Why to Introduce Flat Fare System in Janmarg, Ahmedabad, Gujarat – A Case Study

Jaynila Vaghasiya, Mahek Dave, Kinjal Tank, Rutvi Parmar and Pratik Dave

1Department of Civil Engineering, L. D. Govt. Engineering College, Ahmedabad, Gujarat, India – 380 015.
2Institute for transportation and development policy, Chennai, Tamilnadu, India - 660 020.

INTRODUCTION

The case considered for the study is of Ahmedabad city wherein public transport is catered by Ahmedabad Municipal Transport Service (AMTS) and BRTS. While AMTS operates buses as a regular city bus service, BRTS is a special privilege to public transport by having special infrastructure constructed constituting of dedicated median bus lanes and bus stations having off-board ticketing facility. Ahmedabad BRTS (Janmarg) has been operational since 14th October 2009 and at present the total segregated BRTS corridor network is 67 kms. with 112 stations and 130 buses operational on daily basis. The fare structure of Janmarg was approved by State Government in the year 2009 which was 1.5 times higher than AMTS fare structure.

Most of the Indian cities’ permits are structured in a manner that each stage consists of pre-decided kilometers and fare corresponding to it. For example a stage can be in the rage of 1 to 3 kilometers and the minimum fare for it is pre-decided. Fare structure has to be competitive to shared auto rickshaw fare levels in order to attract more ridership. The study focuses on how to developing a framework to study and develop an approach towards simplifying fare structure by having flat fare system. Sometimes, the fare structure results into inconsistency with para-transit systems of shared auto rickshaws. Fares of shared auto rickshaws compete with city bus fares and a user is left with multiple options. In that case, of the operations in-efficiency like disorganized bus schedules and fare levels results in loss of ridership and passengers shift to shared auto rickshaws and other modes of transport.

The case studied for the exercise is Ahmedabad’s Bus Rapid Transit System project. The case study was selected because the data of daily passenger ridership was easily available from Ahmedabad BRTS management authority as compared to any other city authority. Also, because the system of BRTS in Ahmedabad is most recent having gradual expansion of corridors year by year, it was decided to select the system for the study. Results: Realizing the problems AMTS buses face daily on city roads due to operations in mixed traffic, AMC initiated an innovative approach to implement for safeguarding image of public transport. Conclusion: AMC decided to plan and implement the BRTS project in Ahmedabad under JnNURM scheme of ministry of urban development, government of India.

About The City- Ahmedabad:

Located on the banks of the river Sabarmati, Ahmedabad is the first largest city of Gujarat state and 7th largest city of India. Spread over 464 Sq. Kms., the city has population over 6 million with average density of 22,473 persons per sq. km. Established over 600 years ago, Ahmedabad was once famous as ‘Manchester of East’ due to large number of textile industries established during 19th and 20th century. Ahmedabad is administered by Ahmedabad Municipal Corporation (AMC) and Ahmedabad Urban Development Authority.
(AUDA) as the local urban legislative bodies (ULB’s). AMC functions as per the Bombay Provincial Municipal Corporation Act, 1949

Objective:
The study is oriented towards an approach to develop a framework for conducting a feasibility study towards implementing flat fare in public transport systems in India. Most of the Indian cities are having distance based fare structure formulae in city bus operations wherein the fare structure is largely based on distance traveled by the passenger. Sometimes the fare structure results into inconsistency in comparison with shared auto rickshaw fares and so commuters shift to shared auto rickshaws instead of city buses. Having a flat fare system relieves the daily commuters to a large extent by providing an attractive travel option and also eases of payment of the fare. Passengers face hassles for paying change money in city buses due to varying fare levels which can be eliminated by having a flat fare system. In cities like Bogota in Colombia, flat fare system has been functional in the BRTS since last 10 years. The main objective of the study is to evolve a framework wherein on can study the operational costs of a system and the income part comprising of passenger revenue and other potential revenue sources and based on that arrive at a mechanism to implement a flat fare system of the city bus operations.

