Problems for Small & Medium Towns and Introduction of Public Transport System
Small Town Characteristics

- Defined with the population less than 20,000.
- Small town is neither a village, nor a city.
- Neither traditional in their structure, nor do they represent modern settlement milieu.
- Unique way of life governed by size, site, demography, social ecology and economy.
Medium Town Characteristics

- Population ranging from 20,000 to less than 100,000
- Growth is distinctly fast in areas with comparatively low population density
- More akin to cities than to small towns in respect of growth pattern
# Mode Share in Small & Medium Towns

Mode share in Various Indian Cities (%)

<table>
<thead>
<tr>
<th>Population</th>
<th>Walk</th>
<th>Cycle</th>
<th>Rickshaw</th>
<th>Auto Rickshaw</th>
<th>Public Transport</th>
<th>Cars</th>
<th>2 Wheelers</th>
</tr>
</thead>
<tbody>
<tr>
<td>50000 to 1 Lakhs</td>
<td>38</td>
<td>17</td>
<td>13</td>
<td>4</td>
<td>11</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>1 Lakhs to 5 Lakhs</td>
<td>38</td>
<td>15</td>
<td>12</td>
<td>3</td>
<td>13</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>5 Lakhs to 10 Lakhs</td>
<td>32</td>
<td>20</td>
<td>_</td>
<td>3</td>
<td>9</td>
<td>12</td>
<td>24</td>
</tr>
</tbody>
</table>

*Source: Chapter 5 of Handbook of Urban Statistics MoUHA - year 2017*
## Trip Length in Small & Medium Towns

**Trip length (in KMs) by city category**

<table>
<thead>
<tr>
<th>City Category</th>
<th>Population</th>
<th>Average Trip Length (Km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category-1 a</td>
<td>&lt;5 lakhs with plain terrain</td>
<td>2.4</td>
</tr>
<tr>
<td>Category-1 b</td>
<td>&lt;5 lakhs with hilly terrain</td>
<td>2.5</td>
</tr>
<tr>
<td>Category-2</td>
<td>5-10 lakhs</td>
<td>3.5</td>
</tr>
</tbody>
</table>

*Source: Ministry of Urban Affairs (Study) – 2013 & 2017*
Challenges of Small & Medium Towns

- Lack of Organised Para-Transit Mobility.
- No or limited intracity options.
- Public Transit usage is low.
- Increase in the 2 wheeler usage.
- Lack of walkways, footpaths, flyovers, bus stops.
- Focus is always on cities & metro towns.
INITIATIVES IN MADHYA PRADESH TO DEVELOP MOBILITY OPTIONS
Solution adopted by Madhya Pradesh

**Intercity**
- Introduction of Sub-Urban Buses
- RRTS between towns like Dewas, Mandideep, Pithampur

**Intra-City**
- Introduction of Sutra Sewa
- Development of Depots & Terminals
- Construction of Stops
- Shared Autos & Prepaid Autos

**Interstate Connectivity**
- City Bus service

**BRTS projects**
Madhya Pradesh Real Estate Policy 2019
MP Transit Oriented Development Policy 2018
### About Indore BRTS

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiated</td>
<td>• 2007</td>
</tr>
<tr>
<td>Route Length</td>
<td>• 11.46 km AND 12 kms feeder.</td>
</tr>
<tr>
<td>Road section</td>
<td>• 31.6 / 60 metres</td>
</tr>
<tr>
<td>Stations</td>
<td>• 21</td>
</tr>
<tr>
<td>Buses</td>
<td>• 42</td>
</tr>
<tr>
<td>Ridership</td>
<td>• 60,110 pax/day (avg)</td>
</tr>
</tbody>
</table>
IBUS BRTS INDORE

