Enhancing sustainability of urban mobility in Asia-Pacific cities

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State of public transport in Asia

• Many Asian cities operate a combination of different forms and modes of urban public transport systems (Metro, subway, urban railways, Bus Rapid Transit, Bus, para transit, river ferry and boats).
• Focus on high quality transit
• Need for a public transport network and need to use a combination of transport modes
• Integration of land use and public transport planning:
  • Land use and transport planning
  • Physical integration of modes- seamless transfer stations
  • Service integration
  • Fare integration with combined ticketing
• In Asia, some cities like Seoul, Singapore, Hong Kong, China, Tokyo operate a good integrated-public transport system – with smooth transfer among modes.
# Traffic Congestion Asian Cities, 2019

<table>
<thead>
<tr>
<th>#</th>
<th>World rank</th>
<th>City</th>
<th>Country</th>
<th>Congestion level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Bengaluru</td>
<td>India</td>
<td>71%</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Manila</td>
<td>Philippines</td>
<td>71%</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>Mumbai</td>
<td>India</td>
<td>65% - 0%</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>Pune</td>
<td>India</td>
<td>59%</td>
</tr>
<tr>
<td>5</td>
<td>8</td>
<td>New Delhi</td>
<td>India</td>
<td>56% ↓ 2%</td>
</tr>
<tr>
<td>6</td>
<td>10</td>
<td>Jakarta</td>
<td>Indonesia</td>
<td>53% - 0%</td>
</tr>
<tr>
<td>7</td>
<td>11</td>
<td>Bangkok</td>
<td>Thailand</td>
<td>53% - 0%</td>
</tr>
<tr>
<td>8</td>
<td>21</td>
<td>Tel Aviv</td>
<td>Israel</td>
<td>46% ↑ 4%</td>
</tr>
<tr>
<td>9</td>
<td>32</td>
<td>Tokyo</td>
<td>Japan</td>
<td>42% ↑ 1%</td>
</tr>
<tr>
<td>10</td>
<td>34</td>
<td>Chongqing</td>
<td>China</td>
<td>41% ↓ 3%</td>
</tr>
<tr>
<td>11</td>
<td>38</td>
<td>Guangzhou</td>
<td>China</td>
<td>40% ↓ 2%</td>
</tr>
</tbody>
</table>

Source: Tom Tom traffic Congestion Index, 2019
Mode share of active mobility in Asia-Pacific cities

Sustainability of urban mobility

• SDG Target 12.2 states: By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, (it is measured on accessibility)

• The Paris Agreement is focused on the national climate actions and emissions reduction efforts to limit the increase in global average temperatures. transport sector emissions mitigation strategies of Asian countries:
  • Promotion of public bus transport
  • Alternative energy sources
  • Electric mobility

• There is much focus on emissions reduction when we discuss sustainability of mobility- Avoid, Shift and Improve Framework

• There are various approaches to assess sustainability of urban mobility.

• ESCAP Sustainable Urban Transport Index (SUTI) with 10 key indicators to assess the state of urban public transport in a city.
## Measuring sustainability: Sustainable Urban Transport Index (SUTI)

<table>
<thead>
<tr>
<th>No</th>
<th>Indicators</th>
<th>Measurement units</th>
<th>Weights</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Extent to which transport plans cover public transport, intermodal facilities and infrastructure for active modes</td>
<td>0 - 16 scale</td>
<td>0.1</td>
<td>0 - 16</td>
</tr>
<tr>
<td>2</td>
<td>Modal share of active and public transport in commuting</td>
<td>Trips/mode share</td>
<td>0.1</td>
<td>10 - 90</td>
</tr>
<tr>
<td>3</td>
<td>Convenient access to public transport service</td>
<td>% of population</td>
<td>0.1</td>
<td>20 - 100</td>
</tr>
<tr>
<td>4</td>
<td>Public transport quality and reliability</td>
<td>% satisfied</td>
<td>0.1</td>
<td>30 - 95</td>
</tr>
<tr>
<td>5</td>
<td>Traffic fatalities per 100,000 inhabitants</td>
<td>No of fatalities</td>
<td>0.1</td>
<td>10 - 0</td>
</tr>
<tr>
<td>6</td>
<td>Affordability – travel costs as part of income</td>
<td>% of income</td>
<td>0.1</td>
<td>35 - 3.5</td>
</tr>
<tr>
<td>7</td>
<td>Operational costs of the public transport system</td>
<td>Cost recovery ratio</td>
<td>0.1</td>
<td>22 - 100</td>
</tr>
<tr>
<td>8</td>
<td>Investment in public transportation systems</td>
<td>% of total investment</td>
<td>0.1</td>
<td>0 - 50</td>
</tr>
<tr>
<td>9</td>
<td>Air quality (pm10)</td>
<td>μg/m3</td>
<td>0.1</td>
<td>150 - 10</td>
</tr>
<tr>
<td>10</td>
<td>Greenhouse gas emissions from transport</td>
<td>CO2 Eq. Tons</td>
<td>0.1</td>
<td>2.75 - 0</td>
</tr>
</tbody>
</table>

Three dimensions:
- **Economical**
- **Social**
- **Environmental**
Surat
SUTI: 60.9

Yangon
SUTI: 49

Dhaka
SUTI: 46.2

2020 cities:
- Bangkok
- Yangon
- Palembang
- Pakenbaru
Assessment of urban mobility in Asian cities

The assessment of urban mobility in Asian cities revealed that:

• Urban transport master plan was in place in most cities- with scope of improvement
  • Much focus on planning- implementation?
  • Mode integration, intermodal transfer stations
  • NMT- Pedestrian walkways, bicycle tracks

• Varying level of accessibility, covering 38 to 98 per cent of the population

• The mode share of public transport and active mobility ranged from 13.5 to 87 per cent

• Public transport fares were affordable

• The farebox recovery ratio was low and operation of public transport was heavily subsidized

• Investment in public transport was low

• Cities have very high levels of particulate matter concentration, PM10

• Fatalities from road crashes ranged from 2 to 15 per 100,000 people.

• The percentage of users satisfied with the quality and reliability of public transport services ranged from 30 to 89 per cent
Governance of urban mobility

• Study on the process of formulation of mobility policies and plans and their implementation in four Asian cities- Dhaka, Kathmandu, Greater Jakarta and Surat. The key findings are:

• There was much focus on formulation of policies and urban mobility plans;

• The implementation of policies and plans faced many challenges relating to leadership, resources, prioritization, and coordination among various organizations;

• Limited engagement of stakeholders in the whole process of policy formation (participatory planning) to implementation; and

• The users could not feel meaningful improvement of urban mobility services despite implementation of large urban mobility projects.
Concluding remarks

• Assess the existing state of urban mobility - SUTI
• Evidence based decision to improve key indicators and overall sustainability
• Integrated urban and public transport planning
• Consider low cost mobility options
• Integration of physical, service and fare - electronic payments
• Context of COVID-19: health and wellbeing of commuters & prioritize active mobility
• Social dimension - barrier free accesses, inclusiveness and gender dimension
THANK YOU

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Workshop on Urban Mobility and Impacts of COVID-19 on Mobility, 25-26 November 2020

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