Scope of work:
The scope of the study is limited to Ahmedabad BRTS system but can be considered as a reference work for conducting similar studies for other bus based public transport system in any Indian city. The scope is limited to arrive at a framework to study feasibility of introducing flat fare system in BRTS system of Ahmedabad only and does not focus on city bus operations catered by AMTS which can be studied later on. During literature review, it was found that no such reference material is available for conducting a feasibility study of introducing flat fare systems in bus based public transport system for Indian cities. In India, all the cities are having distance based fare structures. This study can be helpful in future research work in introducing flat fare system in India.

Fig. 1-2: Land use change in AMC limits (Source: BRTS DP - Land uses in Ahmedabad, 2008).

Fig. 3-4: Land uses in Ahmedabad (Source: BRTS DPR for Ahmedabad, 2008).
Currently the vehicles are growing at the annual rate of 13%. Ahmedabad has one of the highest growth rates of two wheelers and three wheelers (rickshaws). Lack of proper public transport facility may even increase the growth rate in near future leading to increased congestion on city road network and increase levels of air pollution. Ahmedabad has an excellent ring and radial road network pattern which makes the arterials and sub-arterials of the city interconnected and provides ease of accessibility to various zones and areas within the city. There are two major railways stations and one central bus station of inter-state transport bus service to cater the regional and outer regional travel demand. Ahmedabad is also well connected with national and state highways and domestic and international airports. There are in total 9 bridges across the river Sabarmati which makes it possible to traverse from east to west. There are more than 15 flyovers/rail over bridges and 7 under passes built across the railway lines. The western part of the city has developed mainly as a residential area and the eastern part has the industrial estates. Because of this, the traffic flow is very heavy from west to east in the mornings and vice versa which causes serious traffic congestion on city roads during morning and evening peak periods.

Fig. 5-6: Employment distribution pattern & Vehicle composition in Ahmedabad (Source: BRTS DPR, 2008).

Public transportation in Ahmedabad is catered by AMTS which operates city buses. As of 2013, AMTS has a fleet of 850 buses out of which 750 are daily operational. 392 buses are operated by AMTS drivers whereas almost 50% of the fleet consists of hired buses. AMTS recently procured 230 buses under JnNURM funding. These buses are latest with CNG and emission norms equivalent to Bharat Stage IV. Yet, AMTS has % of aged fleet. From the passenger survey of AMTS commuters conducted in 2007, daily passengers of AMTS are about 8 lakhs making 10 lakh trips a day. As per the zone wise demand diagram for bus trips, a total of 9 lakh bus trips are generated in the study area.

Fig. 7: Age and mode choice (Source: BRTS DPR for Ahmedabad, 2008).

Fig. 8: Trip length distribution by Age. (Source: BRTS DPR for Ahmedabad, 2008).
Fig. 9: Monthly expenditure on transport (Source: BRTS DPR for Ahmedabad, 2008).

Fig. 10: Trip length distribution of female trips (Source: BRTS DPR for Ahmedabad, 2008).

Result:

Fig. 11: Mode choice of female trips (Source: BRTS DPR for Ahmedabad, 2008).

Conclusion:
Realizing the problems AMTS buses face daily on city roads due to operations in mixed traffic, AMC initiated an innovative approach to implement for safeguarding image of public transport. With the introduction of Bus Rapid Transit System, AMC not only reserved a dedicated lane for buses on the main arterials of the city, but also induced a change in the operations management culture. BRTS in Ahmedabad was implemented with an objective to provide mass transport facility to commuters using main arterials of the city, to provide seamless connectivity across main arterials and major transport nodes of the city like Railway Stations, But Stations etc. AMC decided to plan and implement the BRTS project in Ahmedabad under JnNURM scheme of ministry of urban development, government of India.
Fig. 12: Zone wise demand diagram (Source: BRTS DPR for Ahmedabad, 2008).

[Result - Fig: 11 & 12 - Zone wise demand diagram]

REFERENCES

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