IBUS BRTS Indore – Ridership

<table>
<thead>
<tr>
<th>Year</th>
<th>Ridership</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>28637</td>
</tr>
<tr>
<td>2014</td>
<td>43487</td>
</tr>
<tr>
<td>2015</td>
<td>54672</td>
</tr>
<tr>
<td>2016</td>
<td>57274</td>
</tr>
<tr>
<td>2017</td>
<td>59300</td>
</tr>
<tr>
<td>2018</td>
<td>60110</td>
</tr>
<tr>
<td>2019</td>
<td>61465</td>
</tr>
</tbody>
</table>
**BHOPAL BRTS - MYBUS**

### About Bhopal BRTS

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initiated</strong></td>
<td>• 2008</td>
</tr>
<tr>
<td><strong>Route Length</strong></td>
<td>• 22 km</td>
</tr>
<tr>
<td><strong>Road section</strong></td>
<td>• 31.6 / 60 metres</td>
</tr>
<tr>
<td><strong>Buses</strong></td>
<td>• 50</td>
</tr>
<tr>
<td><strong>Ridership</strong></td>
<td>• 39,500 pax/day (avg)</td>
</tr>
</tbody>
</table>

**Aerial View**

**Segregated bus Lane**
## CITY BUS SERVICES

<table>
<thead>
<tr>
<th>About City bus system Before Sutra Sewa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indore</td>
</tr>
<tr>
<td>Bhopal</td>
</tr>
<tr>
<td>Jabalpur</td>
</tr>
<tr>
<td>Total Ridership</td>
</tr>
<tr>
<td>Operating models</td>
</tr>
</tbody>
</table>
AVERAGE DAILY RIDERSHIP OF CITY BUS

Indore City Bus

Bhopal City Bus

Jabalpur City Bus
Other Impact and User Survey

Modal Shift from Private Vehicles

- Bhopal: 28%
- Indore: 45%
- Jabalpur: 23%

User Satisfaction Survey

- Extremely Satisfied: 23%
- Satisfied: 47%
- Need Improvement: 18%
- Unsatisfied: 12%

*Study of Last 5 years.

*Study conducted during 2018 - 2019
## Intercity and Interstate Services

### About Intercity & Interstate Services

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initiated</strong></td>
<td>2012</td>
</tr>
<tr>
<td><strong>Operating model</strong></td>
<td>Net Cost</td>
</tr>
<tr>
<td><strong>No. of buses</strong></td>
<td>More than 80.</td>
</tr>
<tr>
<td><strong>Bus Type</strong></td>
<td>AC &amp; Luxury buses.</td>
</tr>
<tr>
<td><strong>Small &amp; Medium Towns connected</strong></td>
<td>More than 50 towns.</td>
</tr>
</tbody>
</table>
Intercity Javalpur Sagar Rewa
Neemuch Ratlam Ujjain
Sendhwa Khandwa Burhanpur
Indore Bhopal Chhindwara Jabalpur Rewa
Intercity Service (Within Madhya Pradesh)
PBS Projects in MP

INDORE

Public Bicycle sharing scheme has been initiated in Indore with 10 Stations & 100 Bicycles

BHOPAL

PBS system ensures the last mile connectivity to the Public Transit in Bhopal integrated with BRTS.
SUTRA SEWA

(Initiative to cater the Mobility challenge of Small & Medium Town)

Plan is:-
To Combine Intercity Profit & Intracity Non Profit Services

Formation of :-
Cluster Based Model – Hub & Spoke Model.

The operational Model is the Cluster based with Govt. Subsidy as VGF to the operator.
Hub and Spoke Model

More than 20 SPVs formed. Connected untouched small & Medium towns

Funding: 40% subsidy under AMRUT

Strengthening: Intra-city bus Services & Intercity bus services
Features of Sutra Sewa in Madhya Pradesh

- Comfortable & bus body code compliance buses.
- CCTV Surveillance.
- Centralized monitoring.
- GPS & SOS system.
- 24 * 7 call center operations.
- Advanced Software based Ticketing.
Sutra Sewa Connecting Small and Medium Towns

