Hearty Welcome to a presentation on

Viable City bus in Small Cities

N. Manjunatha Prasad, IAS
Managing Director

KARNATAKA STATE ROAD TRANSPORT CORPORATION
In this presentation...

- Mobility in Urban Areas.
- Emphasis on need of City services in Small cities.
- KSRTC Profile.
- KSRTC City operation in Tumkur City.
- Imperative points on City operation in small Cities.
- Support needed for small City operations.
Mobility in Urban Areas

• Current Situation.
  - Lack of Public Transport System.
  - High proportion of 2-wheelers.
  - Auto-rickshaws as para-transit.

• Recent Changes in Policy Framework.
  - JnNURM – Urban Transport Reforms.
Emphasis on the need of city services in Small Cities

- Urbanisation is happening rapidly in many parts of the developing world.
- People are being ‘pushed’ from rural areas and ‘pulled’ toward the cities.
- Every year more and more people arrive to these growing cities in search of a better life for themselves and their children.
- Mobility is necessary for human living and economic growth.
- Tier-II & III cities in India are growing fast and it is expected that in the coming 20 years the population in these cities may grow at a faster rate.
- Proper urban transport system is absent in small cities leading to dependence on personalized two wheelers and also on auto rickshaws, etc. This has led to high vehicular congestion, resulting in overall poor mobility in these cities.
KSRTC: Profile

- Born 1961:
- In 1997, split into 4 corporations:
  - (10,476 buses)
- Karnataka: 23,000 public buses now

- KSRTC : Now
  - 8339 buses
  - 25 Lakhs passengers/day
  - 27 Lakhs kms/day
  - Rs 2700 crores turnover and growing . . .
KSRTC:

• KSRTC is the fourth largest State Transport Undertaking (STU) in India.
• KSRTC one of the very few Road Transport Corporations continuously in surplus (profit).
• Has seen sustained innovation led growth for last several years.
• Innovations in KSRTC recognized and acclaimed in several forums including the Govt. of India
• KSRTC has also been awarded for its innovations, particularly the use of IT.
About Tumkur City

• District H.Q with ten taluks
• Strategic location with gateway for 15 districts of Karnataka
• Proximity to Bangalore - 64 km
• Connects two highways NH-4 and NH-206
• City Municipal Council (CMC) jurisdiction 51.85 sq. km
• Population at 3,05,821 as per 2011 census, population density at 4794 persons per square kilometer.
• Agricultural and economic hub
• Educational centre (5 engineering & 1 medical college)
• Tourist centre with many religious institutions and temples
Transport Situation

- Road Network
  - National Highways 4 and 207, and State Highways 33 and 94 pass through the city.
  - KSRTC is the major inter-city and intra-city service provider in Tumkur.

Vehicular Profile – Automobile composition in Tumkur City

<table>
<thead>
<tr>
<th>Vehicle Type</th>
<th>No of Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor Cycles</td>
<td>75,744</td>
</tr>
<tr>
<td>Cars</td>
<td>4,520</td>
</tr>
<tr>
<td>Cabs</td>
<td>539</td>
</tr>
<tr>
<td>Auto-rickshaws</td>
<td>5,082</td>
</tr>
<tr>
<td>Omni-buses</td>
<td>507</td>
</tr>
<tr>
<td>Tractors &amp; Trailers</td>
<td>5,189</td>
</tr>
<tr>
<td>Ambulance</td>
<td>22</td>
</tr>
<tr>
<td>Goods Vehicles</td>
<td>3,086</td>
</tr>
<tr>
<td>Others</td>
<td>3,062</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>97,751</strong></td>
</tr>
</tbody>
</table>
KSRTC - Public Transport Scenario in Tumkur City after introduction of City Bus services

<table>
<thead>
<tr>
<th>Sl.</th>
<th>Particulars</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No. of depots</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Schedules</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>Fleet held</td>
<td>51</td>
</tr>
<tr>
<td>4</td>
<td>Annual Schedule kms (in lakh)</td>
<td>36.19</td>
</tr>
<tr>
<td>6</td>
<td>Cost Per Km (in Rs)</td>
<td>28.62</td>
</tr>
<tr>
<td>7</td>
<td>Earning Per Km (in Rs)</td>
<td>28.82</td>
</tr>
<tr>
<td>8</td>
<td>Margin Per Km (in Rs)</td>
<td>0.20</td>
</tr>
</tbody>
</table>

The local depot in Tumkur operates city buses along with moffussil buses. KSRTC has one bus station in Tumkur city. Currently, Electronic Ticketing Machines are being used for ticketing system.

