Fare Revision Mechanism for State of Madhya Pradesh

Mentor: Shri Shivanand Swami

Presented by: Mr. Mohit Bundas (I.A.S.)
Mr. Parijat Jain
Background and need of the Project: -

Population: 7 Crore
Area: 308252 Km. Square
Road Network: 14715 Km.
District: 51
ULB: 379
Past Situation of Transportation in M.P.

MPSRTC (Madhya Pradesh State Road Transport Corporation)

- Formulated in June 1962.
- Intercity and Interstate Bus Operation. (Economic, Efficient & Coordinated) in all over MP.
- Buses: 2200 Buses (Inter-City + Inter-State)

The public transport sector in Madhya Pradesh faced many problems. Most of these problems seem to be related to the absence of a fares revision mechanism. Implicit fare policies, which have been followed in the past, have given rise to many problems of a serious nature, which have continued to undermine the quality of bus transport and threaten its continuity as a viable mode of transport.

The lack of a well-formulated, explicit fares revision mechanism has been a primary reason for the deterioration of the bus industry in Madhya Pradesh.

- May 31, 2008 Madhya Pradesh became the country's first state, which closed down the road transport corporation.
Problems in Public transport:

- Deteriorated scenario of Inter-City Public transport system since the closure of MPSRTC.
- Rapid urbanization & growing transport demand.
- Inadequate public transport and rapid motorization.
- No public transportation system is available in any city except 4 cities. (Bhopal, Indore, Jabalpur and Ujjain).
- Increasing level of congestion and pollution
- Mix of slow and fast vehicles without segregation
• Private operator provides both type of bus services (Intra-City & Inter-City).

• Bus operator charge arbitrary rupees as per their wishes with passenger.

• Poor rail connectivity in the state is the reason for limited connectivity to various city of the state.

• Transport energy demand and carbon emissions rising.

• Absence of Automated Fare Revision Formula.
Present Situation

- Urban Development and Housing Department has envisaged improving and facelift the scenario of **Intra-City and Inter-City** Public Transport in Madhya Pradesh.

- The Public Transport System in cities are being developed and implemented through Special Purpose Vehicles (SPV).

- Hub and Spoke model cluster Based public transport system in Madhya Pradesh on PPP Approach.

- Net Cost model (VGF Based Approach)
The major disadvantage of a Net-Cost Model is:

- The authority may have to pay more for a net-cost rather than a gross-cost contract since the operator usually makes very conservative estimates of revenue to reduce his financial risk.
Once the bus operations start in 20 identified towns in MP, the state will have about ~80% coverage in terms of organized bus transport system.
Organized Public Transport in Madhya Pradesh
BMTC - A CASE STUDY on PRICING & FARE FIXATION IN PUBLIC TRANSPORT By Anjum Parwez, IAS Managing Director BMTC, Bangalore 4th December 2013

Increase in the Price of Diesel
- \( F(DPA) = (F-D) + (RPD/BPD) \times D \) Where,
- \( F(DPA) \) is the revised fare in terms of Paisa per passenger km.
- \( D \) is the earlier diesel cost per passenger km.
- \( RPD \) is the revised price of Diesel.
- \( BPD \) is the earlier basic price of the Diesel.

Increase of Dearness Allowances rate
- \( FR = F + (CPKM(L)/CPKM) \times P \times F/100 \) Where,
- \( F \) is the current fare per passenger km.
- \( FR \) is Revised Fare Paisa per passenger km.
- \( CPKM \) is Total cost per km.
- \( CPKM(L) \) is staff cost per km.
- \( P \) is the % increase in the staff cost due to D A increase over then previous staff cost.
Bus Karo 2.0 CASE STUDY: Fare Setting and Revision Policy for Ahmedabad BRTS Studied by Embarq

1. Revised Fare for non AC buses = Base Fare + 1.2 ((Base Fare * 0.5 * percentage change in fuel price) + (Base Fare * 0.5 * percentage change in Whole Sale Price Index))

2. Revised Fare for AC buses = 1.25 * Revised fare of Non AC bus for same stage.
Singapore Fare Revision Mechanism

Fare Adjustment Formula = 0.4cCPI + 0.4 WI + 0.2 EI - X

CPI is core CPI, Weightage: 0.4

WI is mean Wage Index, Weightage: 0.4

EI is the Energy Index, made up of an equal Weightage between an electricity and fuel index, Weightage: 0.2

Productivity Extraction X = 0.5% (valid for 2013 to 2017)
Need of Study:

- Every City/State have different characteristic
  - Social
  - Topographically
  - Commuters
  - Politics
  - PT Shares etc..
- So every City/State having different formula for calculating Fare Revision, as we saw in case study.
- Thus to sustain the new VGF based Net Cost Model as envisaged by UADD, there is a need to develop a fare mechanism to maintain the Level of Service and overcome of the Financial Losses.
Approach and Methodology

House hold Survey (Income vs. Spent on Public Transport)

Route Rationalization

Passenger Load Factor

Type of Service (Mini, Midi, Standard and Luxury buses on which route) AC and Non AC Buses.

Capital and Operational Cost of Buses.

Fare Revision Formula (Develop or Change in Existing formulas)
Conceptual proposal: -

- Discount for Students, elder people and Divyang Person.
- Promote technology, Selection of technology.
- Integrated fare and ticketing for public transport service.
- Calculate Passengers Load on each route.
- Choice of Dynamic fare
Thanks