

## **Cohesive City and Urban Informality: Battery-bikes in Khulna City**

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### **1. Introduction**

Bangladesh Institute of Planners (BIP) is observing World Town Planning Day, 2014 with the theme ‘Equality in the City: Making Cities Socially Cohesive’. Noticeably, the concept of cohesive city has progressed from previous concepts like ‘cities as an outcome of push-pull factor’ and ‘cities are engines of rural development’. The present holistic approach to cities considers three broad form of cohesiveness: social, economical and environmental. Therefore, social cohesion is incomplete without the economic and environment components of cities. This article discusses about the battery-bikes, which is an informal transport mode in the Khulna city geography, and points toward the way their social, economic and environmental importance have been downplayed in the present mainstream discourses.

Battery bikes are a distinct identity of public transport in all divisional cities – they are virtually everywhere. It is being extensively used for short distance travel providing cheap alternative to rickshaw and other modes of public transport like bus, van and auto-rickshaw. To date the number of battery-bike in Khulna city is approximately 17,000, providing more than half (65%) of the total transport demand in Khulna city (Field survey, 2014). How such an important transport and urban economic sector is made illegal is yet to be justified.

Illegality or informality is one of the most important characteristics of third world urbanity. Through informal means, much of the city dwellers earn livelihoods that sustain entire families while making a real contribution to economic growth and GDP. The efforts of these economic contributions are vitally important as well as social and environmental. However, most urban plans, policies, laws and regulations

(and the officials who enact them) are blind to these workers, and deaf to their needs and demands. Therefore, for social, economic and environmental reasons, we should all join these workers in demanding better integration of informal sectors into municipal systems, rather than exclusion. An inclusive city is one that values all people and their needs equally. It is one in which all residents including the most marginalized of poor worker, which have a representative voice in governance, planning, and budgeting processes, and have access to sustainable livelihoods, legal housing and affordable basic services (Rhonda, 2013).

## 2. Public Transport in Khulna City: Past and Present

Public transport is defined as ‘a shared passenger transport’ available for use by the ‘general public’, and is shared by ‘strangers’ without a private arrangement. In all developing countries, the definition of public transport obviously includes van, rickshaw, all sorts of three-wheelers and battery-run vehicles.

**Past Situation:** In 2002 the population of Khulna City was about 8.5 million out of which only 32% owns personal vehicles. 68% of the total households had no vehicle of their own and only 2% have car/jeep (Fazlur, 2004). The city dwellers were dependent mainly on public transportation system. In Khulna city the available public transport were town service buses, auto rickshaws, baby taxi, vans and rickshaws. Town service buses were the cheapest among all available public transport modes in Khulna city. Majority of the city dwellers belonged to the low-income group. About 50% of the city dwellers made trips on foot (KDA, 2002). On an average, people traveled one kilometer daily to reach their work places (KDA, 1999). There was only one bus route exists in Khulna city. It was running a distance of 22 km from Rupsha to Fultola. Only 6% home to work trip was produced by bus because most of the people are Khulna were not interested in bus service because most of the time town service buses neither maintained a schedule nor available (Siddique, 2010).

**Table 1: Reasons for not selecting bus as travel mode.**

Reasons	Response(in percentage)
Not safe for travel	5.15
Alternative mode is more convenient	13.86
Travel time is long	10.26
Waiting time is long	8.31
Bus stoppage are too far	11.26
Too congested(inside the bus)	14.47

High fare	4.23
Bus is not always available	3.52
Bus is not in the selected route	28.94
<b>Total response</b>	<b>100</b>