- Daily about 50,000 ridership leads to modal shift of more than 20% in a short period from February 2011 till date.
Challenges Faced

- Modal shift from Para transport.
- Frequency and Reliability.
- Competitive and economical fares.
- Protests from para transit operators.
Challenges – How we overcame

• Introduction of specially designed buses with wide low floor doors, aesthetic look, LED destination boards, GPS based announcement system introduced.

• Promotional fares were introduced.

• Training to Staff for courteous behavior with the passengers.

• Regular monitoring
KSRTC City Buses in Tumkur City

KSRTC has made scientific Route Selection with focus on:

• periphery to periphery through city centre
• exclusive field study for route selection
• 10 minute frequency & timings
• estimation & deployment of required buses
Tumkur City Bus service:
Route Selection – Periphery to Periphery through city center
KSRTC City Buses in Tumkur City

City buses in Tumkur have been introduced with emphasis on:

• unique bus branding
• colour & graphics
• easy entry and exit with wide centre door
• more standing area
• LED in-bus and destination display boards
• GPS based automatic next stop announcement system
Organizations concerned with mobility in Tumkur

- Tumkur City Municipal Council
- Tumkur Urban Development Authority
- Tumkur Traffic Police
- Regional Transport Authority
- KSRTC
- KUID & FC
Economics of City Bus Operations

- Capital Investments

<table>
<thead>
<tr>
<th>Type of buses</th>
<th>Basic Cost per bus in Rs. Lakhs</th>
<th>No. of buses</th>
<th>Cost of Buses in Rs. Lakhs</th>
<th>Destination Boards in Rs. Lakhs</th>
<th>Total Cost in Rs. Crores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class - C</td>
<td>18.77</td>
<td>50</td>
<td>938.5</td>
<td>60.00</td>
<td>9.98</td>
</tr>
</tbody>
</table>
### Economics of City Bus Operations — Operational Cost

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Cost In paise per km</th>
<th>Cost In Rs. per km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel Costs (HSD)</td>
<td>1067.6</td>
<td>10.67</td>
</tr>
<tr>
<td>Spares</td>
<td>20.0</td>
<td>0.20</td>
</tr>
<tr>
<td>Tyres and Tubes</td>
<td>70.0</td>
<td>0.70</td>
</tr>
<tr>
<td>Lubricants</td>
<td>10.0</td>
<td>0.10</td>
</tr>
<tr>
<td>Other Consumables</td>
<td>4.3</td>
<td>0.04</td>
</tr>
<tr>
<td>Batteries and Electrical</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Depreciation</td>
<td>281.0</td>
<td>2.81</td>
</tr>
<tr>
<td>Tax</td>
<td>158.5</td>
<td>1.58</td>
</tr>
<tr>
<td>Repair/Replacement Cost</td>
<td>5.0</td>
<td>0.05</td>
</tr>
<tr>
<td>Staff</td>
<td>994.4</td>
<td>9.94</td>
</tr>
<tr>
<td>Depreciation on other assets</td>
<td>15.0</td>
<td>0.12</td>
</tr>
<tr>
<td>Interest</td>
<td>23.0</td>
<td>0.23</td>
</tr>
<tr>
<td>Central Overheads</td>
<td>50.0</td>
<td>0.50</td>
</tr>
<tr>
<td>Mact</td>
<td>10.0</td>
<td>0.10</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>145.0</td>
<td>1.45</td>
</tr>
<tr>
<td>CPKM</td>
<td>2861.7</td>
<td>28.62</td>
</tr>
</tbody>
</table>
Economics of City Bus Operations

