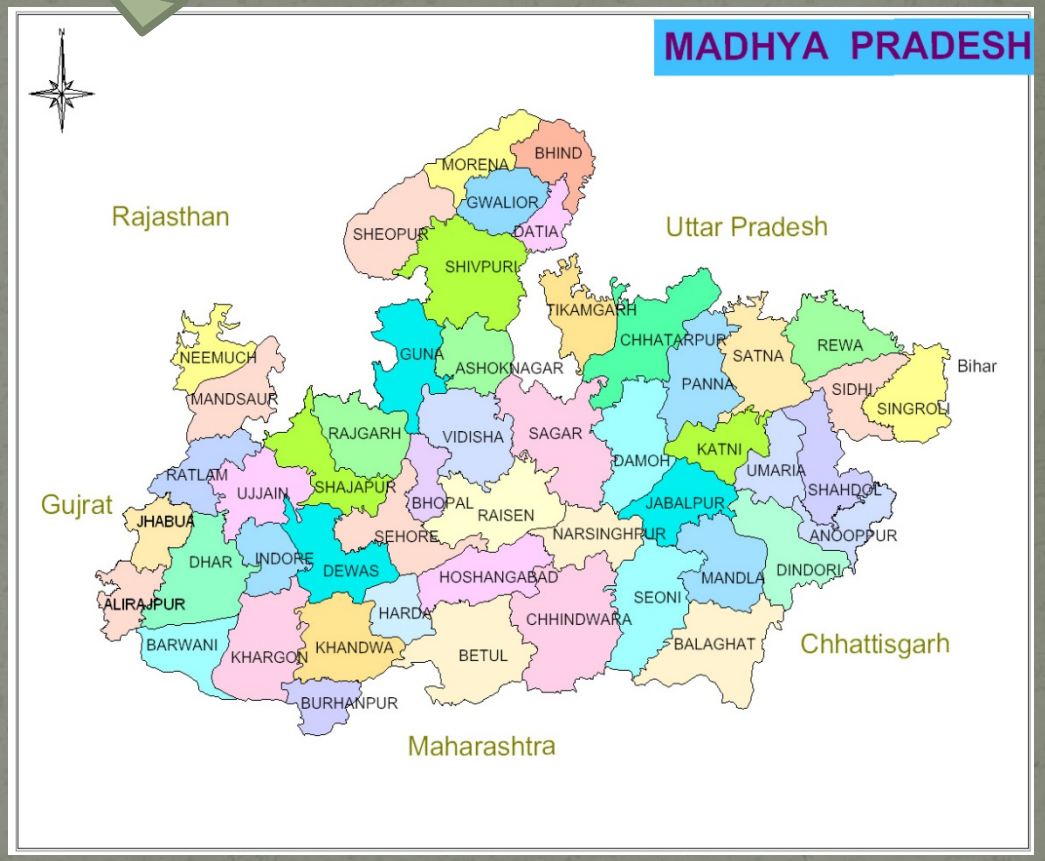
Fare Revision Mechanism for State of Madhya Pradesh

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

Continue.....

- 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.

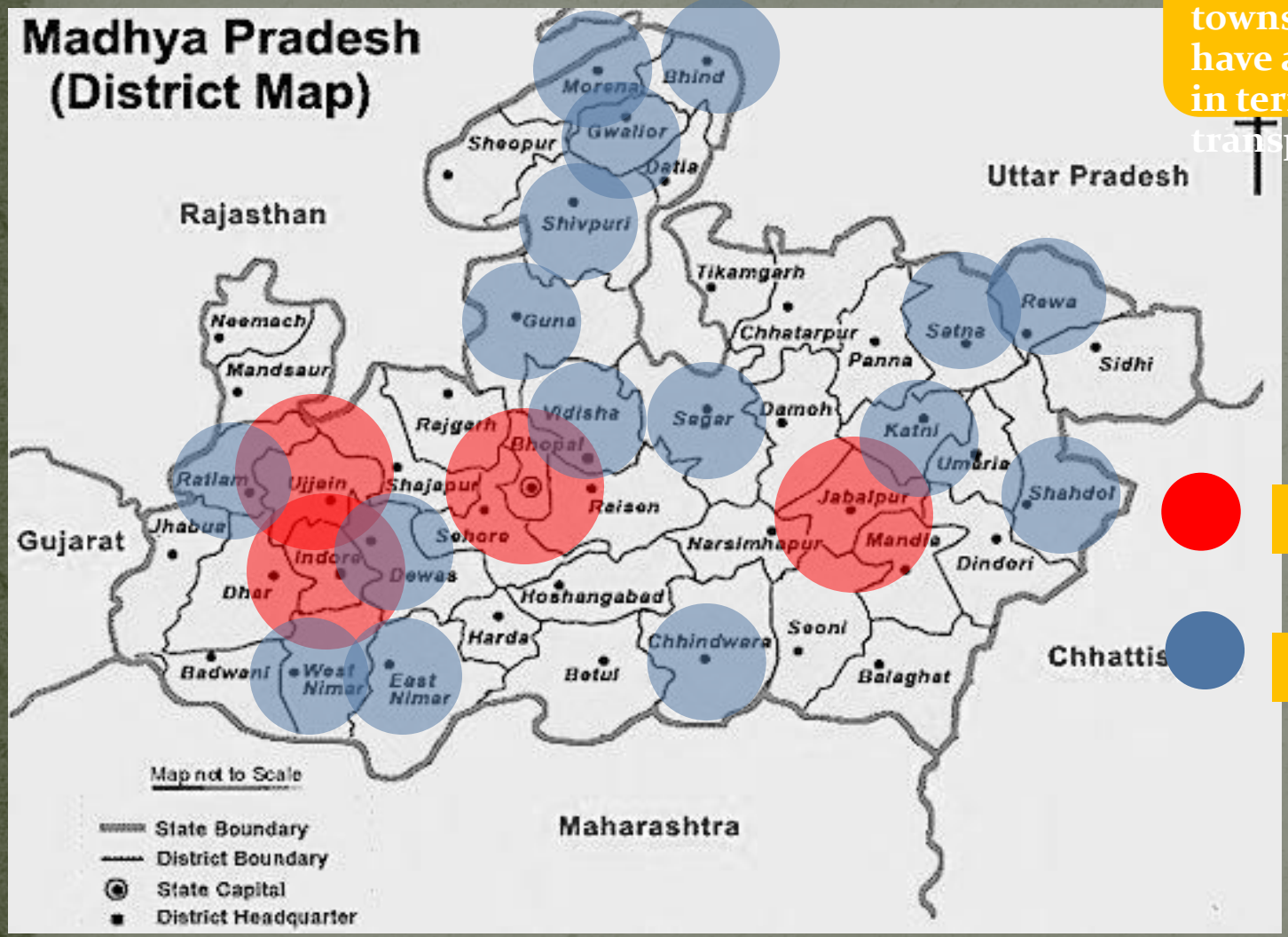
- Net Cost model (VGF Based Approach)

