendment) Ordinance, 2015 legalize battery operated e-rickshaw. But, with the growing problem of traffic congestion, increasing number of accidents etc. in Bardhaman town, now the question became relevant.

In India, there are presently close to 18 million petrol-powered two-wheelers and about 1.5 million petrol- and diesel-powered three-wheelers and their population is growing at a rate of about 15% per annum. (Rajvanshi, 2002). Most cities in India face the problem of air and noise pollution caused by petrol/diesel-powered transport vehicles. The Bardhaman town is not an exception. The e-rickshaw can provide a suitable non-polluting, silent transport system for urban areas. It can also generate a large scale employment opportunities for the poor section of the society. Now a days, most of the countries of the world strive towards achieving environmentally sustainable transport. These eco-friendly tricycles may provide a sustainable transport mode for the urban centers. In this context, banning of e-rickshaw may not be a well founded conclusion.

RECOMMENDATIONS/SUGGESTIONS:

1. The e-rickshaw service in Bardhaman town should be considered as an integral part of the urban transport system. The city planners must consider the e-rickshaw service as an effective paratransit mode, rather than a nuisance maker.
2. Availability and reliability are two main issues regarding paratransit system. The quality of e-rickshaw service associated with safety measures needs to be significantly improved to provide more safe and secure journey. The driver's attitude towards the passengers should be gentle and vice-versa.
3. Uncontrolled growth of non-registered e-rickshaws should be strictly controlled in the town. Proper and limited registration of e-rickshaws may be an effective tool to restrict such growth.
4. The free movement of e-rickshaws in the town area has to be restricted. Firstly the routes should be fixed and a certain number of e-rickshaws are to be allowed to move along it, on the basis of the carrying capacity of the road and demand of the passengers. Colour-coding of e-rickshaws according to the route may be adopted for maintaining the system.
5. The narrow roads or lane should be repaired and properly maintained to secure a safe and comfortable service.
6. The traffic controlling system of the town should be managed in more scientific way for smooth vehicular movement. Improved traffic signaling system should be introduced for this purpose.
7. Fixed stand or parking place needs to be selected for e-rickshaw, to restrain their unwanted gathering on the street.
8. The movement of e-rickshaws should be controlled strictly along G.T.Road, the main roadway of the town to avoid unnecessary traffic congestion.
9. Introduction of "Dial-a-ride" service, establishment of complaint redressal system may increase public participation and help to improve the existing paratransit system.

CONCLUSION:

The transport system in India is dependent on the old model of transportation planning and development established during the colonial era. (Jain and Khare, 2015). As a consequence, most of the urban centers of the country face several transport related problems. With the rapid rate of urban development along with increasing environmental problems, a strong need for eco-friendly transportation is felt. In this context, these bio-tricycles may provide valuable service to the town in near future with effective planning and proper management. The transport problem of the town should be solved to some extent by taking e-rickshaws as an inseparable part of the transport system.

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