<table>
<thead>
<tr>
<th>Description</th>
<th>IMPACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>ULBs Connected</td>
<td>More than 310</td>
</tr>
<tr>
<td>No. of Small Town Connected</td>
<td>More than 300</td>
</tr>
<tr>
<td>No. of Medium Town Connected</td>
<td>More than 1000</td>
</tr>
<tr>
<td>No. of buses</td>
<td>More than 1000 buses added</td>
</tr>
<tr>
<td>No. of passengers</td>
<td>More than 5 Lacs per day</td>
</tr>
</tbody>
</table>
सुबह सेवा के लिए 10 और 25 मिनट से पहले, जीएसई सिस्टम से यह जाने है कि 52 ट्रस्ट की निगमित का शुरू कार्य निर्माण के लिए 30 दिनों में 1400 मिनट की प्रमाणित समय का बनाया गया है।

केन्द्रीय सरकार के दौरान नरेन्द्र मोदी ने यह कहा कि यह एक बड़ी राहत अदालत है।
Aggregator of Shared Mobility

- Operate Rickshaws as per the demand through E-Auto drivers
- Monitoring the operations & planning.
- Adherence to the operations quality
- Provide service standards specifically required for small & Medium Towns
- Managing Mobile application for passengers
- Provide training to the E-Auto/Rickshaw drivers

Provide economical, convenient, timely, safe, & reliable service through mobile application.
a. Indore has initiated pre-paid Auto Services like Mango Taxi.

b. Indore also initiated on call auto Tele-rickshaw services.

c. Could be adopted for organizing the E-Rickshaw, Shared Auto, Taxi in Small & Medium Towns.

d. Madhya Pradesh has already initiated Mahila Swarojgaar Yojna for E-Rickshaw/ Shared E-Auto.
Regional Rapid Transit System

About
• Reduce dependence of commuters on road based transportation.
• Provision for is there in RRTS made for facilities including road network enhancements.

Difference
• RRTS is different from metro as it caters to passengers looking to travel relatively longer distance with fewer stops and at higher speed.

Benefit
• The small & Medium Towns shall be benefited with the RRTS.
• This has been done in NCR region via developing corridors.
• This will connect the major Towns with nearby small & medium Towns.
Madhya Pradesh Metro

- Indore and Bhopal headings towards metro projects.
- Stations would be Commuter friendly accessibility with public transport integration.
- Common mobility card.
- Integration with ISBT, intracity and shared e rickshaw would be done to ensure the last mile connectivity.
Current Scenario of e-vehicles

Madhya Pradesh Govt. has implemented the Electric Vehicle (EV) Policy 2019, dedicated to accelerating the deployment of EV’s.

- To promote sustainable electric mobility & improvement in Madhya Pradesh air quality.
- To create an eco-system to support charging infrastructure and manufacturing of e-vehicles.
- To put in place measures to support the creation of jobs in living, selling, financing, servicing, charging and manufacturing of EVs.
- Indore has implemented 40 no. of Electric buses under FAME I.
Further Planning


2. Introduction of more than 350 No. of Electric buses in MP connecting Small & Medium Towns as well.

3. Introduction of Shared Electric Autos/Rickshaws to give E-Mobility Options for Small & Medium Town Commuters.
Solution – (Infrastructure with Mobility)

SMALL TOWN

- Creating necessary Infrastructure Like roads, walk ways, bus stops.
- Providing intercity connectivity.
- Initiation of Para Transit Mobility.

MEDIUM TOWN

- Construction of bus depots & stops.
- Introduction of shared organized Para-Transit solutions via aggregator.

TOWN WITH MORE THAN 1 LAKH POPULATION

- Road widening, Construction of foot paths & cycle tracks.
- Introduction of organized intracity bus services.
- Projects like, RRTS & E mobility to be introduced.
FOCUS ON LAST MILE CONNECTIVITY

- City Bus
- Feeder Bus
- Cycling Track
- e-Auto Rickshaw
- Battery Operated Vehicle
- Walkway

First & Last Mile Connectivity
Conclusion

Systematic Approach is required.

De-Centralized Approach to be taken by Creating SPVs in medium Towns.

Route rationalization to be done taking small & medium towns in consideration

Adoption of cluster model for better sustainability with minimum Funds.
THANK YOU