> Viability

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg. vehicle utilization (km/vehicle/day)</td>
<td>191.1</td>
</tr>
<tr>
<td>Seating Capacity</td>
<td>43+2</td>
</tr>
<tr>
<td>Present fare / km (Rs.)</td>
<td>0.58</td>
</tr>
<tr>
<td>Earnings Per Kilometer (Rs)</td>
<td>28.82</td>
</tr>
<tr>
<td>Cost Per Kilometer (Rs)</td>
<td>28.62</td>
</tr>
<tr>
<td>Margin Per Kilometer (Rs)</td>
<td>0.20</td>
</tr>
<tr>
<td>Margin Per Annum (Rs in Lakhs)</td>
<td>7.24</td>
</tr>
</tbody>
</table>
Economics of City Bus Operations

- Capital Investments recovery

<table>
<thead>
<tr>
<th>No. of buses</th>
<th>Cost of Buses in Rs. Lakhs</th>
<th>Depreciated Cost per Year in lakhs</th>
<th>Time for recovery of Capital Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>998.5</td>
<td>101.70</td>
<td>10 Years</td>
</tr>
</tbody>
</table>
Imperative measures taken by KSRTC in City Operation in Small cities.

- Market Segmentation
- I.T. initiatives like introduction of ETM, PIS / ITS, etc.
- Vehicle Maintenance.
- Transport Infrastructure.
Market Segmentation

Segmentation is necessary to build up the market:

<table>
<thead>
<tr>
<th>Class</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premium</td>
<td>Low Floor Volvo</td>
</tr>
<tr>
<td>Luxury</td>
<td>Semi Low Floor “Marco Polo” (2 x 2)</td>
</tr>
<tr>
<td></td>
<td>Semi Low Floor “Nagara Sarige” (2 x 2)</td>
</tr>
<tr>
<td>Ordinary</td>
<td>High Floor City buses (A.L. / TATA) (2 x 2)</td>
</tr>
</tbody>
</table>
Electronic Ticketing Machines

- First to shift completely to ETMs in City service in Mysore and Tumkur.
- Covering the entire Mysore and Tumkur city operation, issuing daily 2.8 lakh tickets.
- Reduce drudgery and time
- Collect valuable data for planning
- Accurate Financial Accounting
- User Friendly
- Enables MIS Reporting
Vehicle Maintenance

Action:
- Periodical training for mechanical staff
- Proper Inventory management
- Daily action on defect slips in log-sheet
- Regular docking/oil change
- Eliminating old vehicles

Result:
- Reliable service
- Reduced breakdowns
- Reduced off-road
Support Systems for Successful City Transport System

- Bus Stations (Existing) and Bus Stops
- Footpaths and walkways leading to the Bus Stops
- Signage: Within the Bus and Bus Stops
- Timetables
- On Google Transit
  - Using the Google Transit Feed Specification
- Last mile connectivity and
- Multimodal options
Support required for small city bus operations

- Small cities require financial assistance from GOI and State Govt’s
  - For rolling stock
  - For passenger amenities
  - Passenger information system
  - Bus stations & shelters
  - Subsidy in HSD

- Support for urban transport initiatives in these cities essential under some scheme.
Initiatives of KSRTC thereafter…..

- Taking cue of the success of Mysore and Tumkur city services, ksrtc introduced city Bus services in another 15 small and medium cities with 367 Buses.
- Submitted proposals to MOUD, for funding of city buses under jnNurm phase-2 for 30 cities.
- MOUD has recently agreed to sanction 1169 buses for these 30 small cities
Issues to be addressed to promote Public Transport

- Dual pricing policy of Diesel
- Automatic Fare Revision
- Reducing Motor Vehicle Tax
- Last Mile Connectivity
- Support from State Govt in reducing VAT & Entry tax on Diesel, Reimbursement of Social costs to STUs
- Use of IT & ITS
Thank You

md@ksrtc.org