Continue.....

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.**

Organized Public Transport in Madhya Pradesh

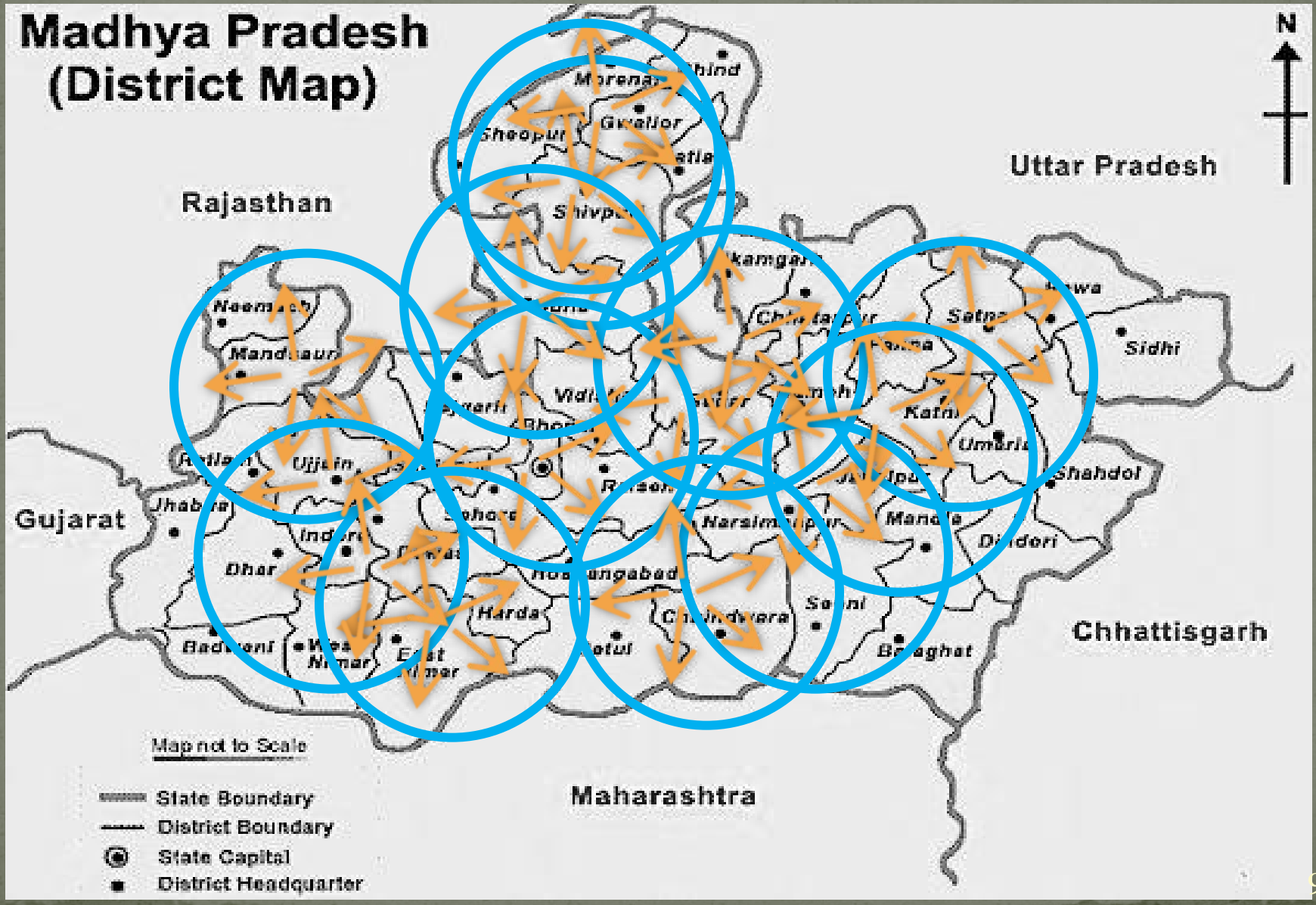


Once the bus operations starts in 20 identified towns in MP, the state will have about ~ 80% coverage in terms of organized bus transport system

Cities with Organized Public transport system

Cities Proposed for PT Services

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) x 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) x P x 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**

- (l) **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

http://www.sipotra.it/wp content/uploads/2013/12/08Prakasam.pdf

- 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