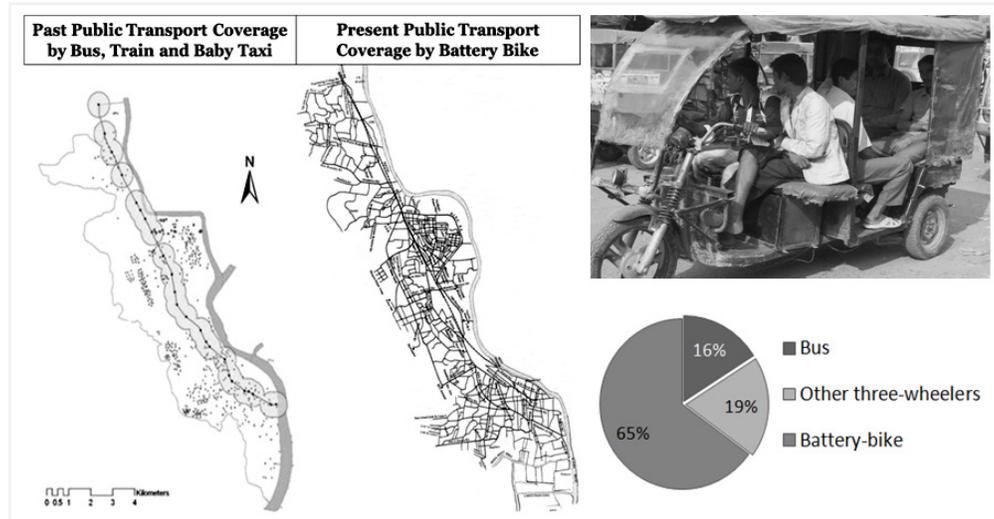


Figure 1: Present public transport composition of Khulna city

Source: BRTA, 2014; Questionnaire Survey, 2014

**Present Condition:** From the point of supporting transport demand, battery bike is the major public transport of Khulna city in present time. A recent study by the Department of Urban and Regional Planning (URP), Khulna University of Engineering and Technology (KUET) finds that battery-bike has the highest spatial coverage (almost all corners of the city) – they ply all over the city in every known streets. They have high-level of customer satisfaction due to low cost and high comfort. Waiting time has been reduced to virtually zero as it has the highest frequency than any other transport mode available. Accordingly, it increases mobility about 50% in city areas by generating more trips and saving costs than before. From the transport perspective, battery-bike has lower per-capita spatial coverage than car, rickshaw and auto-rickshaw but more that bus.

### 3. Importance of Battery-bike for Khulna City

Battery bike is an ideal example of green transport due to low air and noise pollution. It is also a popular urban transport with low cost, comfort and frequency.

Moreover, in a country like Bangladesh, it plays direct and indirect socio-economic roles:

***As a Transport mode:*** Efficiency of public transport indicates its attractiveness to potential users. A wide variety of indicators is used to measure the efficiency of public transport. Waiting time, travel time, travel cost, comfort and availability of public transport are the indicators considered for evaluating transport efficiency of a city (Siddique, 2010). Considering these criteria, battery-bike is an ideal public transport. It can carry six passengers at a time with low cost and high comfort alike traditional public transport rickshaw, bus, train, auto-rickshaw etc.

***Economic Perspective:*** Apart from the transport perspective, battery-bike has comparative economic advantage over other three-wheelers. Costing at daily average 140 tk. (for battery re-charge and parking), it can return minimum 700 to 800 tk. In addition, the initial investment cost is average 1,20,000 tk., which is almost five times lower than the diesel run four stoke new vehicles. In addition, the maintenance and operating cost of Battery bike is comparatively very low.

The study found that about 66% of the drivers solely depend on incomes from battery-bikes, and 78% has chosen it because of profitability, easy to drive and less initial cost to purchase or to rent (results from a questionnaire survey of 220 samples). Subsequently, battery-bike used to be imported from China, but local small industries too started to produce.

***Social impact:*** It has become a new source of income and employment for about 1 million unemployed and young people of Bangladesh – the number is nearly 35,000 in Khulna city. Providing a cheap and easily adoptable employment option to poor and frustrated people, it has also succeeded in reducing crime. According to the president of Khulna Metropolitan Battery-bike Labor Union, battery-bike plays a crucial role in the low petty crime rate in Khulna. About 20% of the battery-bike drivers were local goons. Low initial cost, easy-to-drive and reliable income – these have encouraged people to drive battery-bike and to be independent. It has also become a dependable source of income for retired people and students.

***Environmental impact:*** Alike from other gasoline fuel run motorized vehicles, it causes no direct pollution. It covers every criterion to be considered as a green transport.

#### **4. Problems of Battery-bike**

Even being a vehicle of advanced technology, battery-bike has never been welcomed by the Bangladesh government. Surprisingly the first initiative of importing battery-bike was taken by the business sectors of Bangladesh. To date, an

estimated 4,00,000 or more battery-bikes are plying all over Bangladesh (Dhaka Tribune, 2014). The frequent allegations against the battery-bikes are summarized below:

- Battery-bikes consume huge electricity thus putting pressure on the already short supply. An estimated 400MW of electricity is being used per day to support Battery bike in Bangladesh (Dhaka Tribune, 2014).
- Battery-bikes are not structurally sound to be allowed as an urban transport. However, such allegation is unsubstantiated as the current accident rates of battery-bikes are lower than any other public transport. Based on the ‘Traffic Control and Public Vehicle By-Laws, 1973’, battery-bikes is banned from the divisional cities, as the top speed is less than 45 km/hr. However, such obsolete laws are inadequate to address the innovative urban transport like the battery-bikes.
- Novice drivers cause haphazard road use and traffic jam that leads to frequent accident. Therefore, more priority should be given on training the drivers rather than banning them.
- There is political pressure to ban battery-bikes from the streets of Khulna city as most of the drivers are from the peripheral rural regions of Khulna city. Because their votes do not count in the election, political interests are rarely in favor of the battery-bikes.

### **5. Conclusion:**

Battery bikes have been well accepted as a cheap, comfortable and frequent mode of public transport in Khulna and other cities. It has not only increased the public mobility, but also has significant positive social, economic and environment impacts. Because of their illegal status, where the technical definition is guided by an obsolete transportation rules, battery-bikes are not included in the Khulna city realm. Socially cohesive city, thereby cohesive and inclusive Khulna city cannot be achieved without acknowledging the informal and illegal urban sectors. Accepting the battery-bikes as an equal counterpart of other transport modes, and allowing all informal urban subsectors should be the first step towards a cohesive city. However, the current trend seems to be contrary to the cohesive city formation in Bangladesh, at least for battery-bikes in Khulna city.

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