China’s Urban Public Transport RAIL SYSTEM

Lei CAO
2016.5
1. Development of China's urban rail transit
2. Policy and measures to promote energy efficiency and energy saving
3. South-South Cooperation on urban rail transit
1. Development of China's urban rail transit

Policies

✅ **Prioritizing Public Transit in urban area**:
- Release of guidance on urban priority development of public transport
- Recommend megalopolis & large-city advance construction of urban rail transit

✅ **Streamlining approval process and extending the terms**

✅ **Mobilizing financial support**:
- Enlarge investment effect by lowering the minimum capital ratio down to 20%;
- Establish special construction fund;
- Encourage PPP model;
- Favorable tax treatment;
- Provide subsidies by local government (land revenues/tax revenue);

<table>
<thead>
<tr>
<th>INDEX</th>
<th>METRO</th>
<th>LRT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban Population (million)</td>
<td>&gt;3</td>
<td>&gt;1.5</td>
</tr>
<tr>
<td>General fiscal Revenue (billion CNY)</td>
<td>&gt;10</td>
<td>&gt;6</td>
</tr>
<tr>
<td>GDP (billion CNY)</td>
<td>&gt;100</td>
<td>&gt;60</td>
</tr>
<tr>
<td>Rush hour maximum unidirectional Passenger Flow (person-times)</td>
<td>30 000</td>
<td>10 000</td>
</tr>
</tbody>
</table>

39 cities have been approved by 2015
Achievements and planning:

- **2010**
  - 12 cities
  - 1400 km
  - *excluding tram & maglev*

- **2015**
  - 25 cities
  - 3000 km

- **2020**
  - 37 cities
  - 9000 km

Significant increase in passenger traffic volume:

- Daily passenger flow in Beijing was as high as 9 million person time in 2014

Share of rail transit in urban public transportation:

- In Beijing, Shanghai, and Guangzhou the share of rail transit in public transportation is around 50%
2. Policy and measures to promote energy efficiency and energy saving

**Estimates of energy-saving**

- **In 2015**
  - Cut down energy consumption by 2 Mtce
  - Cut down emissions by 5 MtCO₂

- **In 2020**
  - Cut down energy consumption by 6 Mtce
  - Cut down GHG emissions by 15 Mt CO₂

**Policies & Measures**

- **Formulating energy-saving plan in feasibility study which should be examined.**
- **Take energy saving into consideration in the following areas:**
  - Route design
  - Building structure & scale
  - Scale of transport system

**Taking energy saving measures**

- **Shanghai**
  - Cut down energy consumption by 11%

**Energy consumption (10 000 kwh)**

- **Without energy saving measures**
- **Take energy saving measures**
- **Energy saving volume**

<table>
<thead>
<tr>
<th>Year</th>
<th>Without Energy Saving</th>
<th>With Energy Saving</th>
<th>Energy Saving Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>15.5</td>
<td>14.3</td>
<td>1.2</td>
</tr>
<tr>
<td>2012</td>
<td>16.0</td>
<td>14.3</td>
<td>1.7</td>
</tr>
<tr>
<td>2013</td>
<td>17.0</td>
<td>15.1</td>
<td>1.9</td>
</tr>
<tr>
<td>2014</td>
<td>19.3</td>
<td>17.0</td>
<td>2.3</td>
</tr>
<tr>
<td><strong>Sum</strong></td>
<td>67.9</td>
<td>60.7</td>
<td>7.2</td>
</tr>
</tbody>
</table>
3. South-South Cooperation on urban rail transit

Addis Ababa (Ethiopia) LRT

- 34 km, open to traffic on 20th Sept. 2015
- China Exim Bank provided financial support of 439 million USD (~85% of the total cost)

Lagos (Nigeria) LRT

- 27 km, open to traffic in 2016
Thanks